Mercury Detox Instructions
(and other Heavy Metals)

An Outline of Strategies and Protocols for Heavy Metal Detoxification:

Coordinated with: A. Cyclic and "in office" chelation therapeutics, or B. Naturopathic "at home" Detox Program only.

Heavy Metal Detoxification and Functional Rehabilitation objective- is to remove toxic Heavy metals from the body and restore proper functioning of the ANS and the organs/ structures affected by it. Mercury in particular (as well as other toxic heavy metals) have a devastating impact on the ANS, promote excessive oxidative damage and alter enzymes and detoxification systems. This contributes to dys-regulation, which can contribute to degenerative and neoplastic changes, especially when chronic toxification persists. **Mercury detox is both a biochemical and a regulation process**. Regulation therapeutics including AET (Allergy Elimination Therapeutics), Drug up-take enhancement, Neural therapy and/or acupuncture is very important. Therapeutic biofeedback (ART) can be used to tailor the multiple products and categories in this protocol

Heavy Metal Detox Strategies: Multiple strategies depending on the patient's resources needs and desires. 1) A Naturopathic home program cycled with a chelating (IV therapeutics- DMPS, Glutathione) program with or without Neural Therapy. 2) Continuous or cyclic oral chelation program, with or without extended rest periods. 3) When functional deterioration is present, the organs/ systems need to be rehabilitated either prior or during the detoxification program. Functional rehabilitation and organ drainage are critical to effective detox.

Cycle Strategies for HM Detox using Chelation remedies: purpose to mobilize the HM from deeper compartments, then chelate/ detox out; with rest period to recover, re-mineralize, and diffuse/ dilute the HM from deeper stores. Chlorella or like products:

I. Mobilization prior to Chelation: Mobilization dosing taken all at once and away from food. 1-2 weeks. The purpose is to detox the gut and move the heavy metals from the deeper stores to more accessible areas for detox. Produces higher yield of HM. Mineralization and other detox support is appropriate.

II. Chelation Phase: When other chelation drug remedies are actively being used. High dosing of oral chelation "food" remedies- 2-3 times the mobilizing dose. Multiple chelators and pulling the heavy metals through multiple organs of excretion is helpful. When using Chlorella, the chelation phase starts 1 day prior to the office chelation appointment and continues until the Vitamin and Mineral (with Glutathione) IV, (usually 3 days). Detox spa therapy is very helpful after IV chelation to eliminate through the skin.

III. Post Chelation Phase: Immediately after the chelation phase- resume the mobilizing dose but now divide with meals to bind the HM in bile/ gut, preventing GI re-absorption; 3-5 days. This phase emphasizes gut binding the mercury in the biliary tree and GI cleansing. Mineralization, detox support, detox spa and colonics (with liver/gall bladder flushes) is helpful.

IV. Stabilization Phase: None-low dosing of oral "food" chelation remedies. Letting the body stabilize between the active chelation phases.

Detox Principles and Products:

- Detox sequentially in Phases over time to protect the integrity of the biological barriers (cellular and brain) during detox, so to **detox out not deeper** and avoid making matters worse.
- HM are in bodily compartments, contained by biological barriers, accumulation of mercury in various tissues/components create different biological consequences.
    1. Extra cellular or connective tissues including the GI system, respiratory system, and vascular tree; this is the tissues that produces signs and symptoms; HM can be fibroses or walled off with minerals (plaques).
    2. Cellular membrane (cell performance)
    3. Intracellular (cell degeneration)
    4. Nucleus (chromosomes) (cancer).

Choose the appropriate detox agent for the compartment to be detoxed

Phase I- gross deposits: dental removed; organ drainage; support therapy;
Phase II- extra cellular (more assessable): detox the extracellular spaces, connective tissues and drainage organs;
Phase III- extracellular (less assessable): detox extra cellular spaces that are fibrosed, plaques and inaccessible due to hyper-coagulation.
Phase IV- cell membranes and intracellular
Phase V- maintenance

The following is a supplemental program for heavy metal detox. It is presented with the principles and sequences of HM detox so to enable the patient and professional to understand and be thorough. HM detox is a rapidly developing field with many different and new products. The products listed below are the ones that appear to be effective in our network of doctors. Foods and diets are critical to HM detox (refer to notes).

The following can be used in all phases (I-V) of detox therapeutics:

Note: Allergy to Mercury and other Heavy Metals must be treated and monitored, through the detox process for efficient detox and control of the detox symptoms. Allergy Elimination Therapeutics is also important for foods, support and detox agents. Teaching the patient how to monitor and treat the hyper-reaction (allergy) to the toxins and remedies is helpful.

1. <u>Antioxidant Protection</u> : Detox is an oxidative process use in all phases

To protect against <u>Free Radical Pathology</u>**,** and <u>Supply Electrons</u> to oxidized heavy metals-to aid in their removal. Use continuously (if needed) or in cycles (if not needed); Natural/ food and herb based nutrients are the best – more tolerable over time. (Options)

A. **Garlic**: Protects blood, immuno stimulant, supplies sulfur, anti-fungal/parasitic/microbial; part of the gut maintenance

[]Freezed dried, []Bear garlic, [] fresh with meals
Note: Will inactivate cilantro, use on consecutive days of AM/PM.

B. **Vitamin C**: buffered with Bioflavinoids: Don't use simultaneously with antibiotic, antiviral or cilantro. [] 1-3-5 g/day: divide dose; [] Vit C and Non-Citrus Bioflavinoids; [] Vitamin C Powder; []Vital Mixed Ascorbates
C. **Vitamin E**: Protects blood, cell membranes (with/without Co Enzyme Q) : [] 400 iu/day (under age 40). [] 800 iu/day (over age 40); [] Natural E 300; []Natural E instant (1900)
D. **α Lipoic Acid**: Enhances action of all other anti-oxidants, supplies sulfur, weak chelator. Three dosages with different actions: a) low dose (50mg/d)- protects mitochondria and enhances ATP; b) moderate dose (100-200mg/d)- potent antioxidant; c) high dose (400-600 mg/d)- use in Phase III only will open the brain barrier. - divide dosages, with vitamin C; [] Mitoplex
E. **Co Q 10** [] CoQ10 .
F. **Natural and herbal products:** [] Juice plus; []Lifeguard, []Microhydrin, []Herbalife; [] Endogenous antioxidants and Cofactors; [] Phyto Antioxidants; []Proanthocyanadins

2. Minerals / Electrolytes: HM will (re)attach to open mineral binding sites

To rebuild mineral stores from Heavy Metal toxification and chelation. To supply antagonized mineral to prevent Heavy Metal binding (HM bind to empty mineral receptors – mineralize to prevent HM binding). Electrolyte Balance/ Replacement- (K, Na, Ca, + Mg) is critical to reducing symptoms and ANS nerve function. Withhold minerals during chelation phase.

A. **General Mineral**: [] Multimins; [] Trace Mineral Complex CWS
B. **Individual Mineral Supplement**: per functional or mineral studies.
   [] X-CELL-R-8 (Mg-K); []Mag;Cal CWS; [] Zinc, []Selenium, []Chromium CWS; []Trace mineral complex CWS
   - Liquid minerals applied transdermally for site specific up-take
C. **Electrolytes:** Add to your water. **Water** is very important during any detoxification program- 2-4 quarts/ day:[] Selectrolyte [] E-Lyte

Strategies: The goal is optimal mineralization (evaluate RBC mineral analysis and predominance of heavy metals being excreted and supplement the antagonist mineral). No minerals during chelation: The strategy is to build up before and after chelation only.

3. Chlorella (chlorella-like): Cycling food-oral chelators are essential for mobilizing the mercury from the deeper extra cellular tissues to be excreted

Binds Heavy Metal (especially the Mercury salts) in gut and extracellular spaces. Does not cross brain barrier and can be used with Hg fillings [Therefore part of pre dental protocol- Phase I]. Also good for binding toxic chemicals.
[] Chlorella 500mg and in bulk (Morin Labs); [] Chloralytes; []BioRubella 250 mg;[] Natures Balance 330mg (also bulk);[] Sun Chlorella; []Earthrise 200mg
[] Beacon 500 mg; [] Porphro-zyme (Biotic) 200mg (a Chlorella substitute)

Three Dosages:

1).**Low Dose** [] (2-4 caps with food) To bind HM excreted from liver (bile), minimize GI re-absorption during chelation. After eating Hg contaminated food- fish, shellfish, wheat
2).**Mobilizing Dose:** [] 3-5 g once/day away from food better chelation effect, or [] 1-2 g - 3x/day with food. To bind HM in gut and reduce dysbiotic (fungus, bacteria, parasites); Stir-up/ mobilize HM in extra-cellular spaces, which increases chelation yield of HM. Strategy: Mobilizing phase away from food, as (pre) chelation, post chelation phase with food to bind the HM from bile.
3).**High Dose:** 2-3 times mobilization dose, for 2 days. A chelation dose of chlorella: To excrete HM from extra cellular spaces and through the GI (mostly feces). Strategy: can be used with strong chelating agent (DMPS, DMSA, IV Glutathione) or Naturopathic only (chlorella, clatherating agent): i.e. if DMPS cycle, day before and day of chelation

4. Sulfur Supplementation: Critical for HM detox because sulfur in its various forms is the detox carrying element, and primary HM binding site. (options for supplementation)
[] MSM 3-10g/day divide dose with meals [] Redoxyl (D.L. Methionine)
[] NAC (N-acetyl-cysteine) no more than 250 mg/day Divide dose with meals and use in Phase IV only because it will cross the brain barrier; [] Oral Glutathione (lysine-cysteine-glutatimine) 750-1000 mg /day away from meals.
Others: [] Garlic; [] Alpha Lipoic Acid
Strategy for sulfur supplementation: Supplement with food and protein. Withhold sulfur supplement day prior and day of chelation (DMPS) for better yields. 8 hours after oral dose of DMSA or Captomere.

5. Organ Drainage and Support: To promote health and excretion of functionally compromised organs and organ systems that is needed to excrete the H.M. Mercury can easily mobilize and redeposit in other tissues if drainage organs are not properly functioning. **This is a critical step in HM detox**.
[]Lymph: Forticel, lymphomyostat, ecchinecia, lymphonest, Pleo-muc, other:_____
Physical medicine for lymph support: Chi machine, Electron-sound-beam generator, Trampoline, lymphatic massage, water immersion, deep breathing.
[] Liver/ Gall Bladder: Hepatica, Cholonest, Artichoke, Hepeel other: _____
Gall bladder flush: 6 tlbs lemon juice, 3 tlbs olive oil, 1 clove garlic (crushed), pinch ginger, cayenne. Blend, drink. No food for 1 hour after. Post chelation phase to remove the HM from bile tree. See protocol for other GB flushes
[] Kidney: Bucco, Solidago, kidney flush_____
Other drainage options:
[] Sinus support: Hydra, Luffa _____
Topical application of remedies very effective through: Syringe, Netti pot
[] Spleen: Scholapendium_____
[] Blood/ circulation detoxifiers: Lappa, Asceulus, Viscum_____
[] Lung: Pulmonest, _____

6. **G.I. Support: and repair is an entire detoxification process to itself and critical to restoring health and removing the HM burden**. A healthy GI tract is very important to reduce G.I. intoxification and toxic body load from a leaky barrier and "bad bugs" (dysbiotic bacterial) toxins; to prevent re-absorption of Mercury in the gut; and to supply good nutrition for detox and functional rebuilding the tissues.
   A. **Gut Functional Restoration Program: 4R (BLAND); Feed, Seed and Weed (ALI);** GI programs include:
      1. Remove allergic foods (especially gluten, gliadin and casein) and treat food and other allergies: AET, immunological serums/ drops _____
      2. Replace digestive enzymes; Hydrochloric Acid usually always necessary.
      3. Repair G.I. mucosa: treat leaky gut and increase absorptive surfaces.
      4. Reduce dysbiotic bacteria, parasites/fungi and reinoculate with friendly (healthy) bacteria.

      Pharmax bowel program: [] Freezed dried garlic/ Allicin/ Antimicrobial complex/Pyloricin; []Human Lactic Commensils (HLC); [] Permeability Complex I,II; []Intestinal Complex _____
      Others: [] Super Cleanse, Rise and Shine, Herbalife (AM/PM), Ali's formulas: Digestive enzymes: HCL plus, Hydrozyme (Biotics); Others:_____
      Rx for Infestation:[] Nystatin, [] Diflucan, [] Flaggyl Other_____

      B Heavy Metal Absorption and bile binding to prevent re-absorption of the mercury after it is excreted from the liver in post chelation phase. []Chlorella: moderate or low dose with meals []Proalgen: 1/day with meals, [] Activated charcoal, [] ProChitosan

      C. Colon Hydrotherapy: This excellent bowel restoration therapy is highly recommended in the post chelation phase to remove the HM from gut, but also very useful in all phases.

      Colonic, colema, enema (coffee): after chelation for _____ days.

      D. NOTE: Treat hypoglycemia which is usually present: eat more often, digestive enzymes, GI program, and eat protein before bed. This is critical to reduce internal stress and promote detox and healing (especially at night).

7. **Cellular membrane rehabilitation – Essential Fatty Acid (EFA) therapeutics:** An important, forgotten part of most chronic degeneration conditions. The membranes are the life of any biological system. Eating healthy fats and oils, removing trans fats and reducing saturated fats is critical. (See Basics) Balance and healthy fat therapy includes:
   - **Peroxisome metabolism**:[] Ca/Mg Butyrate – 5 caps 3x/d (fuel to burn bad fats), also enhanced by hormones (thyroid, DHEA, B2, Mn.ty acids) and biotin, thiamin and cobalamine;
   - **If w6FA suppressed** - [] __eggs; [] animal proteins, dairy, butter [] ώ6 oils (sesame, safflower, sunflower) [] olive, []borage, primrose; build w6FA for 2 mo. Prior to w3FA.

- **If w3FA suppressed** – []fish, [] Fish oils, [] flax oil. Avoid trans FA (junk food, hydrogenated oils) and refined carbs, which raise the insulin (create inflammation and fat accumultation.) [] carnitine (to remove trans FA into mitochondria for oxidation).

Maintenance: [] BodyBio Balanced 4:1- 3 tablsp; [] Uto's Choice 4:1 w6:w3 FA supplement; or blend your own.

8. Physical Medicine to aid HM removal and enhance detox and rehabilitation

A. Rehabilitation of (drainage) organs and skeleto-muscular structures: **to increase blood flow** and open compartments for detox agents, normalize compromised tissues by increasing oxygen and cellular metabolism. The following can be used to aid the detox of HM (and other toxic elements). These very effective in office therapies are used at the time of chelation (with detox agents in the blood) and after in the detox spa.

- **Anodyne**- a multi-headed infra-red light (laser); used over bodily compartments of HM and areas of dysfunction and over detox organs (kidney, liver)
- **PAPimi**. All tissues and conditions respond favorably to this very intense pulsed magnetic field generator.
- Low Level Laser Therapy
- Magnatron- magnetic pulsating therapy
- **BEFE** (Bio-electric Field Enhancement), produces a Bio-Charge enabling healing and detoxification.
- **Mercury vapor lamp-**

B. **Skin detoxification**- the skin is the largest detox organ and unlike other organs, the skin excretes outside of the body immediately with little chance of re-uptake, unless the vapors are re-breathed. Very important in a comprehensive detox strategy. Spa detox is very important to efficiently remove HM and other toxins.

- Oxygen/ozone steam cocoon: (very effective at removing much toxic materials). [] day after chelation. [] ___per week/month.
- Magnetic clay baths- this ancient therapy aids in pulling out toxins (mercury, radiation, aluminum). Whole bodily emersion or foot baths.
- Infra-red sauna: a) home—rental/buy: b) in office (when we get it)

Detox (hot) baths: A. 2c vinegar, 1c sea salts; B. ½ c baking soda, 1/2c Epsom salts; 1-3tablespoons ginger, 1-2 teaspoons cayenne can be added to both

C. Exercise Program: the exercise program needs to be based on the patient's level of Adrenal stress, so as to support the rehabilitation of the Adrenal Gland and not cause further stress: if in adrenal fatigue (Stage III – the exercise schedule is 5 minutes and prolonged rest); if the adrenal glands are not totally fatigues (stage I and II) the exercise program should not exceed 42 minutes. Good exercise can be beneficial to the Adrenal gland mildly for a short time increasing the cortisol levels but then reducing the corticol levels while increasing the

testosterone and other androgenic hormones levels for many hours. Exceeding these levels of exercise will have a poor stress response on the adrenal gland increasing the corticol output for many hours while concurrently decreasing the androgenic (rebuilding) hormone levels.

Feldenkrais is an individually tailored exercise and stretching technique.

9. Hormone enhancement and/ or replacement: thyroid, adrenals, pituitary, sex, insulin. The state of hyper-vigilance and increased stress from stress patterns often starting in early in life and aggravated by the HM is a major contribution to the signs and symptoms. The Adrenal gland over time becomes dys-functional and thus the whole metabolism is adversely affected, which negatively impacts the speed of recovery and adds to the symptom logy. The Saber Science hormonal panel (salivary testing), and custom creams, which are transdermally applied through multi liposomal cells, allow for the best bio-available normalization. Oral supplementation includes: [] Basic Cell (for a General Vitamin and Mineral); [] Amino acids supplements, protein supplements, or trans dermal AA cream, hydrolyzed collegen; [] Vitamin B 5 time released; [] Adrenal glandulars (hypo)Cyto-zyme or (hyper) ADHD, [] thyroid- Thyrostim [] pituitary- Cyto-zyme PT/HPT, []Other adrenal herbs_____.

Note: references on adrenal and metabolic problems- see Dr. Rind's web.(drrind.com) and symptoms of Adrenal dysfunction (Basics).

Detox agents used in the various Phases

Detox agents bind HM and mobilize/ detox out, as opposed to the multiple support agents that facilitate the detox process.

Phase I (with the mercury fillings still in the mouth): objective: to bind the Mercury to protect during the dental removal. Should start 2 weeks prior to the dental removal and continue through the dental phase until the first post dental detox appointment.

- Oral detox choices: Chlorella, Chloralytes, Porpha-zyme, Clatherating agents (NDF, Metal Free, PCA), although use with caution- brush first with the product, rinse out then take the oral dose prescribed.
- No chelating agents should be used (even for a Mercury challenge test), for they will pull the HM from the fillings and result in a redistribution of the mercury and a worsening of the condition.

Phase II (assessable extra cellular): Objective to use agents that pull the mercury from the extra cellular spaces while keeping the cellular and brain barriers intact, so to prevent HM from diffusing deeper. Primarily the more accessable Mercury salts.

- Oral detox agents: Same as Phase I; EDTA based combinations (Beyond Chelation, Oral Chelation, Longevity plus, Garlic plus, Pleo-chelate)
- GI binders: chlorella, Proalgen, Prochitosan;
- Injectable chelators: DMPS (with or without Neural Therapy), EDTA slow infusion
- IV vitamin and mineral infusion with low dose Glutathione (200-400mg)

Phase III (lesser assessable extra cellular): Objective to assess the deeper deposits in the extra cellular connective tissues that are fibrosed, mineralized and not accessible due to hyper-coagulation. Keep the cellular barrier closed and open the brain barrier.

- Oral detox agents: same as phase I and II; EDTA oral dose – ¼ to ½ teaspoon 3x/ day, or EDTA suppository; Alpha Lipoic Acid, chelation dose – 400-600mg.
- Injectable chelators: DMPS, EDTA (1 ½ gm) rapid push, Glutathione push (1000-5000mg.); IM Glutathione protocol – 100-400mg 3x/wk.
- IM Vitamin B 12 – very helpful for brain detox and neuropathy symptoms, and in methylation metabolic problems (use methyl cobalamine only) 1000-10,000mcg 1-3x/wk also support with folic acid 800mg and Vitamin B-6 100-300mg.
- IV vitamin and mineral with higher dose of Glutathione (600-1000mg)

Phase IV (cell membrane and intracellular): Objective open cellular and brain barriers, now the extracellular tissues are reduced burdens so that the diffusion gradients are in favor of extra cellular dumping.

- Oral detox agents: same as phase III; add DMSA protocols, Magnesium succinate (Captomer); Homeopathic mercury formulas
- Injectable chelators – same if used; DMSA with EDTA slow infusion; D-Penicillamine

Support therapeutics added to the detox program in Phase II- IV

9. Rebuild protein and Glutathione: Important to rebuild intracellular glutathione stores (which become depleted during HM toxification. Proteins are critical to repair, many can't digest proteins (therefore the need for digestive enzymes). In addition proteins are important for blood sugar (and insulin) control. [] Mt. Capra Goat Whey (also minerals); [] Imuplus (milk whey); [] Immunocal, [] Amino acid supplements; []AA trans-dermal creams.

10. Immune enhancement: Heavy metals suppress the immune system and virus, bacteria, fungi and parasites take advantage in the toxic bodily compartments. When HM are detoxed the Chronic Infections (CI) become active and an immune system needs to be activated to properly treat the condition. Most chronic health conditions appear to have a HM and CI component, immune system modulation will treat chronic infection and reduce symptoms. [] Transfer Factor, [] Transfer Factor Plus, [] Immune-T, [] Total Immune, []olive leaf, [] oregano oil, [] IP-6, [] Freezed fried garlic, [] Alli-Cinn, [] Pyloricin, [] thymus extract, [] 1,3 beta Glucan, [] Echinesia, Golden seal _____

Add to detox program in Phase III:

11. Systemic enzyme therapy: To expose to the detox agents, the compartments of HM and CI in the connective tissues and blood vessel walls (extra cellular tissues) by digesting the fibrosis. [] Wobenzyme; [] other _____

12. Oral, sub Q heparin: hyper-coagulation from a chronic hyper-vigilant (stressed) state needs to be assessed and treated. Heparin helps detox and immune agents to penetrate the inaccessible bodily stores.

13. Cilantro- use topical in Phase III and orally in Phase IV: mobilizing mercury bound to the cell wall and cell receptors and methyl mercury. May be excreted from lungs. Use with other chelating agents to aid in detoxing out

[] Cilantro tincture (Dragon River) [] MIC (Omura's) 1-2 times/ day
[] Fresh cilantro- handful per dose- same
Strategy for the use of cilantro:
Oral dose with chelating agent [chlorella, DMPS] to have chelating agents on board. Don't use simultaneously with garlic and Vitamin C- 2hrs apart. Mobilize HM from compartments with drug up-take enhancement: hand reflex (chart), or **topical dosing** over organ/structure - rub into lymph system (feet, scrotum, vagina, elbow and groin creases: topical dose of the tincture very effectively penetrates the skin; areas of HM deposits, dysfunction and pain. I.E. Joints, kidney, liver.

Other Phase IV detox agents:

14. Receptor site detox: [] Carnosine 2-4 caps/day (1000mg 3x/d); Phase II remedy; clears receptors of cells of HM; important for normal cellular activity.

15. Homeopathic Mercury remedies: homeopathic mercury will open up the cellular channels (barriers), therefore use these products when the extra cellular spaces are cleaned up and the bodily diffusion gradients favor the intracellular mercury deposits to leave the cell.

Additional detox principles and products:

- **How long?** Phase II, III (detox for Extra cellular spaces) if aggressive may last for 3-6 mo.; Phase IV (detox of the cell receptors, cell membranes and intracellular) may last for 3-6 months. The art and science of HM detox is rapidly progressing, and with the utilization of the Physical Medicine modalities the detox and rehabilitation of even seriously compromised patient's is shortened. Phase V (maintenance) is never complete and is often a life long project, however it usually is done in extended cycles (1-3 times per year) by an experienced patient who understands these principles and has obtained a level of intuitive monitoring.
- Detox is a dilution and diffusion process- pulling the mercury from the deeper stores and tissues of high deposits through the elimination organs.
- Time on – time off when using chelating agents is important: giving time for re-mineralization, passive diffusion from deeper stores, establishing equilibrium and rest.

- Use multiple detox agents (for the various Phases and bodily components), and detox through multiple organs. There is no one detox agent that can remove HM from all compartments.
- The elimination organs must be functional to expel the HM, for there is a high degree of re-attachment and re-absorption.
- **Remedy Up-take enhancement** both at home and in the office, is important, because the functionally compromised tissues (including the drainage organs) have a compromised blood flow. This reduces their ability to bring detox agents and nutrients to functionally rehabilitate the tissues.
- HM Detox is an **ANS (Autonomic Nervous System) disturbance**. Rehabilitating the ANS assessment and therapeutics to reduce the overall stress (dys-regulation). Other major ANS disturbances are:1) heavy metal toxicity. 2) toxic chemicals. 3) Allergies. 4) Psycho-emotional conflicts. 5) Noxious energies. 6) Major structural problems. 7) toxic foci and ANS ganglia.8) Chronic infestations. 9) immune/ electrolyte/ neurotransmitter problems;10) hormone dysfunction; 11) Dysoxygenosis; 12) chronic bowel disturbances. These should be treated concurrently with the heavy metal detox.
- A **comprehensive detox program includes**: I. Heavy Metal detox; II. Toxic Chemicals; III. Chronic Infections; IV. Toxic Bowel; V. Chronic un-resolved psycho-emotional conflicts.
- **Foods and diet**: High mineral, moderate protein, good fats; foods high in sulfur (cruciferous vegetables – cabbage, broccoli, cauliflower, garlic); foods high in antioxidants and pigmented fruits and vegetables (proanthocyanidins, lycopene); eggs 3-5 daily; mineral rich foods – fruits and vegetables (juicing);
- **Copious quality water** (8 glasses). Water should be pure. Distilled water will be more available for detox, mineralized water is necessary for mineral replacement. Water can be enhanced with: electrolytes, oxygen enhancers, oxygen bubbles through, alkalined though electrolysis, micro-lysed through silica and other products to make the water more soluble and PAPimi treated. (see Basics- water)
- Electrons need to be added to the system to mobilize the mercury, changing the valence from the tightly bound form of +2 to the mobile form of 0. This is accomplished by Vitamin C, electrotherapeutics (Electroblok), EDTA,
- Dys-oxygenosis, the inability to metabolize oxygen properly, resulting in a chronic need for oxygen. [] oxygen therapy – home therapy, [] deep breathing, meditation, yoga, limbic breathing; [] Hyperbaric oxygen therapy; [] IV ozone, hydrogen peroxide.
- **Sulfur dys-metabolism**: sulfur is critical to detoxification for it is the one element that is essential for carrying toxic by-products out of the body. Some HM toxic patients cannot tolerate any sulfur foods or supplements. [] molybdenum; [] n acetyl glucosamine; [] allergy elimination therapy.
- **Methylation dys-metabolism** – these patients have neurological symptoms. [] methyl cobalamine IM 1000-10000mcg/ day to week
- Homotoxicology and homeopathic detoxisodes – multiple companies
- **EDTA -Oral chelation formulas**: These formulas are usually taken for multiple months and are helpful for blood vessel disease when combined with Wobenzyme

and Immuni-T; [] Oral chelation formula and longevity plus; [] Beyond Chelation; [] Pleo-Chelate

- **Psycho-neurobiology** or the treatment of unresolved psycho-emotional conflicts from the past is very helpful in rehabilitating the tissues/ organs and in mercury detox. It is always a major part of a comprehensive integrative medical detox program. "For each unresolved psycho-emotional conflict there is an aliquot of toxic metals stored in the body" Dr. Dietrich Klinghardt. He continues" Whenever a conflict is successfully resolved, an even amount of toxic material can be easily released from the body, Vise versa, for each amount of mercury (or other toxins) released from the body psycho-emotional material surfaces that has to be acknowledged, understood and processed! Failure to be aware of and help to resolve these isues is the most common reason for difficulties, side effects and crises during detox programs. Each toxin stored has a specific set of unresolved emotional spiritual issues that were responsible in trapping the toxin in the first place. Advanced spiritual masters have been able to drink poison and not be affected by it. The most profound mercurial issue is a lack of connection to God. In Greek mythology, Mercury was the messenger who communicated between the humans and god.

  The forces that would like to keep the mercury in your mouth or in your body are the same forces thatbenifit from you feeling disconnected to God (and therefore craving- substitutes like money, cars, entertainment, excitement…) Klinghardt.

  Every chronic problem has an associated unresolved psycho-emotional conflict that can be resolved.

Coupling Agent Strategies for Mercury and other Heavy Metals

Certain coupling agent drugs are effective in binding the mercury and other sulfhydryl reactive heavy metals greatly enhancing their excretion from the body. Coupling agents do not bind as effectively as chelating agents. The drug EDTA is a chelating agent for calcium, iron, copper, lead and other metals both toxic and beneficial. DMPS is the most effective in binding mercury followed less effectively by DMSA, and much less effectively by penicillinamine and EDTA. These HM coupling drugs are much more effective binders of the heavy metals than the natural binders (Chlorella, glutathione) previously described. Note the clatherating agents are considered by some to have effective binding of HM but no firm research has been established to date.

However, because these drugs will bind effectively mercury and the other HM, they might provoke HM symptoms. It is very important that the bodily excretion systems/organs (the drainage organs) are properly functioning, so that when the coupling drugs move the mercury it is moved out and not just around, provoking more symptoms. Therefore, the naturopathic program previously described as well as Allergy Elimination Therapuetics is essential prior to and during the use of any drug based coupling agent strategies.

1. DMPS is the most effectively bound to mercury. tin, cadmium and nickel. It is a simple molecule used safely in Europe for 40 years. It binds the HM to two sulfhydryl (-SH) groups, forming a water-soluble complex that is excreted primarily through the kidney. DMPS has a very short ½ life so its action is short and doesn't linger in the body once administered. DMPS is administered by injection- IV, IM and in the neural therapy cocktails. It is not very effective by mouth. DMPS is most effective at coupling the mercury and other HM in the extracellular spaces (outside the cells). Since the kidney is the major route of excretion for DMPS, kidney function and support are important. DMPS is used for the urine

challenge, which is the collection of urine after IV administration of DMPS for the purpose of determining the mercury and other HM still present in the body.

STRATEGIES: Used most effectively in Phase II and III and could be considered in Phase IV. Once the naturopathic program has been established with allergy elimination, drainage organ support, vitamin and mineral supplementation, antioxidant protection, an oral (food) HM binder and the other pertinent strategies previously discussed, DMPS should be considered. As previously mentioned, DMPS can be administered IV for the generalized bodily HM detox. It can be administered IM for a slower and longer DMPS exposure. Using DMPS IM for some will provoke less toxic metal symptoms. It is also very effective to be included as part of the therapeutic cocktail in Neural Therapy injections. Neural Therapy is a comprehensive treatment system, which treats the Autonomic Nervous System (ANS), the functional nervous system most heavily impacted by mercury. Using DMPS in the Neural Therapy cocktail is a very effective way to pull mercury out of specifically identified tissues, structures and organs (a local bodily HM detox). Neural Therapy always employs Novocain, as an effective therapeutic agent to rehabilitate the ANS nerves and help the ANS to release the mercury.

DOSAGE/PROTOCOLS: As previously described, DMPS can be used as an IV or IM for general body detox and in combination with other therapeutics in Neural Therapy injections for more local action, concentrating the detoxification to the areas needed most. This method of drug uptake enhancement is a very elegant therapeutic detox procedure, requiring less amounts of the drug to achieve a better and safer therapeutic result. The dose of DMPS can be arrived for the patient's body weight- 3mg./kg of body wt. not to exceed 250mg., or through an ANS biofeedback assessment tool like ART.

The frequency of therapeutic appointments using DMPS is usually once a month, with a range of no sooner than 3 weeks and a outward range of 2-3 months.

To get the most out of the DMPS detox procedure, the naturopathic program needs to be followed especially the Chlorella or similar products. The strategy that works the best is to use the Chlorella and other oral detox products to provoke the Mercury and bring it into the extracellular spaces, where the DMPS can bind it to excrete it from the kidneys. Therefore DMPS can be used in all Phases of detox.

Unfortunately there is no simple full proof method accepted by all to determine when the majority of the mercury is released from the body. Currently there are mercury challenge tests (previously described), which may give some indication that the mercury has been released. Three months of little or no mercury spill after 8 hour challenge is one method of determining when the active detox phase is over. Another method of monitoring the active detox phase is ART, particularly the direct resonance portion of the assessment. See ART patient guide.

CAUTIONS: Since DMPS is so effective at moving Mercury, the ANS hyper-reaction (allergy) must be eliminated before and checked for after delivery of the DMPS. Use as little a dose as possible and use Neural therapy (with or without needles) to concentrate the DMPS in the local compartment to be detoxed. This is the value of a biofeedback technique like ART to determine the bodily compartments, dosage and whether the dosage is to much for the patient.

Stop minerals and sulfur supplementation 1 day prior to DMPS administration, resume 8 hours after if IV and 24 hours if IM. The minerals and sulfur will interfere with the effectiveness of the DMPS>

2. DMSA is not as strong as coupling agent as DMPS, but definitely has an important place in the HM detox strategy. Orally administered, it appears to be able to better penetrate the brain barrier and cross the cellular membranes, giving it some intracellular activity. There are in general fewer symptoms observed with DMSA than DMPS, due to its reduced ability to move the mercury around. Because DMSA is an oral capsule, it can often be used with less frequent visits to the offices, making it an advantage for those who may have problems traveling. DMSA is excreted from the liver and kidneys. It is not the best therapeutic agent to do a urine challenge and expect any degree of accuracy. Having been said, for a DMSA urine challenge: take one 500mg. cap. and collect the urine for 6 hours.

STRATEGIES: DMSA is preferred by those experienced with the use of DMPS to be used at the end of detox treatment – Phase IV. The detox strategy is to reduce the body stores in the extracellular tissues first with Chlorella, DMPS and other agents described, then aim at the intracellular stores with DMSA and homeopathic mercury formulas. The fundamental concept behind this is diffusion of the toxic substances in the direction of excretion and not deeper into the cells. Toxic substances in the body have two ways to migrate- deeper into the tissues and cells, or out through one of the excretory systems (i.e. liver, gastrointestinal tract, lungs and any of the respiratory mucous membranes, kidneys, urogenital (mucous membrane) system, spleen and the skin. By reducing the toxic deposits in the extracellular spaces

first, before opening the cellular and blood-brain barriers with therapeutic agents ensures that the diffusion of the toxic substances proceeds out and not in.

Some clinicians and organizations will use DMSA as the major coupling agent in the beginning of treatment, because it will provoke fewer side effects. Some are advocating the use of DMSA for kids in autism, ADHD, LD, asthma, and other HM allergic/ toxic disorders. While side effects are always to be minimized if possible, the opening of the cellular and brain barriers to the possible backward diffusion of mercury may be a short-term gain for a long- term problem. There appears to be good evidence that the use of DMSA early in the detox increases the incidence of brain degenerative and neoplastic disease (ie cancer and epilepsy years later).

Another principle that is applicable here is that immediate HM symptoms occur when the Autonomic Nervous System reacts to the toxic substances, which can only happen when the toxins like mercury are in the extracellular spaces (the place where the ANS is physically located). It furthermore been our experience that when immediate adverse symptoms occur an allergy or ANS stress response is present and needs to be treated (Allergy Elimination Treatment).

DOSAGES/PROTOCOLS:

1. Recommended by the Manufacturer. 10mg/kg per day, taken in three divided doses with meals. The first day, take one cap with the evening meal. If symptoms occur, (tiredness, depression or any symptom attributed to your HM condition), remain with one per day until symptoms improve. If or when you feel fine, take one cap at breakfast and one at dinner. Proceed until the maximum dose is achieved. DMSA is taken in courses of 5 to 10 days, followed by a rest period of one to two weeks, allowing the body to remineralize and the kidneys and drainage organs to recover in between courses of DMSA. Multiple courses of DMSA (between 2-10), are recommended followed by a rest period of remineralization. The standard doses are;

   If you weigh: 100lb. Take 450mg. / day Or: 150mg.cap three times a day
   125lb. 560mg. / day 180mg. cap
   150lb. 700mg. / day 250mg. cap
   175lb. 800mg. / day 275mg. cap
   200lb. 900mg. / day 300mg. cap

   Dosing and duration of the treatment and rest periods can also be determined by a ANS biofeedback test like ART.
2. The protocol used by Dr. Klinghardt is to take one DMSA 500 mg. cap. every other day for 2 months on and 1 month off.
3. A protocol I have been using is to take 500mg. of DMSA daily in the morning for 1-4weeks, then rest for 1-4 weeks. Note: it usually is 2 weeks on and 2 weeks off, or 4 week on and 4 weeks off. These protocols are individually customized using ART.
4. DMSA while using EDTA slow infusion: 500mg of DMSA with standard 45 min-1 ½ hour infusion.

CAUTION:

As was mentioned earlier, mineral and sulfur supplementation cannot be taken while DMSA is active, for it will bind to the active binding sites of the DMSA rendering it unavailable for heavy metal binding. Therefore in protocol 1, mineral and sulfur supplements are withheld until the rest period. In protocol 2, the supplements are taken on the day DMSA is not taken. In protocol 3, the supplements are taken in the evening 12 hours away form the DMSA dosing. This dosing does not affect any other naturopathic detox strategies.

3. Magnesium succinate (Thorne Research, Allergy Research) can be substituted for DMSA. These products are classified as vitamins and therefore don't require prescriptions. Although the chemical structure is similar to DMSA they do not appear to be as effective.

4. IV Vitamin and Mineral: There are a number of times during heavy metal detoxification when IV/IM support and detox therapies can be very helpful. It is commonly used: 1. Prior to HM detox to rebuild mineral bodily stores and strengthening the bodily systems. Chronic heavy metal toxification, compromised absorption, poor food choices and a whole host of other reasons can create inadequate supplies of vitamins and minerals which in turn reduce the output of the enzyme systems that rely on them, contributing to the symptoms. Supplying the

needed biochemical ingredients in pharmacological dosages, can be helpful. By-passing the gut, which often is a primary contributor, is an Integrative Medical strategy to rehabilitate the biochemical milieu. 2. IV vitamin and mineral therapy is also strongly recommended 24-72 hours after DMPS and DMSA and 3. IV cocktails are used during detox, as needed.

The purpose of the vitamin and mineral cocktails is: to replace the minerals lost due to the action of the coupling agents. To re-supply the minerals identified to be in suboptimal quantities in the bodily stores; to supply antioxidant protection before or after detox; to alkalize the body fluids, which promote better enzymatic and immune functions; to supply in large pharmacological doses the Krebs cycle enzyme cofactors and other enzyme systems, which force cellular uptake, thus providing energy, enhanced detoxification and repair; to supply the nutrients to prevent the formation of Homocystiene, a potent oxidizer, which damages the lining of the blood vessels causing atheriosclerosis.

A. IV Vitamin and Mineral with high dose Vit. C, Glutathione

This is a special cocktail used as a stand alone IV chelation or after the naturopathic chelation (with Chlorella), or as a second chelation/ mineral replacement 24-72 hours after DMPS / DMSA. The formulation is designed to supply additional heavy metal "coupling" detoxification through the use of the vitamin. C and glutathione (supplying the neuralizing electrons to the mercury to uncouple it from its bound ionic form in the tissues, promoting its diffusion into the extracellular spaces). This enables the mercury to be more accessible to the glutathione in the extracellular spaces, which is made amply available to couple the mercury for elimination through the liver. Elimination through the liver of the toxic metal is particularly useful to reduce the burden from the kidneys after the DMPS

5. EDTA IV Therapy

Historically, EDTA IV infusions have not been considered for mercury detox. The use of EDTA is not for additional mercury removal, for although it binds to mercury, in the body the mercury is bound too tightly to the sulfur amino acids to be effectively removed by EDTA. One or more EDTA infusions could be considered between the DMPS / DMSA administration, preferably during the rest periods. It could be recommended for those patients with occluded arteries in the heart, brain (i.e.stroke),or peripheral tissues. Other EDTA considerations would be excessive bodily oxidation, arthritis and a generalized non-stabilizing condition.

EDTA is effective in removing toxic heavy metals of lead, nickel, cadmium, and aluminum. In addition EDTA binds and removes effectively iron and copper, which when present in excessive amounts can be effective in reducing excessive oxidation. EDTA is best known for its ability to remove excessive calcium, especially from the soft tissues (i.e. blood vessel linings where it is a major component of the arteriosclerolic plaque, joints and other connective tissues). Therefore EDTA would be appropriate to be used as a support agent in Phase III, to reduce the arterial plaques. Furthermore EDTA has demonstrated a remarkable ability to put the calcium back into the bone, where it belongs. The desirable result of EDTA therapy is to normalize the calcium metabolism, which has a stabilizing effect on the cell membranes in general. The calcium removal from the soft tissue opens up clogged arteries and improves circulation, and improves arthritic joint conditions.

Most importantly however, EDTA is a powerful reducing agent providing electrons to the body and thus serving to reduce the excessive oxidation, which is so prevalent in chronic health conditions.

Although some clinicians are concerned about EDTA forming insoluble complexes with mercury, many others feel that this does not present a clinical problem in the body.

Most recently EDTA pushes have been used with good results. This therapeutic protocol combines oral EDTA therapy (or suppository), which supplies a prolonged low level concentration of EDTA.(1/4 to ½ teaspoons or 1-2 gm 3x/day for 2 weeks prior to a 1 ½ gram push of EDTA. The excretory route appears to be the stool for Mercury with EDTA, although this has not been well confirmed. EDTA appears to be most effective with Methyl Mercury.

6. D-Penicillamine:

Mobilizes intracellular mercury effectively however not as effective and more toxic potential. If use, Phase IV.

7. Oxidative Therapies

Oxygen therapies alter the body's chemistry to stimulate the immune system, thus overcoming disease, promoting repair and improving overall function. Oxygen therapies are safe and effective. They include the IV therapies of hydrogen peroxide, ozone and ultraviolet blood irradiation, ozone steam detox and hyperbaric oxygen therapy. These therapies can be used after any vitamin /mineral IV. These therapies are very helpful in raising the redox potential in the body (correcting an acidic ,oxidative condition, the condition that promotes disease and degeneration). Oxidative therapies are recommended when Chronic infections of yeast, parasites, virus and bacteria are present. They have also reported to be extremely useful in clearing up chronic skin conditions like psoriasis. The Chi machine, exercise and breathing oxygen during IV vitamin/mineral infusions are additional oxygen therapies that are helpful. For more information about the oxygen therapies see our handout.

Drug Uptake Enhancement

Remedy (drug) uptake enhancement is an important part of any detoxification program. It is very applicable for in office and at home parts of the detox program. Remedy uptake enhancement is important for functionally rehabilitating the organs and tissues most affected by the heavy metal toxicity. Enhancing the uptake of remedies involves increasing blood flow and autonomic regulation to chronically impaired organs and tissues. One of the devastating effects of heavy metal toxicity is the compromising effects it has on the autonomic nervous system, the functional nervous system, responsible for blood flow and nutrient (and remedy) tissue uptake. Tissues laden with mercury and other heavy metals usually demonstrate reduced blood flow due to ANS disturbance. If remedy uptake enhancement is not employed, the remedies taken orally or parentally will be distributed throughout the body but relatively in less proportion to the ANS compromised area. The objective in detoxification or any other therapy is to place as little of the remedy is the body while maximizing the dosage in the areas needing in the most. Therefore, to increase the blood flow (and healing) to the affected organs or tissues and to increase the remedy uptake to the identified areas of toxic accumulation is a prudent detoxification strategy

There are a number of Regulation therapies that affect the blood flow and ANS regulation.

1. **Neural Therapy** is a German therapy, which traditionally involves the injection of novocaine and other remedies. Novocaine injected into the skin, tissues or ANS structures will increase the blood flow to the area for 3-7 days and often permanently. Neural therapy is very effective in heavy metal detox because the remedies can be loaded into the injection and taken –up by the ANS nerves and tissues directly.
   Neural therapy can be delivered without injections with infrared non heat-generating lasers and special electrical units (Electro-blok).
2. **Acupuncture** is a regulation therapy, which modulated the ANS, increasing the blood flow and cellular responsiveness. Its effect will last for 3-7 days.
3. **The Reflexes** of the body are concentrated autonomic mappings and when stimulated will increase blood flow to the affected organ. The ear, foot and head are some of the better known reflexes. We are literally tied together by the functional ANS , the significance of which is not fully understood. The hand reflex has been extensively studied by Dr. Yoshiaki Omura. (See the hand reflex chart at the end of this monograph.) When these points are vigorously rubbed for 4-5 minutes, the blood flow to the particular site will measurably increase. The effect will last for 5-6 hours. According to Dr. Omura's research, The hand reflex is the most powerful reflex to stimulate blood flow. The hand reflex is readily available for self treatment at home.