



# Neurotoxin Detox Instructions: the specific products, dosages and strategies

## I. Biochemical support for detoxification

Foods are the most important source of nutrition, but in detox, especially in the beginning supplements are important to pharmacologically supply the optimal nutrients to detox and change the internal milieu to aid health and healing. Supplements are always better if they are of food sources, if not then the formulas, binders, fillers and other additives used in the manufacturing of the capsule (even the capsule itself) is important. Quality in supplements is important to results. We recommend only companies that we know have the highest purity, consciousness, and “green” standards. You always get what you pay for!

In “Basics” we discuss foods, diet and life-styles. We also discuss basics for supplementation strategies. The 4 pillars of supplementation that all should consider daily are: A) General vitamin and mineral; B) Anti-oxidants; C) Probiotics and other bowel health products D) fish oils and we would probably add Vitamin D (5000mg) if you are not going into the sun today

Most patients are **taking a general multi-vitamin and mineral** in addition to the basic supplement.

### 1. **Antioxidant Protection** : Detox is an oxidative process use in all phases

**Foods:** fresh fruits and vegetables, juicing and organic if possible, pigmented fruits and berries that are high in orac value (the amount of electrons in the anti-oxidant complex).

**Supplements:** To protect against free radical pathology, and supply electrons 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. Understand that for detox antioxidants with their electrons are critical to mobilize the toxins, but it chronic infections are the emphasis, which requires oxidation for effectiveness, then less antioxidants are best. (Options)

A. **Garlic:** Protects WBC and RBC blood cells from oxidative damage caused by heavy metals in the blood stream; it a weak detox functions having a high affinity to toxins, but unlike chlorella it has a weak bond to the toxins, which is split off in the GI tract – therefore always use with chlorella to rebind in the gut. Garlic oxidizes heavy metals making them water soluble and more easily transportable. Garlic is an immuno stimulant, supplies sulfur, anti- fungal/ parasitic/ microbial; part of the gut maintenance. Very important in mercury detox

- Freeze dried – the only type of garlic supplement to consider: Biopure, Bioimmersion, Pharmax; 1-3 capsules after the meal so the allison is not destroyed is the best timing; in addition – open the capsules into water and let sit for 5 minutes so the allison can become active; use once or twice a day. Dose garlic until you reek – then back off so that you are not socially unacceptable.
- fresh garlic with meals

- Bear garlic tincture is excellent for use in detox, but less effective as antimicrobial agent

Note: Garlic and vitamin C will inactivate cilantro, use at least 20 minutes apart.

A. **Vitamin C:** buffered and with Bioflavonoids and other parts of the Vitamin C complex: Don't use simultaneously with antibiotic, antiviral or cilantro.

- 1-5 g/day: divide dose; Ester C Plus, Potent C Guard, Ultra Ascorbic C
- Always use the complex
- Vitamin C Powder is important to have if bowel constipation occurs and some will use oral Vitamin C therapy - is taking vitamin C to bowel tolerance

B. **Vitamin E:** Protects blood, cell membranes (with/without Co Enzyme Q) :

□ 400 IU/day (under age 40). □ 800 IU/day (over age 40); if crisis use 2400 IU for 2-3 days.

- Gamma E Supreme (Crayton)
- Tri-En-All (Douglas)

C. **α Lipoic Acid:** Enhances action of all other anti-oxidants, supplies sulfur, a weak chelator. Three dosages with different actions:

- a) low dose (50mg/d) - protects mitochondria and enhances ATP; use in Phase I, II
- b) moderate dose (100-200mg/d)- potent antioxidant; use in Phase III
- c) high dose (800- 1600 mg/d)- ALA max (Xymogen) use in Phase III and IV only; will open the brain barrier. See the Alpha Lipoic Protocol, which maintains blood levels for consecutive days (3-7 days); This product is time released and has about 12 hours of sustained release, therefore it is taken 2 (400 mg) caps – twice a day or 1-2 caps three times a day.

D. **Co Q 10**

This antioxidant nutrient is always helpful to help protect heart, blood vessels, periodontal tissues and all tissues in general. 50-200 mg a day appears to be most beneficial. Ubiquinol is the most potent form

- CoQ max (Xymogen): 50-100mg
- Chewable CoQ 30mg, 100mg (Crayton)
- CoQ Melt

E. **Natural and herbal products:** t

There are many **natural super-foods** and herbs that are on the market, with high orac values (antioxidants are rated with orac values determined by the amount of available electrons that can be given up – their reduction value). These products are food based with high nutritional value and compliment (and sometimes reduce/ replace) the need for vitamin C

- Ecklonia cave (Biopure)
- Mona vie, Golgi juice, Mangostein
- Resveratrol (Xymogen)
- Juice plus;
- Wild Blueberry (Bioimmersion);
- Lycopene Plus
- High Orac Probiotic formula

Use these products as directed on the bottle, or as directed by the therapist, or as you intuitively feel the need (for those with more advanced awareness).

2. **Minerals / Electrolytes:** Heavy metals 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, and Mg) is critical to reducing symptoms and ANS nerve function.

Withhold all minerals (including the minerals from your general vitamin and mineral supplement) at least a day prior to DMPS IV or 8 hours from EDTA, DMPS, or DMSA suppositories or oral chelation – to prevent the minerals that you are supplementing being removed by the chelation drugs.

### **Mineral therapeutic strategies:**

- Selenium is the most important mineral for mercury detox. Selenium levels need to be maintained at high normal for best mercury detox and reduction of symptoms. RBC analysis is the only effective biochemical tool to effectively monitor selenium levels.
- All metals, which compete with Hg, should be supplemented with a general mineral supplement. If a particular mineral is low per RBC mineral analysis, supplement the specific mineral.
- After chelation, when the good minerals along with the toxic metals will be removed, we strongly advocate an IV vitamin and mineral infusion. We consider this to be the second day of a complete chelation cycle
- Supplement the minerals to a level of high normal; this greatly aids detoxification and reduces symptom; use the RBC mineral analysis at least every 6 months to determine the mineral status.
- On the day before and the day of chelation, do not take minerals because the supplemented minerals may compete with the chelating agent and reduce the yield of toxic heavy metals.

The following are the most important minerals and a few of their important functions.

- Selenium – patients with normal to high selenium values are able to detox mercury better and withstand toxic mercury exposure much better. Selenium binds with mercury and helps remove it through the skin, therefore it should always be added to the water one drinks prior to a sauna. Use in higher doses for anti-viral effects. Selenium drops are easiest to add to water, or tabs.
  - Dosages: 200-800 per day; sauna protocol – 800-1500mg prior to sauna
- Magnesium – the most common mineral in enzymes, responsible for energy production, immune function and many more; magnesium will calm down the sympathetic nervous system, which is always hyper-regulating in toxic overload conditions like heavy metal toxicity. Magnesium is abundant in unprocessed organic foods (fruits and vegetables) that most Americans do not eat. Muscle cramping can be a sign of low magnesium
  - Dosages: 400-800mg: M/M Miraculous Magnesium, Mag Calm, Natural Calm, Mg Plus Guard, Mg liquid drops, Selectrolytes
- Calcium – needs to be acknowledged, especially if bone loss, muscle and joint issues. Calcium and Magnesium are often supplemented together, if magnesium is low use 1:1 ratio, if not 1 Mg to 2 Ca
  - Ultra-Joint Forte
- Potassium – like magnesium is often processed out of our foods. Potassium is a very important electrolyte and it will stimulate the parasympathetic nervous system, which is the healing part of the ANS the regulating nervous system.
  - Dosages: Liquid drops, Selectrolytes
  - X-CELL-R-8 (Mg-K) (Marcopharmo)
- Manganese is often low and should be suspected if muscle and joint tenderness and autoimmune is present. Part of the KPU protocol.
  - Dosage: 10-30 mg

- Chromium is important in glucose regulation.
    - Dosage:
    - Diabetes Option, Glucobalance
  - Copper and zinc need to be closely monitored, because they will be removed vigorously by DMPS. Zinc supplementation is important for the synthesis and metabolism of Methionine, S-AdoMet, Methylation (MTHFR), immune functions, bowel cell repair, metallothionein and many other important functions. However, use in low doses only because high zinc will displace mercury and therefore is an adverse synergistic factor, which must be closely watched. Copper is often oxidized and displaced in toxic patients with Lyme's. Zinc is part of the KPU protocol, which prescribes zinc in large dosages. During KPU protocol, detox less aggressively.
    - Dosage: Normal 5-25 mg, KPU 200-600mg
    - Must balance with copper: 2-4mg
  - Molybdenum is important for sulfur metabolism. If low and patient displays problems with eating sulfur foods, supplement for 1-2 months before active detox- See - Rebuild Sulfur Metabolism Protocol
  - Many would add iodine and iodide as routine supplementation due to chronic shortage of these minerals and chronic thyroid problems
    - Lugals solution, Iodoral
- A. **General Mineral:** a general mineral should be supplemented along with a mineral rich diet, blending and juicing if possible. It is more important if the quality of the minerals in the diet has been or is currently a problem.
- Multiminerals (Biotics) – derived from food sources (hydroponically grown and mineral enriched sprouts;
    - With iron, or with-out iron
  - Liquid minerals: liquid drops into the water are usually more bio available. Trace Mineral Complex CWS (Pharmax, E-Lyte)
- B. **Individual Mineral Supplement:** determined after RBC mineral analysis or specific for heavy metal detox.
- Liquid minerals can also be applied trans-dermal for site specific up-take
- C. **Electrolytes:** Adding electrolytes to the water is important for macro mineral supplementation (calcium, magnesium, sodium, potassium, bicarbonate, chloride and phosphorus). Electrolytes provide the electrical charge needed for the body to function. All muscular and nervous symptoms of detox are minimized, nutrient and toxins are better transported, and the body is better able to regulate itself with blood pressure, temperature and other bodily functions when electrolytes are used in the water. It is very important to add electrolytes to the water you drink, and of course the other minerals mentioned above can be added to the same water.
- Water** is very important during any detoxification program- 2-4 quarts/ day:
- Electrolytes (Morin labs)
  - E-Lyte
  - Cell food to enhance the water.

**Mineral Strategies:** The goal is optimal mineralization, which is evaluated by Labs - RBC mineral analysis and predominance of heavy metals being excreted as evidenced through the urine challenge or hair analysis. The beneficial minerals need to be elevated when there is evidence of the antagonistic toxic metals and supplement the antagonist mineral. If you know the specific heavy metal that you are detoxing, supplement in increased quantities the antagonist

metal, to better displace the toxic heavy metal from its binding site. The heavy metal antagonists are:

Mercury  $\leftarrow\rightarrow$  Selenium;  
Lead  $\leftarrow\rightarrow$  calcium;  
cadmium  $\leftarrow\rightarrow$  Zinc;  
Aluminum  $\leftarrow\rightarrow$  calcium + magnesium;  
lead  $\leftarrow\rightarrow$  Calcium;  
Iron  $\leftarrow\rightarrow$  Zinc, Molybdenum, Copper;  
Copper  $\leftarrow\rightarrow$  Zinc, Molybdenum.

No minerals during chelation: The strategy is to build up before and after chelation only.

**3. Build up the sulfur stores** – Sulfur is the primary detox element and needed in abundance during detox. Sulfur is critical in all phases of mercury and other heavy metals detox, due to its thiolic (SH-) affinity or binding, its antioxidant capacity, detoxification properties, required in the production of glutathione, methylation, SAME, and most enzyme systems..

#### ***Foods high in Sulfur Amino Acids:***

- **Cruciferous vegetables (as much as possible)**- cabbage, broccoli, cauliflower, Brussels sprouts, garlic, onions – the stinky vegetables, because they contain sulfur
- **Garlic** is important because:
  1. supplies organic sulfur
  2. it protects the blood and bowel as a potent antioxidant during heavy metal chelation;
  3. it furthermore controls viral, fungal, parasite and bacterial pathogens; In mercury detox you cannot have enough garlic
  4. The important anti-pathogenic component in garlic is Allison, which when processed has a therapeutic life of only 14 days. Therefore all supplements that are not freeze dried, or foods that are cooked and stored for over 14 days still contain sulfur but no active Allison. Fresh garlic, cooked and eaten garlic and freeze dried garlic concentrated food supplements are the best sources.
- **Chlorella**, the perfect detox food, is high in sulfur. Its multiple benefits will be reviewed later.

**Sulfur supplementation** should be strongly considered especially in the beginning of detox. Refer to the appendix and treatment strategies for more on sulfur supplementation during heavy metal detox.

Options for supplementation

- **MSM** 1-3 g/day usually but up to 10g if needed - divide dose with meals; this is the cheapest method to rebuild your sulfur stores and **should always be considered for all initial detox patients.**
- Redoxyl (D.L. Methionine)
- NAC (N-acetyl-cysteine) no more than 250 mg/day during Phase I-III. In Phase III and IV 500-1000mg is appropriate. NAC in this dose will cross the brain barrier, but it helps increase the glutathione. NAC is a weak chelating agent, which is why NAC is only used when the matrix is relative clean up so that mercury is not carried into the brain.
- OncoPlex: Sulforaphane – in cruciferous vegetables – watercress, broccoli, cauliflower, cabbage, Brussels sprouts, arugula, kale
  - Potent inducer of (phase II) detox and anti-oxidant enzymes
  - Induces cancer cells to destroy themselves (apoptosis)

- Protects against cancer
- Lowers blood pressure, LDL cholesterol
- Anti-inflammatory
- Max GSL: to increase glutathione (GSH)
  - Combination of Vitamin C, Alpha Lipoic acid, L Glutamine, NAC and proprietary GSH absorption and recycling blend: Cordyceps, N-acetyl-D-Glucosamine, Quercitin, Milk Thistle extract
- Others sulfur supplements already discussed: [] Garlic; [] Alpha Lipoic Acid

Oral Glutathione (lysine-cysteine-glutamine) is not cost effective because the glutathione is broken down by the proteolytic enzymes of the gut. Options on glutathione supplementation are discussed in protein section

#### **Strategy for sulfur supplementation:**

- Withhold sulfur supplement day prior and day of chelation (DMPS) for better yields. 8 hours after oral dose of DMSA or Captomere.
- If sulfur supplements and or sulfur foods are a problem creating symptoms and intolerances, a strategy to re-regulate sulfur metabolism is important. Don't use sulfur in any form – MSM, DMPS, DMSA, chlorella, alpha Lipoic acid, garlic – causes moderate to severe symptoms. This can be a very important step to your detox. The strategy to overcome this problem is:

#### **Rebuild Sulfur Metabolism Protocol**

- **Allergy/ hypersensitivity elimination** to sulfur, Molybdenum and check all minerals through neurological Allergy Elimination Therapeutics (AET). In the Cowden LED protocol, sulfur is the first toxin to be cleared. Note that when you are allergic to a food or supplement, it becomes a toxin.
- Then increase the ability to sulfinate by supplementing to:
- **Molybdenum** (which is usually low) supplementation for 1-2 months. Molybdenum (Mo) is essential to convert sulfite to the bioactive sulfate
- N acetyl glucosamine supplementation
- Proper sulfur metabolism requires Molybdenum, which may need to be built back up with supplementation for 1-2 months. A RBC mineral analysis will help assess this condition as will biofeedback therapeutics like ART. In addition, the blood chemistry will reveal a low uric acid (xanthine to uric acid is blocked); and low Chloride in the blood chemistry.
- Regulation therapies that give therapeutic information to properly metabolize sulfur (i.e. Schweef-Heel)
- Once sulfur metabolism is re-established then sulfur supplementation is needed to replenish deficiency, and can be taken without adverse effects

Therefore in heavy metal detox, re-building your sulfur stores, and aiding your body with optimal supplies of sulfur foods and supplements for efficient detox is very important. We feel that foods and supplements that concentrate foods are the backbone of our detox program.

#### **4. Rebuild protein:**

It is important to rebuild extra cellular and intracellular glutathione stores, which become depleted during HM toxification. Proteins are critical to repair the harmful effects of mercury toxification. Remember, many patients can't digest proteins (therefore the need for digestive enzymes). In addition proteins are important for blood sugar (and insulin) control. Whey protein (that has been partially hydrolysed) is very helpful in restoring intracellular glutathione,

important for intracellular- detox and anti-oxidant protection. Amino acids are critical for making neurotransmitters and neuro-peptides, hormones, immune antibodies and many of the other bio-active chemicals that regulate repair, behavior and metabolism. If the amino acid is not able to be delivered to the protein when it is being made, the molecule is not bio-active therefore the proper amount of amino acids is a critical part of the detox and rehabilitation process.

Protein metabolism has two issues: First problem: **lack of eating the proper proteins:**

- Processing foods removes some proteins
- Commercial growing and raising animals, reduces nutrition and amino acid balance in the plants and animals (we are eating basically un-nutritious foods)
- Vegetarianism – it is hard to obtain a complete balance of amino acids eating only plant proteins.

The body will only utilize the amino acids that it needs at the time, the rest of the unneeded amino acids are de-aminated (the nitrogen group is cleaved off the molecule) and used to metabolize for energy like sugars. Proteins require 8 essential amino acids that can only be supplied in the diet; the rest can be made in the liver according to the demand. What is the best protein source and is there a problem if we eat too much protein?

The best source of natural protein is whole eggs, utilizes 48% of the amino acids as structural or retained proteins. The next is meat, poultry and fish, which utilizes 32%, with 68% as nitrogen waste; other amino acid formulas including soy, whey, egg white, hemp were 17-18% utilizable amino acids with 83% toxic nitrogen waste.

We advocate **Master Amino Acid Pattern (MAP) as a supplement for most detox patients and all patients in general and with any degree of chronic problems.**

Second problem: **lack of digestion of the proteins**

- Many people have bowel issues: chronic inflammation, allergy and immune problems, often unbeknown, to them.
- Lack of digestive enzymes, especially hydrochloric acid, which is essential for breaking down proteins to digestible amino acid units.
- If the bowel is inflamed, or overrun with pathogenic microbes the bowel has reduced capacity to absorb the digested amino acids or the “bad bugs” eat the proteins and amino acids before you have a chance.
- The neurological and immunological system can overreact to a bad situation and develop an “allergy” or hypersensitivity to the protein or amino acids, which will further reduce its capacity to digest.

Assessment lab test to determine shortage in amino acids or amino acid metabolism especially if mental symptoms (depression, anxiety...), immune issues as in chronic Lyme's:

- Plasma amino acid analysis
- Urine amino acid analysis
- Organic urine analysis

Action steps to ensure proper protein utilization during detox:

- Treat the bowel:
  - supplement with digestive enzymes especially hydrochloric acid
- Eat a quality diet of protein
  - Organic if possible, minimally processed foods
- Supplement with MAP, for full complement of AA
  - 5-10 daily, 23 minutes before meals
- Supplement with whatever amino acid is low to rebuild the bodily stores;
  - individual amino acid powder or capsules can be added to the diet to correct the problem

- Amino Acid trans-dermal creams – by-pass the gut
- S adenosyl methionine (SAME): 100-400 mg 1-3 times a day.
  - Use if methylation problem and therefore problems detoxing and controlling chronic infections, cognitive or brain symptoms, joint problems, or an up-regulated nervous system.
- N-acetyl Cysteine (NAC) 100 - 250 mg/day – in Phase II and III; Phase III-IV 250-1000mg/ day
- has been discussed in the sulfur section
- Neurotransmitters:
  - Glutamine GABA -
  - Tyrosine – Dopamine
  - Tryptophen - serotonin
- IgG 2000 – serum derived immunoglobulin proteins, reduces bowel inflammation
- Metabolic syndrome and bowel repair:
  - Glucosamine
- Whey protein has been used for increasing glutathione levels, because it contains a large supply of cysteine which are needed for glutathione synthesis (in the liver for extra-cellular biosynthesis) and branched chain amino acids (leucine and iso-leucine), which is needed for carrying cysteine into the cell for intracellular glutathione synthesis. We use goat whey, which is cheaper, but also cow whey, which is easier to obtain.
  - Powder protein formulas can be added to food to deliver a broad support of Amino Acids. Whey protein is the most important, because of the intracellular glutathione connection, however various other protein powders should be rotated with the whey so that allergy is minimized. (I.e. rice, soy, hemp...). Note all the supplements and foods should be tested for allergy.
    - Whey protein
    - Mt. Capra Goat Whey (also minerals);
    - Imuplus (milk whey);
    - Immunocal,
- **Glycine and Di-Methyl-Glycine (DGM)** are helpful in detoxing the toxic chemicals. Often Glycine is not present in adequate amounts, so the chemical detox system is impaired:
  - DGM – 125 mg tabs 1 -2 tabs stat 4 times /day
    - Increase dose until symptoms improve
    - Next dose when effect is lost
    - Approximately 20 tabs/day in divided dose

Di methyl Glycine, along with Betaine HCl and tri-methyl Glycine are important methyl group donators for those with detox and methylation problems. More on these in the section on B-12, Folate and methylation.

**Notes on Proteins:** it is critical for the Mercury detox patient to maintain a good source of protein from their diet. Complete protein sources are critical to balance the needs for sulfur, all the amino acids for healing the tissues, neurotransmitters, enzymes and all the other functional and structural requirements for detox and rehabilitation. In regards to proteins in the diet consider:

- **Lean proteins;** no large fish [The larger the fish the higher the mercury content→ concentrates up the food chain]; if fish is eaten, take chlorella capsules –(1/2 -1 gram) to bind the mercury in the fish. RULE: when detox minimize toxification.
- Vegetarian and fasting diets are not recommended, because ample a protein is needed for HM detox along with Vit B 12 (methylation); it is a generally recognized fact among

Integrative Medical professionals that the **strict vegetarians are the sickest of our patients.**

- Need to monitor for allergies (hypersensitivity) to amino acids and proteins, (especially if any biochemical test indicates low protein and adequate intake)
- In the initial stage of HM detox, consider a diet higher in protein; also always consider **supplementing with MAP** and protein powders so supply the optimal amounts. **Whey Protein** supplement is particularly important because the whey is the best for rebuilding the intracellular glutathione stores.
- The protein is only as good as the quality eaten and the amount digested. Remember that as we age digestive enzymes are reduced. Some feel that after age 30, most people require digestive enzymes to adequately digest their proteins. It is also recognized that all patients with **chronic health conditions have impaired protein digestion.** Therefore digestive aids (HCL, and enzymes) are usually required.
- **Eggs** are the good source of proteins, fats, B Vitamins, minerals and sulfur; free range chicken's eggs are best quality, because the chickens are eating their natural diet of grains and insects, so the fat and protein composition of the egg is superior. 2-5 eggs daily during active phases of detox and membrane rehabilitation. The yolk is the best part.
- Proteins and fats should be eaten together because they work together.

Amino acid supplementation;

1. **Increasing Glutathione:** more in appendix
  - Intracellular with partially hydrolyzed whey protein;
  - Extra cellular with AA supplementation and glutathione strategies
- Glutathione is perhaps the most important natural chelator our body produces to manage mercury and other toxins.
- Some have genetic or toxic blocks,  
Maintaining optimal glutathione nutrition is the goal in mercury detox. Glutathione accounts for 10-50% of antioxidant capacity of plasma- an important antioxidant and natural detoxifier. Same functions intracellular, however there is a finite amount of glutathione, which when used up reduces the body's capacity to protect itself from HM toxicity.
- Intracellular glutathione is the only naturally produced intracellular detoxifying agent to remove HM from inside the cell. It acts as an intracellular shuttle system, however, **intracellular glutathione once spent in removing HM from inside the cell is not easily manufactured, and it can not diffuse back into the cell from the extra cellular stores.** This leaves the cell mitochondria at risk to oxidative damage, which leads to lipid membrane per oxidation and ultimate destruction of the mitochondria.
  - . The nutritional factors that increase glutathione are
    - Chlorella – abundant in the right amino acids – Cystiene, Glycine, and the branched amino acids (for the intracellular transport of the above), and B-12. Chlorella is the most abundant food in our detox arsenal.
    - B-12 is critical for construction of glutathione; therefore if methylation problems are present, glutathione is reduced.
    - Oral NAC (N- Acetyl- Cystiene) the primary rate limiting precursor for glutathione is a supplement that we use in lower doses in the early phases (due to its ability to bring toxins into the brain (or cells) – if the diffusion gradient is greater outside the brain (or cells) than inside).
    - Oral Glycine and Di-Methyl-Glycine (DMG) are supplemented for glutathione synthesis, liver conjugation and toxic chemical detox.
    - Max GSL: to increase glutathione (GSH)

- Combination of Vitamin C, Alpha Lipoic acid, L Glutamine, NAC and proprietary GSH absorption and recycling blend: Cordyceps, N-acetyl-D-Glucosamine, Quercetin, Milk Thistle extract
- Glutathione strategies are employed to raise the blood levels during detox and raise the brain glutathione; note that IV glutathione does not raise the brain glutathione levels, unless the brain-barrier is leaky.
  - IV glutathione is added separately to the Vitamin and Mineral IV after the administration of DMPS; this is usually the second day of the chelation phase cycle.
  - IV glutathione, IV NAC are protocols for ASD patients, and others in the later phases of detox
  - IM glutathione strategies 200mg 3 times /week
- Oral supplementation of glutathione does not work, so bypass the gut by:
  - Liposomal skin formulas of glutathione
  - Sub-lingual drops (100mg/cc) or tabs (100mg)
  - Transdermal (TD- glutathione)- 4mg/ drop
  - Transdermal Glutathione Precursor – 30mg- 60 mg/ml
  - Inhale glutathione products, which directly place the glutathione into the brain.
- A coffee enema is a very effective way of raising the extra cellular glutathione levels (estimated~ 200 times normal levels). This treatment is one of the foundations for the Gershon Cancer protocol, used very successfully in all detox strategies. We recommend the coffee enema during the chelation detox cycle; it is in essence a cheap IV glutathione infusion.
  - The Kelly, Gershon, Gonzolas cancer protocol calls for 1-2 coffee enemas a day
- Intracellular glutathione is the only naturally produced intracellular detoxifying agent to remove heavy metals from inside the cell. It acts as an intracellular shuttle system, however, **intracellular glutathione once spent in removing heavy metals from inside the cell is not easily manufactured, and it can not diffuse back into the cell from the extra cellular stores.** This leaves the cell mitochondria at risk to oxidative damage, which leads to lipid membrane per oxidation and ultimate destruction of the mitochondria. When the mitochondria is destroyed the cellular energy is reduced along with all its function (reducing energy and other cellular functions) leading to dys-oxygenosis or the inability of the cell to adequately use oxygen in its metabolism.
  - Intracellular glutathione levels are important to re-build in detox.

Whey protein: has an ample supply of all the amino acid precursors for glutathione – glutamine, cysteine, and Glycine, plus the branched chained amino acids to get the amino acids through the cellular membrane

- Normal dosage 2 packs/ day away from meals, if 2 packs don't work add 3-4.
  - Products for cow's whey : Amminocal, Immu plus (Allergy Research) and others,
- **Goat whey** appears to be a good source to whey much less expensive, and a good source of minerals and AA. This is proving to be an important part of our detox strategies. This product also is a very good source of minerals. Products: Mt. Capra (see resources – (360-748-4224) .

## 2. Depression formulas: restore neurotransmitter function

Treatment of depression is a very real problem before and during mercury detox. Mercury seriously alters brain chemistries, affects neurotransmitters and amino acid balance, alters hormonal and other cellular binding sites, reduces neuronal function by destroying beta-tubulin, which reduces the neurons capacity to feed and function ultimately leading to dys-oxygenosis and cellular death. Brain and neuronal signs and symptoms are often pathognomic for mercury toxicity.

- History can often tell which neurotransmitters are needed
- Labs: Amino acid analysis to determine the neurotransmitter precursors. Urine organic acids to determine the biochemical blocks to the Krebs cycle and the vitamin and minerals needed for optimal metabolism of the amino acids to neurotransmitters.
- Once the amino acids needed and the metabolic blocks are identified, then an oral (and /or IV) supplementation program of correction can be started.

## 5. 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 1-3 daily; mineral rich foods – (organic) fruits and vegetables (juicing if you can);

**Nutrition**, with the nutrition/ detox/ life-style coach:

- Food avoidance: allergic foods that need evaluating - wheat, dairy, corn, soy, sugar and all "white" foods
- If allergic - elimination and provocation protocol then food rotation diets – allergies;
- The diet that is best for you – Weston Price, genetic, metabolic and/or blood type diet
- The Body Ecology Diet is highly recommended
  - If the inner bodily ecology is not established, detox and rehabilitation is very hard.
  - The principles are very important – for it is established on the bowel health and immune support.

The foods that are eaten are the primary source of nutrition, the supplements are only secondary to rebuild the stores and supple for a short time the extras needed to detox and rehabilitate the tissues.

- Water- quality water with electrolytes
- Organic food

## 6. Membrane rehabilitation essential fatty acids

- See Fatty Acid therapy in the section III, and Basics – balance and healthy fat therapy for more understanding
- EFA are 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.
- These are some of the choices for you; your life style/ nutrition detox coach can help you incorporate the healthy fats and supplements into your routine.
- Rehabilitating the cellular membranes is critical in repairing the nerve and brain – the organs affected by the mercury toxicity,

- But it is more critical in the early stages of detox to help the liver and other detox organs function, for all detoxification occurs on cellular membranes and membrane structures (peroxisomes)
  - Ca/ Mg Butyrate: butyrate is a short chained fatty acid usually produced by healthy bacteria in the gut, which is absorbed into the liver and used as fuel by the hepatocyte (the liver cells) to detoxify (in the peroxisome). Until the bowel is restored to proper function, the butyrate may need to be supplemented for better liver function.
    - 1-2 caps with food, usually one bottle is sufficient
    - Eat butter – butyrate=butter
  - Peroxisome metabolism also enhanced by hormones (thyroid, DHEA), B2, Manganese and biotin, thiamin and B-12 (cobalamine) and chlorella;
- **Fish oils supplementation-** part of the 4 pillars and critical for nerve and brain repair and enhancement:
  - (Nordic Naturals)- EPA/DHA:
  - Krill oil, PS omega 3 Synergy (Crayton)
    - use only the highest grade (#2), without mercury contamination; or eat the fish oils with the chlorella to bind any mercury that could be present.
    - 2-4 grams/day
  - Udo's oil: a blend of omega-6 and omega-3 oil in 4/1 ratio:
    - 1-2 tsp/ day
- **Phospholipids supplementation and therapy** is important for nerve, brain and all membrane repairs. When nutrients and remedies are combined with phospholipids consisting of phosphatidylcholine, phosphatidylinositol and phosphatidylethanolamine, their bioavailability is greatly enhanced. This forms the basis for Phospholipid enhanced products, and taking phospholipids at the time when taking supplementation nutrients and remedies.
  - Phospholipid detox formulas:
    - Phospholipid Exchange: (Biopure) – 1/3 of bottle mixed thoroughly with 6 oz. Of juice, water or milk. 3 times a week; or 1-3 teaspoon/day at bed time during Phase III- IV brain and cellular detox phase.
      - Combination of microsphere encapsulated DiSodium EDTA and essential phospholipids. Taken orally this product enhances the transport of Phospholipid Exchange through the intestinal wall barrier, blood/ cell and blood/ brain barrier.
      - This product successfully eliminates the possibility of diarrhea symptoms. There is a slow release of EDTA systemically over 48 hours, greatly decreasing the possibility of kidney overload with heavy metals. Phospholipid Exchange produces 'true' plasma soluble ion exchange properties, thereby minimizing beneficial mineral excretion.
      - EDTA has been used to detoxify the body of heavy metals, primarily lead, cadmium, nickel and arsenic (but not mercury very well); it has been used for clearing the cardiovascular system. In the past EDTA administration has required IV infusions.
      - Healing benefits: lowers total serum cholesterol, decreases LDL (bad cholesterol, increases HDL (good cholesterol),

increases peripheral and brain circulation, decreases reactive platelet aggregation by 60% in patients with angina pectoris, increases fluidity of RBC cell membranes, decreases angina and helps eliminate chest pains attacks, increases exercise tolerance with angina prone patients.

- Ingredients: 1 oz. 1 gm. DiSodium EDTA, 30 g of Essential Phospholipid (EPL), 150 mg of Magnesium chloride, 100 mg of Alpha Lipoic Acid
  - Detox Max - identical product
    - NT factors in supplementation – EPL wrap probiotics and other general supplements to enhance bioavailability and help bowel rehabilitation and repair.
    - PhosphaLine (Xymogen) – EPL take with supplements for EPL and enhanced bioavailability
    - Lecithin granules are a cheaper alternative to the more highly refined EPL mentioned above.
  - Mixed oils in food: olive, grain, nut and seed oils (organic) Omega 6 fatty acids in the diet
  - Coconut oil in the diet
  - **If omega 6 fatty acids are suppressed** - [] \_\_ eggs; [] animal proteins, dairy, butter [] ω6 oils – seed and nut oils (sesame, safflower, sunflower) [] olive, [] borage, primrose;
  - some feel that one should build omega 6 fatty acids for 2 mo. prior to supplementing with omega 3 oils, we do not see the advantage.
  - **If omega 3 fatty acids are suppressed** – [] fish, [] Fish oils, [] flax oil. Avoid trans Fatty acids (junk food, hydrogenated oils) and refined carbs, which raise the insulin (create inflammation and fat accumulation.) [] carnitine (to remove trans fatty acids into mitochondria for oxidation). Fish oils are important to supplement when brain and nerve rehabilitation is needed. Fish oils should be of the highest quality to minimize the Hg contamination and ensure the highest concentration of EPA/DHA. Fish oils will inhibit virus. They should be taken with chlorella to bind the Hg and away from cilantro and Vit C. so not to interfere with the HM mobilization action of cilantro, or the antiviral action of the fish oils.

## 7. Other biochemical support

**1. G.I. Support:** and repair is an entire detoxification process to itself and critical to restoring health and removing the heavy metal burden. A healthy GI tract is very important to reduce G.I. toxification and toxic body load from a leaky barrier and “bad bugs” (dys-biotic 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:**

4 R's: replace, remove, restore, re-generate  
Refer to bowel basics

- Replace - digestive enzymes:
  - pancreatic enzymes at the end of the meal (or 20 minutes after), (when the pH of the stomach is less);
  - HCL in the beginning of the meal if needed.
- Restore – the healthy bacteria each meal; the best way to eat live bacteria is to restore their vitality (they are freeze dried – asleep), this can be done by

dissolving the organisms in warm water for 10-20 minutes and drinking them at the end of the meal (so the pH does not kill them).

- Beta Glucan - probiotics
  - Florastor
  - ThreeLac
  - Lactobacillus crispatus
  - Eat Lacto-fermented foods (see “Basics”, “Body Ecology Diet”); Introduce fermented foods (after allergy has been checked): Kefur, Yogurt, cottage cheese, pickled and fermented vegetables, kim-chi...; these foods are nutritious and may be easier to digest. The lacto-fermenting predigests the foods and adds nutrients and probiotics to the food. The synergistic effect of the lacto-fermented foods and the pro-biotic supplements (good bowel bacteria) is very effective for restoring proper bowel ecology.
- Remove – mercury from the gut: chlorella 10-60 tablets/ day (2-7 grams in powder or caps), 2-3 times per day; start slow and build up; chlorella is the primary mercury detox food and used through-out the therapy (many years).
    - Chlorella pyreneidosa – better detox and harder to digest
      1. if a problem to digest add cellulose (an enzyme in any health food store)
    - Chlorella vulgaris – better nutrition, less detox, easier to digest
  - Remove – the bad bacteria, fungus, worms, virus:
    - freeze dried garlic – 1 capsule after meals (dinner), (so the allison is not destroyed); use throughout the treatment for its sulfur supplying, antioxidant and anti-microbe management ability
  - Remove – the allergic foods from the diet, which when allergic foods are eaten creates hyper-reaction of the immune system, and inflammation and atrophy of the stomach and intestinal mucosa.
  - Rehabilitating the GI mucosa and the immune system that surrounds the gut – protein or amino acid therapy - glutamine

Bowel cleansing formulas: Super Cleanse, Rise and Shine, Ali’s formulas, there are other good ones on the market, which are a combination of herbs and specialized foods.

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 2<sup>nd</sup> day of chelation and post chelation phase to remove the heavy metals toxins and dys-biotic microbes from gut, but also useful in the mobilization phase for those with bowel issues.

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).

## 2. B-12 and Folate:

B-12 and Folate are nutrients are critical important in normalizing brain membrane functions, cell replication and detoxification capacity. Lack of adequate B-12 and Folate, which often function together are critical for the methylation of amino acids and other biochemical substances into bio-active molecules as well as numerous other functions including proper signaling in the brain, brain detox and healing. As mentioned mercury will create genetic defects in the methylation genes that need to be compensated by large doses of B-12 and Folate; there are two B-12 strategies. We incorporate hydroxyl Cobalamin (OH B-12), because it is a scavenger for toxic levels of nitrous oxide levels in the brain. Methyl Cobalamin is the bio active form of B-12, which is needed to correct the methylation problem and therefore brain and detox functions.

- OH-B 12 and Folic acid: daily dosing in 5:2 ratio
  - Sublingual drops 2-3 times per day; can use as much as 30 drops/day
  - Other forms of folic acid: methylated folic acid (folinic acid) could also be tried (ART test it)
  - Folic acid de-methylates toxic substances and OH B 12 removes toxic nitric oxide compounds from the brain
- Methyl-B 12 (Neubrandner) (25 mg/ml injection)
  - Dose 65mcg/ kg sub-Q, every three days for kids
  - Adult dose is 1-10 mg per every three days to 1 week
  - Takes several months to show positive results
  - If inject under the skin, the B-12 is taken up by the nerves (ANS) and delivered to the brain very efficiently

Methyl B-12 can be supplied in

- Nasal gel/ spray -1000mcg/0.1cc
- Sublingual drops- 1000mcg-25000mcg
- Transdermal: TD-Methyl B-12
- B-12, Folinic acid nasal gel 125mcg/ 300mcg
- Also the above in sublingual caps.

## 3. Therapies to penetrate the connective tissues that have been fibrosed or hyper coagulation and clean the cellular membranes -Add to detox program in Phase III:

### A. Rechts regulat

### B. Systemic enzyme therapy:

Taking enzymes away from food is a very effective way of cleaning up the fibrosis in the connective tissues and coagulopathy in the lymph and blood. Massive dosage of Proteolytic enzymes away from food is a cancer treatment for penetrating the mucous and fibrosis protective shield that the cancer cells secrete to insulate it from the immune system. The Proteolytic enzymes secreted from the pancreas not only have digestive purpose when eating food but have a very important housekeeping role – digesting unwanted debris in the blood vessels, connective tissues and lymph system. In an infant in utero the pancreas becomes fully functional at five months and their will be no digestion of food until the baby is born. However, the pancreatic enzymes are secreted into the blood and literally digest the cancerous like growth of the placenta into the uterus at this time. We use systematic enzymatic therapy to penetrate the inaccessible connective tissues in Phase III to expose to the detox agents and the inaccessible compartments of toxic metals and chronic infections that are being stored or hiding from the immune system in the case of chronic infections.

- Wobenzyme (Longevity Plus)

- Marco-enzyme (MarcoPharmo)
  - Take 5-9 away from food 1-3 times a day, or ART test for dose

### C. Oral, skin patches or sub Q injections of heparin:

Hyper-coagulation or coagulopathy of the blood and lymph is a common result of a chronic hyper-vigilant (stressed). It is often the result of a chronic state of infection by the common stealth micro-organisms: Lyme, Babesia, Bartonella, Ehrlichia, Mycoplasma, Candida, the family of Herpes virus to name a few. These organism contribute to the coagulopathy by manipulating the body's biochemistries to evade the immune system. A drop of peripheral blood will easily display a hyper-coagulative state and the need for systematic enzyme therapy and heparin. This should always be used with immune support and specific agents to suppress the chronic infection that will be let loose. (See chronic infection program for details).

Other Phase III support and detox agents:

#### Receptor site detox:

The impact of HM on a biological system can be from two sources:

- Gross burden of mercury
- Finite burden of mercury on receptor sites of tissues that wile the amount of mercury may be less the biological impact is much greater. (E.g. mercury toxicity of brain receptors giving MS like symptoms).

Carnosine clears receptors such as G proteins from the cellular membranes.

Therefore carnosine is an effective Phase III remedy that clears receptor sites of membranes of their heavy metal residues. Carnosine acts like cilantro as an important tool to mobilize mercury, which can effectively be detoxed out of the body once the body burden of mercury is reduced from the connective tissues. Proper functioning membrane receptor sites are critical for cellular metabolism and functioning. If cilantro is not used, at least one bottle of Carnosine should be considered in every mercury detox strategy. If the patient suffers from brain toxicity, which is any brain degenerative diseases of mental symptoms then consider using carnosine with cilantro.

- Product: Carnosine- 2-4 caps/day; 1000 mg 3x/ day; use after initial phase of detox after the extra cellular spaces have been initially cleaned Body Bio 856-825-8338

## 4. Other support strategies during detox that need to be assessed and treated when needed

### A. 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 toxic load of mercury and other toxins is a major contribution to the misery of many patients (your signs and symptoms). Without proper metabolic and hormonal glands functioning, detox and healing (your recovery) is very slow if at all.

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 your misery.

The adrenal gland and the thyroid gland need to be evaluated because treating the wrong gland will not improve the situation and may make matters worse. Dr. Rind has dedicated his practice to these understanding and treating these metabolic conditions. Visiting his web site to understand the strategies to assessment and therapy can be very helpful. See references.

#### I. Dr. Rinds assessment strategy:

- History: symptoms of Adrenal and Thyroid Dysfunction
- Body type: thin – adrenal type; thick – thyroid type

- Average temperature through the day  
The average temperature is low for both but -
  - If the average temperature fluctuates low on consecutive days, which graphs as a zig-zag, then it is due to adrenal dys-function
  - If the average temperature is low and constantly the same, then the problem is usually thyroid
- Reflexes: Achilles, Knee and eye reflexes are tested
  - Papillary constriction – light into eyes at an angle and the ability of the pupil to maintain the constriction. Pupil vacillates if weak adrenals. If constriction is maintained for 8 seconds the adrenals are normal. If less the grade is how many seconds can the eye pupil remain constricted. Grade: 3/10 pupil stable for 3 sec. before vacillating.
  - This test is similar the postural hypotension test, which is another test for adrenal dysfunction. In this test a blood pressure is taken while sitting and then when immediately standing. If the blood vessels are not able to maintain constriction upon standing – postural hypotension results. The patient will often experience dizziness upon standing.
  - Achilles tendon reflex – reflects the thyroid function. A slow reflex especially the return to the up position indicated weak thyroid function. Normal return is ½ to 1 sec.

Facial diagnosis

Labs:

Adrenal salivary hormone: takes the hormone reading through a day. This is an easy way to evaluate the blood levels of circulating hormone for there is a 97% correlation between the two.

- ASI, Saber Science
- Thyroid – blood labs: TSH, T-4 , T-3

II. Once the proper assessment has been established the treatment of the proper gland can proceed.

Treatment can be:

A. Supplying the necessary biochemical building blocks for hormone function

Vitamins and minerals, amino acids (proteins)

Adrenal: Vitamin C, B-5, essential amino acids

Thyroid: Iodine, Vitamin C, tyrosine

Using glandulars (eating the glands of animals, with all the proper proteins and nutritional factors: adrenal, thyroid, pituitary)

Using bio-identical hormones

Thyroid – Armour thyroid, cytomil

Adrenal: custom creams to supply the hormone to the blood stream through liposomal delivery (which wraps the hormone and nutritional factors in a fat membrane which delivers the contents through the skin into the blood stream, thus by-passing the oral route, which will digest some of the hormone in the GI tract and destroy what gets through of the hormone (or detox it) in the liver.

Saber Science salivary testing and hormonal creams.

The liver must be properly functioning for bio-identical hormone replacement to work. Therefore liver support is critical for hormone therapy.

Oral supplementation includes: [] Basic Cell (for a General Vitamin and Mineral); [] Amino acids supplements, protein supplements, or trans dermal AA cream, hydrolyzed collagen; [] Vitamin B 5 time released; [] Adrenal glandulars (hypo)Cyto-zyme or (hyper) ADHD, [] thyroid- Thyrostim [] pituitary- Cyto-zyme PT/HPT, []Other adrenal herbs \_\_\_\_\_.

B. Regulation medicine for metabolic therapy, which supplies re-programming neuro-immunological system to function properly:

- AET for hormones, autoimmune AET, Cowden LED protocol
- Homeopathy for adrenal and thyroid support – from various companies
- Klinghardt hormone protocol: There can be two reasons for hormone dysfunction, one is too little production the other is receptor site issues. Remember mercury and other heavy metals adhere to receptor sites and alter their function. Therefore the receptor site often needs repair.
  - Low potency hormone homeopathy for too little hormone, to enhance the hormone production from the gland
  - High potency (30C) homeopathy (of the hormone) for repair of the receptor site

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

## **B. Neurotransmitters and brain chemistry normalization.**

Many mercury detox patients have brain symptoms. Mercury binds to neurotransmitter receptor sites, inhibits all enzyme systems that manufacture neurotransmitters, reduces neuronal function by destroying the beta-tubulin – the critical internal structure of the nerve cell, and destroys the detoxifying systems to remove the mercury. Mercury in some of its toxic forms is fat soluble with an affinity to membranes, nerves and brain. Therefore brain detox is critical to understand and brain nutritional support to rebuild brain tissues and regulation remedies to rebuild informational function is helpful during mercury detox. Dr Gant is the orthomolecular expert in brain assessment and function. His simple formula is to get the bad stuff out and put the good stuff in.

### I. Assessment:

History can often tell the problems See The Neurotransmitters of Now (Dr. Gant)

Biochemical assessment:

- Toxic testing – same as in section in heavy metal assessment: hair, RBC mineral analysis...
- Labs:
  - Amino acid analysis to determine the neurotransmitter precursors.
  - Urine organic acids to determine the biochemical blocks to the Krebs cycle and the vitamin and minerals needed for optimal metabolism of the amino acids to neurotransmitters.

### II. Therapy can be established once the problem is correctly identified (What a unique idea for psychiatry).

#### A. Biochemical supplementation

- Oral supplementation of amino acids
  - Best to take away from food for best uptake, ideally at bed
- Vitamins and minerals that are needed due to genetic or metabolic blocks (as determined by the urine organic acids labs.
- Oral supplementation can be augmented by IV supplementation when needed in acute needs (i.e. addiction protocols)

- Membrane rehabilitation program of good fats
  - Phospholipids, (lecithin, Phospholine...)
  - Especially phosphatidyl serine
  - Omega 3 fatty acids (fish oils), and omega 6 FA seed and grain oils
  - Alpha Lipoic acid
  - Acetyl L Carnotine – to repair the membrane binding site

#### B. Regulation remedies

- AET, or Cowden protocol LED - to reprogram the bodily response to the neurotransmitters
- Klinghardt protocol – see above
- Photon light therapy

#### C. 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 heavy metal and chronic infection component. An arsenal of immune system modulators is important to treat the chronic infections when they arise and reduce symptoms. We reviewed these principles in Principle #14 in Section II. There is an entire position paper and with specific strategies treating specific chronic infections “Lyme and other Co-infections”. Please reference for more detail.

The following are general immune modulation formulas:

Transfer Factor, Transfer Factor Plus, Immune-T, Total Immune, olive leaf, oregano oil, IP-6, Freeze fried garlic, Limuplex, IgG 2000, Thymus Option, Immune option, NT factors (essential fatty acids and glycol-lipids) 1,3 beta Glucan, Echinacea, Golden seal \_\_\_\_\_

## B. Heavy metal and toxic chemical binding foods, supplements and chelating agents (the arsenal)

**Review the information on chlorella in Section II p. 15, and references in the appendix.**

1. **Chlorella** (or chlorella-like products like Porpha-zyme, chloralytes): Cycling food-oral chelators are essential for mobilizing the mercury from the deeper extra cellular tissues to be excreted.

- Chlorella binds Heavy Metal (especially the Mercury salts) in gut and extra cellular spaces. Does not cross brain barrier and can be used with mercury fillings still present in the mouth, which is why we use it in the pre-dental phase I. Chlorella is also good for binding toxic chemicals and neurotoxins.
- The choices for chlorella are now multiple. The chlorella must be cultivated in a mercury free environment, and specially processed so to fracture the cell wall without harming the vital nutrients. The following are our favorite sources
  - [] Chlorella 500mg and in bulk (Morin Labs); [] Chlorella pyrenoidosa 200mg tabs (Biopure); [] Chlorella vulgaris 200mg tabs (Biopure) others: [] BioRubella 250 mg; [] Natures Balance 330mg (also bulk); [] Sun Chlorella; [] Earthrise 200mg
- Other substitutes for chlorella are:
  - [] Chloralytes - chlorella in selectolytes, which potentates the action ;
  - [] Porpha-zyme (Biotic) 200mg (a Chlorella substitute)

As described earlier there are three dosages for chlorella:

1). **Low Dose of chlorella** [] 1-2 grams eaten with food to bind heavy metals that are excreted from liver (bile), which minimizes the GI re-absorption during chelation. Any

time mercury contaminated fish is eaten, which may be often, a low dose of chlorella will eliminate the mercury problem while allowing the benefit of eating fish.

## 2).Mobilizing or moderate dose of chlorella:

Chlorella can be a very important food in detox and its use and strategies can vary depending upon the Phase and the patient's tolerance.

In phase I and II (the dental phase and more assessable extra cellular phases) the bowel is the first and most important organ to detox, therefore taking a moderate dose of chlorella away from food is preferable

□ 3-8 g 1 times/day away from food for maximum chelation effect for the bowel, used in the Dental Phase and the or the beginning cycles of phase II when bowel detox is most important;

If chlorella is not agreeing with you, you may try eating chlorella with food. Eating chlorella with food is a good way of binding the toxins from the liver and is used as a strategy in the later phases of detox Phase II, III an IV. Eating chlorella at night is the best for brain detox. Break the mobilizing dose into any manageable regime (i.e. all at once, AM and at bed, 3 times a day with food is the ideal.

□ 1-3 g - 3x/day with food and/ or at night

In Phase III and IV more chlorella can be tolerated and strategies of eating chlorella with cilantro are used:

□ 3-8 g 1-2 times a day taken ½ -1 hour prior to cilantro

- Chlorella and cilantro is an important strategy in Phase III. Take chlorella ½ to 1 hour prior to meals, with cilantro at the beginning of the meal and Vitamin C and Garlic at the end, as far away from cilantro as possible. This strategy is easiest for most to comply at breakfast, but not during the day. This will clean the bowel effectively and bind the neurotoxins from the liver.
- If chlorella is taken with meals, the chlorella is diluted with the meal and less available for maximum bowel detox but it will effectively bind the neurotoxins including mercury from the bile released by the liver. This method is the easiest to comply and is recommended in the post-chelation cycle, when detox is minimized and removing the mercury from the bile is maximized.
- If chlorella is taken at bed time, it should be used with cilantro and other detox products to maximize the brain effect.
- Chlorella is the best detox food, used to bind heavy metals in gut and reduce dys-biotic (fungus, bacteria, parasites); Stir-up or mobilize heavy metals in extra-cellular spaces, which increases chelation yield of heavy metals.

## 3).Chelation or High Dose of chlorella:

The chelation dose of chlorella is by rule 2-3 times your mobilization dose, for 2 -3 days, taken multiple times per day depending upon the phase outlined above. The chelation dose of chlorella can be used with or without other stronger chelating drugs

- The chelation dose more thoroughly excretes the mercury and other heavy metals from extra cellular spaces and through the GI (mostly feces).
- Other oral chelating agents in increased dosages should be used during the chelating phase to maximize the removal of the toxins.

- Strategy: the high dose of chlorella can be used with strong chelating agent (DMPS, DMSA, IV Glutathione) or without IV therapy and naturopathic only (chlorella, clatherating agent)
  - If DMPS – you can start the high dose the day before but at least the day of the IV and continue until the vitamin and mineral IV, usually the next day.
2. **The clatherating agents** – are enzymatically processed Chlorella with other detox agents added. These products can be used as a chlorella substitute if chlorella cannot be tolerated. These clatherating agents are a very important part of the at home detox strategy and therefore used routinely. These agents are nano-colloidal chlorella, cilantro and detox factors, which have the ability to penetrate the blood vessels and connective tissues very effectively. Use these products with cilantro.
- a. Metal matrix (Biopure) – 1-10 sprays on an empty stomach, 1-2 times a day; if hold sublingual – better blood uptake by by-passing the gut
  - b. NDF, NDF+ (BioRay)- 10 drops 2x/day on an empty stomach with water (average for 150 lb.); if sensitive start with one drop and ramp up
  - c. PCA
  - d. Metal free (Bodyhealth)
3. **Zeolite products** – are a group of crystalline, hydrated alkali-aluminum silicates, naturally occurring from volcanic ash over 300 million years ago. The crystalline mineral matrix that have been processed creating a cage-like, honeycomb negatively charged cavity that attracts and binds positively charged heavy metals and other toxins (chemicals, pesticides, petroleum by-products mycotoxins from mold, ammonia in the bowel and neurotoxins). Because the Zeolites add negatively charged electrons, they not only remove the toxic exposures that are our daily exposures and life time accumulation but also restore a healthier milieu with better pH balance and antioxidant effects. Note that Zeolites contain aluminum, which is a toxic metal. All research indicated that the aluminum is not released but this is not proven conclusively at this time, therefore always use cilantro with Zeolites, because cilantro is a very effective aluminum detox agent to be safe. The Zeolite cages filled with toxins pass naturally out of the body in 5-7 hours
- Zeolite HP (Naturx- Nutramedics)
  - Zeolite suspension in ionic gold (Silvermountainminerals)
  - ACZ nano – sub micronized Zeolite with nutrients
  - Alli-Thiamin (nanonized Zeolite)
  - Natural Cellular Defense (NDF): problem - in plastic container
  - Because of the aluminum, Zeolites are not incorporated until Phase III when cilantro is started.
4. **Essential Phospholipids (EPL) enhanced with EDTA**  
See above membrane rehabilitation #6 in support. These are important in Phase III, IV
5. **Rectal suppository chelators:**
- Detoxamine – calcium disodium EDTA in time-released suppository form
    - Taken at night, uptake in lower rectum, which by-passes the liver and enters the blood stream throughout the night with slow absorption, providing slow-acting gentle detoxification during sleep
    - Can be taken with any IV or oral therapy, therefore it works well in combination with other chelators: i.e. Chlorella, cilantro, DMPS, DMSA, Essential Phospholipids- EDTA, glutathione IV, IM, Trans dermal DMPS, and IV EDTA chelation

- Detoxamine is a mesodermal chelator, entering the blood stream and primarily acting on the vascular tree and connective tissues. It can be used in the mobilization and /or the chelation phases with chlorella.
- EDTA is a potent antioxidant, anti-aging and removes chemical and metal toxins; it supports cardiovascular and bone health, brain and neurological function.
- There are other rectal suppositories that can be prescribed with EDTA, DMPS, glutathione, alpha Lipoic acid and DMSA from special compounding pharmacies.
  - These give the advantage of a gentle chelation at night, with lower controlled dosages of stronger mercury chelators
  - It is not advised to use any rectal suppository chelator until the bowel program has been in place for at least two months. If the concentration of mercury and other toxins are greater in the bowel than in the blood vessels, the suppositories will diffuse the heavy metals into the body instead of grabbing the toxic metals and delivering them through the liver – bile – feces.

#### 6. The Alpha Lipoic Acid (ALA) chelating protocol:

ALA is a naturally occurring food substance that is a potent antioxidant and a weak natural chelator. ALA penetrates readily the cells and brain barrier, so it can be used as an intracellular and brain detox agent. In addition to being its own chelator, ALA will exchange the mercury (and other toxins) that is being held by glutathione, which is a weaker chelator than ALA. ALA is easily absorbed into the body but its levels are not easily maintained, and as a chelator the levels of ALA must be maintained for at least 3 days if the mercury is to be effectively removed through the liver. A single dose of ALA once a day is not effective to move the mercury.

Doses of ALA used in Mercury detox:

- Smaller dosages of ALA can be used as an extra cellular antioxidant: Phase I and II – the Dental and superficial extra cellular Phases
  - 25- 50 mg/day
- Or ALA used as an intracellular mitochondrial antioxidant in the cellular membrane and deep extra cellular phase III. But remember in these phases the cellular and brain barriers are not opened by the chelating agents; the strategy is to clean the toxins from the cell membranes and extra cellular spaces first before these barriers are opened so the metals will move passively to a lower gradient inside the cell or brain. Rule: keep the barriers closed until the diffusion gradient is favorable to move the toxic metals out not deeper.
  - 50-100 mg / day single dose
- Mercury and other heavy metal detox doses for the **cellular and brain detox phases III and IV.**
  1. alpha Lipoic Acid child dose – 50-100 mg every 6 hours for three consecutive days – to maintain the blood levels; the child must be awakened to maintain the blood levels during sleep; 3 days on and 11 days off, repeat every 2 weeks; adult dose is a minimum of 100-200mg every 6 hours
  2. time released ALA maintains blood levels for 12 hours
    - ALA max (Xymogen) 2 tabs = 800mg for 8-12 hours: give 1-2 tabs two to three times per day for at least 3 days and up to 7 days, then at least 1 week off, repeat every 2 weeks

- Give this dose during mobilization and especially the chelation cycles.

**7. Cilantro-** use topical and oral in Phase III, IV and maintenance. Cilantro is a very important herb in **mobilizing mercury**, cadmium, lead and aluminum in both bones and the central nervous system. It is probably the only effective agent in mobilizing mercury stored in the intracellular space, including the nucleus, the cell wall and cell receptors. Because cilantro may mobilizes more toxins than it is able to carry out, cilantro needs a chelating agent – the favorite is chlorella but others are - clatherating agents, DMPS, Zeolites, EDTA) to be effective to remove or chelate the toxins out. Cilantro may be excreting mercury from lungs. Cilantro is good mobilizer but if a GI binding agent is not used (like chlorella), the neurotoxins will be reabsorbed in the small intestine. Cilantro causes the gallbladder to dump bile – containing the excreted neurotoxins into the small intestine.

Dosage:

Start with 2-3 drops 1-2 times a day in hot water and build up to full dose of 10-20 drops; 30 - 60 minutes after chlorella. Cilantro contains a mild toxic compound, which is neutralized in hot water

- Organic cilantro tincture (Biopure)
- Cilantro tincture (Dragon River) 2 drops at first increasing to 10 -15 drops
- Cilantro(Morin labs)
- Fresh cilantro- handful per dose- same

#### **Strategy for the use of cilantro:**

**Oral dose** with chelating agent [chlorella, DMPS...]; first take the chelating agents i.e. chlorella 30-60 min. prior to meal then cilantro at meal. Don't use simultaneously with garlic and Vitamin C, because these nutrients may inactivate the cilantro and chlorella effect. Use at least 1hrs apart. Mobilize the toxins from stored compartments with drug up-take enhancement: MFT tapping points, hand reflex (chart) or a magnet (N) behind the head.

**Topical dosing** over organ/structure with symptoms or identified mercury (and other toxins) compartments or rub into thin skinned areas for uptake into the lymph system (feet and ankles, scrotum, vagina, elbow, ankles and wrists and groin creases. The topical application (dosing) of the cilantro tincture very effectively penetrates the skin; use in areas of suspected heavy metal deposits, dysfunction and pain. I.E. joints, kidney, liver. Cilantro tea – 10-20 drops in cup of hot water, clears the brain of neurotoxins.

#### **8. Transdermal (TD) application of chelating and detox compounds.**

As previously detailed the transdermal application of detox agents is a very effective way to by-pass the brain barrier and up-take the remedies through the skin and into the rich supply of autonomic nerves that bring the remedies to the brain. If you recall the discussion of the brain and skin are both ectodermal tissues, thus both are embryological and functionally linked. We take advantage of this relationship when we are concentrating on detoxing the brain.

- TD DMPS,
- TD glutathione
- TD DMSA
- TD alpha Lipoic acid
- TD B-12

TD DMPS (needs prescription)

- Recommended dose is 1.5 mg/kg , drops applied according to mg / drops; glutathione is often added; 1 drop= 1 mg of DMPS and 4 mg of glutathione

- For adults (and kids) TD- DMPS is used in Phase III and IV when brain detox is appropriate
- The practical dosages range from 10- 35 drops when using TD-DMPS with the other combinations of agents in this protocol.
- It is not recommended to go above 60 drops in a child, adults can tolerate above this range
- TD-DMPS can be used as a urine challenge in which case using 120 drops can be done; however using IV or IM DMPS is more practical for adults when measuring the urine output of toxic metals in a urine challenge. The challenge dose of 120 drops may be appropriate for kids to eliminate the injections.
- Apply to thin skin elbow crease, wrist, inguinal area, neck
- This is best to use at night due to offensive odor and at night is the best time to detox the brain
- Use with other chelating agents: chlorella, cilantro, Phospholipid exchange (PLE), Zeolites and clatherating agents,

### **9. Inhaled Glutathione**

Inhalation is another method of by-passing the brain barrier and applying the remedy directly to the brain. At this time glutathione and B-12/ folate are the only remedies that are available for inhalation. The olfactory nerves are directly connected to the brain making the nose an ideal route of delivery. Of course one has to pause and be concerned that toxic chemicals and metals inhaled also have the same direct route to the brain. This is why that the home and environment must be evaluated and cleaned up during detox. Rule of environment poisoning is whatever is on the outside will eventually get on the inside!

- Inhaled glutathione and/ or B-12 and Folate
  - Spray or nebulizer (Key pharmacy)

### **10. Homeopathic mercury remedies**

Homeopathic mercury, especially the higher doses of 30X (C) to 200X (C) 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.

### **11. B-12 and Folate** B-12 is both an important support strategy for detox and brain and nerve function and because of its cage like structure it is also a good brain detox agent, therefore we list it in both places in this protocol.

Both should be given together for their combined effect is the most important in correcting the methylation detox pathways and the other multiple bodily functions of methylation. B-12 is not well absorbed in the stomach therefore by-passing the stomach is the preferred strategy. This can be done sub-lingual – into the blood stream through the thin sublingual skin with ample blood vessels close to the surface; or by injections either sub-cutaneous or intra-muscular.

From section II: these nutrients are critical important in normalizing brain membrane functions, methylation of amino acids and other biochemical substances into bio-active molecules, and brain detox and healing. As mentioned mercury will create genetic defects in the methylation genes that need to be compensated by large doses of B-12 and Folate; there are two B-12 strategies. We incorporate hydroxyl Cobalamin (OH B-12), because it is a scavenger for toxic levels of nitrous oxide levels in the brain. Methyl Cobalamin is the bio active form of B-12, which is needed to correct the methylation problem and therefore brain and detox functions.

- OH-B 12 and Folic acid: daily dosing in 5:2 ratio

1. Sublingual drops 2-3 times per day; can use as much as 30 drops/day
  2. Other forms of folic acid: methylated folic acid (folinic acid) could also be tried (ART test it)
  3. Folic acid de-methylates toxic substances and OH B 12 removes toxic nitric oxide compounds from the brain
- Methyl-B 12 injections (1-25 mg/ml injection)
    1. IM dose 1 -10 mg weekly to every three days
      - i. Takes several months to show positive results
    2. If inject under the skin, the B-12 is taken up by the nerves (ANS) and delivered to the brain very efficiently
  - Methyl B-12 can be supplied in
    - ii. Nasal gel/ spray -1000mcg/0.1cc
    - iii. Sublingual drops- 1000mcg-25000mcg
    - iv. Transdermal: TD-Methyl B-12
    - v. B-12, Folinic acid nasal gel 125mcg/ 300mcg
    - vi. Also the above in sublingual caps.

## 12. N Acetyl Cystiene (NAC)

NAC is the rate limiting amino acid in the glutathione and other sulfhydryl amino acid enzymes and proteins (most detox enzymes are –SH groups. High dosages of NAC in the early phases are detrimental because NAC readily crosses into the brain and if the extra cellular spaces are not adequately detoxed first the mercury and other toxic substances will be carried into the brain. When patients were given or self administered large dosages of NAC early in their detox, multiple cases of acute mercury brain toxicity has been reported, where patients became extremely depressed and committed suicide.

NAC is also a weak coupling agent for mercury.

- 100 -250 mg / day in Phases II, III,
- 600-800 mg/ day in phase III, IV

## 13. The prescription and in office detox strategies: DMPS, DMSA, EDTA

Chelating (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 heavy metal coupling drugs are much more effective binders of the heavy metals than the natural binders (Chlorella, glutathione, NAC, alpha Lipoic acid, Zeolites, clatherating agents) previously described.

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 symptoms. Therefore, the **naturopathic program (chlorella, cilantro...)** previously described as well as **Allergy Elimination Therapeutics (AET)** 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 60 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, as well as transdermal. It is not very effective by mouth. It is also available in suppository, which is effective provided the lower bowel has been detoxed prior.

DMPS is most effective at coupling the mercury and other HM in the extra cellular 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 (the best chelating agent 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 when the extra cellular spaces are the primary concentration. DMPS does not cross a healthy brain barrier, however DMPS can also be considered in brain detox of Phase IV to ensure that the extra cellular spaces remain clean and to aid the mercury detox once it has left the brain. Once the naturopathic program has been established with allergy elimination, drainage organ support, GI 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 compartments (tissues, structures and organs). Therefore neural therapy with DMPS is 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 regulation 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 an 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 (mobilize) and bring it into the extra cellular 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 too 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 an acceptable therapeutic agent but not as good as DMPS to use as a urine challenge. The urine challenge dosage for a DMSA urine challenge: take one 500mg. capsule and collect the urine for 6 hours.

**STRATEGIES:** DMSA is preferred by those mercury detox cognizant physicians, 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 extra cellular tissues first with Chlorella, DMPS and other agents described above (phase II and III), then aim at the intracellular stores with DMSA and other strategies of Phase IV. 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, uro-genital mucous membrane system, spleen and the skin). By reducing the toxic deposits in the extra cellular 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 (i.e. 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 extra cellular 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 3 days, followed by a rest period of 11 days, allowing the body to

re-mineralize 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 re-mineralization.

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. Other effective protocols in Phase IV are: take 500mg. of DMSA daily in the morning for a cycle (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. Combining - 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 from the DMSA dosing. This dosing does not affect any other naturopathic detox strategies.

**3. Cptomere (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 alkalinize 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 homocysteine, a potent oxidizer, which damages the lining of the blood vessels causing atherosclerosis.

#### **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. Vitamin C supplies the electrons to the mercury to uncouple it from its bound ionic form in the tissues, promoting its diffusion into the extra cellular spaces. This enables the mercury to be more accessible to the glutathione in the extra cellular 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 a front line consideration for mercury detox, because EDTA while it is a very effective lead detox agent, for mercury EDTA is much less effective. In addition, historically EDTA was believed to form an insoluble intracellular complex with mercury which was unable to be chelated out. This has been proven to be not true in vivo (in the body).

However there is another emerging strategy that recommends that for some very fragile patients, to initially start with EDTA infusions (1-5 times) to remove the lead, cadmium and other less harmful heavy metals first, then use the DMPS to go after the mercury, which is much more toxic to the body and harder to remove.

Another strategy for IV EDTA is one or more EDTA infusions during the mobilization and / or post chelation phases of DMPS / DMSA administration or even 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 arteriosclerosis 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.

The above discussion has been directed to the use of Na –EDTA in a slow infusion with other vitamins and minerals according to ACAM protocols. However some have more recently used Ca - EDTA fast IV pushes. The results have been mixed and the jury is still out regarding the effectiveness.

The use of EDTA is a very important strategy in this detox protocol, for EDTA is a proven detox agent that synergizes very well with other agents. We suggest Phospholipid exchange or Detox Max which is EDTA and phosphor lipids. Detoxamine is EDTA suppository. We also

suggest oral and EDTA for baths to remove from the gut and skin. These protocols provide low level therapeutic dosages of EDTA.

There are multiple combinations of EDTA and other chelating agents:

1. Combine oral EDTA therapy (or suppository), which supplies a prolonged low level concentration of EDTA - 1/4 to 1/2 teaspoons ( 1-2 gm 3x/day) for 2 weeks prior to a 1 1/2 gram push of EDTA.
2. Combine: DMSA and EDTA IV slow infusions, or Detoxamine and DMSA

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, which is most helpful in Phase IV.

#### **6. D-Penicillamine:**

Mobilizes intracellular mercury effectively however not as effective and more toxic potential. If use, Phase IV. This drug is the champion of Dr. Russell Jaffe.

Oxidative Therapies: these are not chelators but are included here because these oxidative therapies are employed when needed to control infections

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; they also include the spa therapies of 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 and 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. For more information about the oxygen therapies see our handout.

## **II. Regulation therapy, organ support and rehabilitation:**

**All neurological diseases you must include energy medicine for any degree of rehabilitation.**

Cells, tissues and organs require systems to organize and regulate their individual and collective functions. Regulation therapies therefore supply cells and tissues information to properly act (or regulate) and thus support and rehabilitate the target organ or system. Self-regulating is the goal but the toxic patient because of the years of toxic exposure and the body's struggle to survive the toxic loads often need outside information from regulation therapies to help restore self-regulation. In addition, when toxicity has changed genetic signaling for critical detox pathways, regulation therapy is critical for support. See the appendix for more background understanding of regulation therapy.

There are three groups of therapies:

1. Suppressive remedies, which suppress bodily signs and symptoms: I.e. anti-inflammatory, anti-biotic
  - most antibiotics are heavy metal chelators

2. Substitution remedies, which substitute needed substances: I.e. nutrition, hormone replacement
3. Regulation remedies: which regulate the bodily functions
  - The most profound regulation remedies have always been homeopathy.
  - If the patient is to truly heal, they must become self-regulating; you cannot heal with only suppressive and substitution remedies.

Regulation therapeutics include:

- Allergy elimination therapeutics – reprogramming the ANS, so not to hyper-react (stress) to the foods, nutrients, chemicals, environmental agents, autoimmune substances like hormones neurotransmitters, organs and any other substances in the child's environment.
- Homeopathic remedies – we use a wide range of homeopathic remedies to support and reprogram the cellular functions, genes and other bodily functions.
- Drug up-take enhancement includes a number of techniques to place the detox agents in the toxic bodily compartments where they are needed the most. It is the most eloquent and cost effective method of detoxing. It can be done by tapping specific acupuncture points, reflex point stimulation, acupuncture, Neural Therapy, laser stimulation and other electro and magnetic therapeutic modalities.
- Neural Therapy (NT) is a German therapeutic system of ANS detoxification and rehabilitation. Traditionally NT uses Novocain injections under the skin, into scars and infected organs, into ANS ganglia (nerve cells outside the central nervous system) and other areas of dys-function and dys-autonomia. Detoxification, homeopathic and other regulatory remedies can be effectively added to the injections for profound effects.
- There are numerous energy medicine modalities - electrical, laser, sound, frequency or magnetic energetic signaling modalities that we employ in the office and are available for your purchase at home. These modalities are an important part of the treatment, for the mercury toxic patient/ child has lost his/her capacity to regulate their cellular and bodily functions, which must be supplied until the person's system regains control of their regulation capacity.
- Laser energetic detox: this very effective technique developed by Dr. Lee Cowden that our office employs to detox the energetic field of the toxins and chronic infections

### **1. Drainage organ support and rehabilitation during detox**

The following are commonly used complex homeopathy regulation and organ support therapies, known as homotoxicology remedies. Always think – lymph, kidney and liver, of course the bowel is a given. These remedies can be supplied in oral or injectable in the neural therapy or IV cocktails with DMPS or EDTA.

The first set of remedies is for Phase I, II and III when extra cellular detox is the concentration.

#### **Lymph system remedies**

- **Lymphomyostat** (HEEL) lymphatic (matrix), immune support, kidney, thyroid and many other **drainage functions**

- This remedy is one of the most important and the first used because it covers such a wide range of functions; if you had to choose one remedy, this would be the one.
- Best to give it in lymphoid tissue: submandibular or tonsil injection, 2<sup>nd</sup> best oral drops: because the lymph is a mesodermal tissue
- Used in Neural therapy cocktails
- Best to use in the beginning of detox and throughout because it has the widest range of support.
- Adults: Oral – as directed; IM 1 amp 1-2/ week
- Kid's in ASD - dose 10 drops daily for the first three phases then 1-2 times per week, for 2-3 years

#### **Kidney remedies:**

- **Berberis homacord (HEEL):** give as kidney drainage and support whenever needed; consider giving with any form of DMPS (transdermal or injections):
  - Note we only use DMPS IM during Phase II and III and the Detox Physician will place this remedy in the injection and possibly do Neural Therapy over the kidneys.
  - Best route is injection because the kidney is a mesodermal tissue, therefore Neural Therapy injection over the kidney; quaddle, subcutaneous or IM are the preferred route; most injection therapy frequency is once per week in treatment mode and once per month if maintenance,
  - Second best is oral drops: therapy dose 10-15 drops daily, 1-2 times per day; maintenance dose - 10 drops in water – 2-3 times a week
  - When using transdermal DMPS use 10 drops / day to support the kidneys
  - During detox crisis 10 drops in water, 3 doses per day.

Other Kidney remedies from HEEL are:

- **Solidago (HEEL):** mostly for kidney
  - Same instructions

#### **Liver remedies:**

- **Hepar Compositum (HEEL):** liver drainage
  - Contains Lycopodium a deeply grounding plant (very old plant with deep roots); good for grounding
  - Give 2 weeks on and 1 week off during detox
  - 10-20 drops every other day.
  - The best route is oral drops (because it is an endodermal tissue remedy – GI type)
- Hepeel – same instructions

#### 2. Support remedies:

- **Histamin:** this remedy is for food sensitivities and any allergic condition
  - This remedy decreases brain inflammation
    - use during stemming and regression reactions in kids with ASD
  - supports allergies, eczema and detoxification
  - in every crisis use this remedy early
  - Dose for kids: 5 drops before each meal, or in crisis 5 drops 3 times per day; adult dose 2-3 times.

- **Psorinoheel:** this remedy has 3 miasmas (not TB), and Thuja the vaccine antidote
  - This remedy is long term and helpful **as a vaccine antidote**, especially useful in kids with autism
  - Give 10 drops 2 times / week for the whole treatment
  - Use the alcoholic drops if can (not single use sips) because it is the only one with syphilinum
  - Most adults require foundational work with miasmas to aid their detox

Note in Phase II the remedies are chosen for organ drainage and general support. These remedies need to be continued and possibly modified during the later phases as the conditions change. Starting in Phase III the remedies are added for:

- Cellular detox – cellular clearing of toxins
- Helps the cells regain normal function
- Begin cellular repair

The new remedies to consider in this phase III and IV to facilitate cellular detox and repair are:

**1. Schwef- Heel**

- a. Sulfur
- b. This remedy will increase the yield of mercury and other heavy metals, because it gives normal regulation information to all sulf-hydral (-SH) enzymes;
  - ◆ It normalizes the –SH enzymes (all detox enzymes).
  - ◆ It could increase the yield 100x, but it also has a healing crisis potential (because of its effectiveness)
- c. Mobilizes mercury and all the toxins from protein binding sites
- d. 1 drop / day, increase every 3 days until 10 drops/ once per day
- e. Stop if detox reaction

**2. Thuja forte**

- a. Universal vaccine antidote
- b. 5 drops every other day for 3 months (after vaccination)
- c. Eliminates the toxin vaccine residue
- d. Helps cells to awaken and regain their intelligence after injury by vaccines
- e. Activates the blocked detox enzymes

**3. Thalamus Compositum**

- a. Organ extracts of all glands in brain
- b. Cyclic-AMP
  - ◆ Communicates incoming messages, which is a problem in all ASD patients
- c. 1 amp / week for 3 months
  - ◆ 3 drops into each nostril 2x/ day – into the brain; 5 days on and 2 days off.
  - ◆ Or add to the IM shot

**4. Co Enzyme Compositum (also Citrokehl)**

- a. Enzymes of the citric acid cycle – increase ATP and aerobic metabolism
- b. Removes the cellular biochemical blocks of the cells after toxins; all toxins block the enzymes of the TCA or energy producing cycle; useful in the cellular toxification and degenerative phase

- c. Increases the activity and amount of peroxisomes – which detox the intracellular spaces.
- d. 2 times / week for the first month, then 1 / week for the entire treatment (2 years)
- e. This can be taken in multiple modes of treatment:
  - ◆ IM, sub-q, intra-cutaneous, intra nasal and oral

#### 5. Ubichinon

- a. Cellular detox for chemicals
- b. Ubichinon-stimulate defense mechanisms against toxins to reactivate blocked enzymes systems (cellular intoxication phase)

#### 6. Tonsilla Compositum: 1 amp / wk for 1 year

- a. stem cells and growth factors, embryonic growth factors
- b. Influences the brain of the kids to grow again
- c. RNA of adrenals and other healthy organs

#### 7. Placenta Compositum: 1 amp / week

- 1. More growth factors, very important
- 2. All growth factors – nerve growth factor

## D. Herbal, physical medicine and combination therapies for organ drainage and organ support.

### 1. *Organ Drainage and Support:*

To promote health and excretion of functionally compromised organs and organ systems that is needed to excrete the toxic metals and chemical. Mercury can easily mobilize and redeposit in other tissues if drainage organs are not properly functioning. **This is a critical step in HM detox.**

#### A. Lymph:

Herbal drainage organ remedies:

- Lymphomyostat – mentioned above
- 4+1Forticel – this is Essiac Tea used in cancer for lymph and immune support.
- Ecchinecia (Marcopharmo)
- Lymphonest (Marcopharmo)
- Pleo-muc (Enderlain remedy)
- other:\_\_\_\_\_

Physical medicine for lymph support:

- Chi machine - an at home devise
- Trampoline – very effective for physical lymph support (at home)
- Deep breathing
- Water immersion with exercise – needs to be done at pool
- Electron-sound-beam generator (an at office machine) or the at home devise Electron Genie
- Lymphatic massage with a skilled massage therapist is very effective the second day of chelation – the spa day when IV vitamins and minerals are administered along with colonics and sauna.
- Lymphatic massage with the KMT - the most advanced microcurrent machine, especially adapted for detox.

## **B. Liver/ Gall Bladder:**

Herbal drainage remedies

- **Hepatica (MarcoPharmo)** used for liver support primarily
- **Cholenest (MarcoPharmo)** used for liver and gall bladder support, this is a stronger remedy than hepatica
- **Artichoke** used for cholesterol and other liver conditions
- **Homeopathic remedies mentioned above: Hepar compositum, Hepeel**
- **other:** \_\_\_\_\_

**The Gall bladder flush** is a very important at home strategy to consider during any detox therapy. The purpose of the gallbladder flush during heavy metal detox is to cleanse the liver and gallbladder of sledge and stones and to purge the liver of toxic metals and chemicals. The book “The Amazing Gallbladder Flush” by Andreas Moritz is a very good reference to understand this important procedure and highly recommended. The best timing during the detox cycle of the gallbladder flush is after the first day of the chelation phase and / or during the post chelation phase. This is the time when the liver is processing the toxins to be removed through the bile. It is equally important to have chlorella or another bowel neurotoxin binding remedy on board to bind the toxins in the bile during the gallbladder flush. This prevents the re-absorption of the neurotoxins in the bowel. There are a couple of variations of the gallbladder flush that we recommend: one from the book the other is Dr. Ali’s, both are outlined below.

. The liver flush can be for 1 day, the day of the flush itself or 2, 3 or 4 days flush. The difference is 1-3 days of preparation, the flush remains the same.. It is best to start with the one day at first and progress to the 3-4 day if needed or inclined. Often it requires more than one gallbladder flush to produce a high volume of gelatinous “stones”, therefore the gallbladder flush is a procedure to consider multiple times during detox.

To minimize complications and maximize results it is best to prepare for the gallbladder flush The day of the flush:

1. The preparation – the day of the flush – the best time for the gallbladder flush is over a weekend, with minimal pressure with time to rest; although it can be done at any time of the month, the best day is between full and new moon. The day of the new moon is the most conducive for cleansing and healing:
  - Soften the stones in the liver and gallbladder and liver with malic acid, making their passage smooth and easy with organic apple juice/ cider or malic acid supplementation if apple juice is a problem due to allergy, Candida or blood sugar problems.
    - 5-8 glasses throughout the day, slowly between meals (in addition to your normal (6-8 glasses of water)
    - A two or three day liver flush is to drink 5-8 glasses of apple juice or cider for days before the flush
    - The fermentation of the cider helps widen the duct, giving additional benefit
  - Drink plenty of water
    - A state of over hydration is desired so add more water (6-8 glasses) from morning to 6 PM
  - Eat vegetarian throughout the day with no dairy, fried, meat or fat foods; avoid foods and beverages that are chilled or cold, because they chill the liver and reduce the effectiveness. All foods should be warm or room temperature
  - Continue the supplemental and medication program that has been suggested for you

- Drink Epsom salts (magnesium sulfate), magnesium citrate or disodium phosphate to relax the bowel muscular tonus for easier passage of the “stones”, and to induce diarrhea
  - 3 hours after lunch – 2 teaspoons dissolved in hot water (a few drops of lemon juice and a pinch of salt will reduce the bad taste.
  - At 6 PM repeat the above step (2 teaspoons of Epsom salts, or the pr-made dose outlined below)
  - If 3-4 day flush – start the Epsom salts in the morning one hour before breakfast
- Take an evening meal of grapefruit or grapefruit juice if the whole fruit is not available.

Note; the 2 day protocol is to take the apple juice/ cider for the first day (or Malic acid) and follow the day of the flush procedure outlined above. The 2 day flush often yields more stones, and should be done only after at least one cycle of the one day flush. The diet during the multiple days should be low fat and vegetarian. The patient can advance to the 3 and 4 day flushes for better results after the 2 day flush is well tolerated. The only change to the protocol outlined above on the day of the flush for the 3 or 4 day protocol is to start the Epsom salts (disodium phosphate) one hour before breakfast (on the day of the flush) and eat a light breakfast avoiding sugar, spices, milk, and dairy products, meats and fats (don't eat protein butter or oils).

Note that regular bowel movements are critical during the gallbladder flush and detox in general. Constipation must be addressed aggressively with a multi-phased program that can be outlined in “Bowel Basics” usually including colonics is critical prior to a gallbladder flush if regular bowel movements are not present. Colonic irrigation is the fastest and easiest method to prepare for the liver flush.

## 2. The flush:

- Add 4 tablespoons of Epsom salts (magnesium sulfate) to 24 oz. to make 4 -6 oz. glasses (add lemon juice and a pinch of salt to improve the taste);
  - Drink the first portion at 6 PM
  - Drink the second portion at 8 PM
  - If by 9:30 you have not had a bowel movement within the past 24 hours, we now suggest a enema, which triggers a bowel movement.
- At this time (9:30) take 1-2 gram of chlorella, or Proalgen to bind the toxins during the gallbladder flush.
- At bed time drink one cup of equal parts of extra-virgin olive oil and freshly squeezed lemon juice (1/2 cup each); prepare this concoction into a bottle shake and drink all at once at 10:00PM, standing next to your bed.
- Lie down immediately. Lie on your right side with your knees pulled up for about 30 minutes – this aids the release of the stones as the oil and lemon causes a strong contraction from the gall bladder
- Be prepared to experience nausea, some abdominal cramps and diarrhea during or after taking the lemon juice and olive oil; use Tigan suppository if nausea persists.

## 3. The following morning:

- 6-6:30 AM upon rising drink the 3<sup>rd</sup> glass of Epsom salts, and warm water is thirsty. Rest preferable in an upright position.
- Yoga or light exercise is preferred.
- 8:00 – 8:30 drink the last glass of Epsom salts
- 10:00 eat breakfast – a light and on fat or protein.
- Drink plenty of water.

- Examine your (watery) stools for gallstones, which appear pea green and float in toilet. The stones will be different shades of green, usually light from the gallbladder and darker green if from the liver. If the stones are tan or white, they will sink and are calcified (they are heavier). Green and yellowish stones are soft and putty like.
4. The gallbladder flush can be done each month during the cycle of detox. It may take 8-12 flushes to remove all the stones and debris from the liver a biliary tree. Consider the stones gone when 2 consecutive flushes produce no stones.

### **C. Kidney:**

The kidney is an important excretory organ, however as we have discussed is often damaged in heavy metal toxicity, with reduced function. The square foot area of excretory capacity of the kidney is small compared to the larger bowel and skin, and one of the principles is to detox through the organs that have the most capacity to minimize the damage of the toxic mercury. The urine challenge with DMPS and DMSA uses the kidney to excrete the toxic mercury, which could place a further burden on the kidney. However, often the kidney dys-function is due to the accumulation of the mercury in the kidney.

#### **The following strategy has been used to overcome this problem**

- Determine the kidney status: history, symptoms and the functional blood chemistry can be helpful but the best is a creatinine clearance test
- Use kidney “drainage herbal and homeopathic remedies” to enhance the kidney function
- When using Neural therapy with DMPS, inject a little DMPS over the kidney and very little in the IV or IM portion. This will concentrate and confine the chelating agent to the kidney and not bring the mercury from the rest of the body to the kidney.
- Always use the challenge dose of chlorella (2-3 times the maintenance dose) to direct the mercury through the liver and bowel (and to create a much higher yield of mercury). The chlorella will spare the kidney.

Herbal and drainage formulas:

- **Bucco**, (MarcoPharmo)
- **Solidago**, (MarcoPharmo)
- Homeopathic remedies mentioned above
  - **Berberis homacord (HEEL)**
  - **Solidago (HEEL)**

#### **The kidney flush**

Chronic disorders frequently cause dehydration, which prevents the kidney from functioning to remove toxins from the blood. The first line is to maintain a constant state of over-hydration from morning to 6 PM. Good water is the best detox agent available and cannot be underemphasized.

The kidney flush can further facilitate kidney function and blood filtering.

In watermelon season:

- Eat watermelon – moderate amounts
- Juice watermelon – 1 to 2 glasses; chlorella (powder or open capsules) can be added to watermelon
- Take 1-2 teaspoons of flat water from morning to 6 PM, with or without watermelon; if add lemon the salt may be better tolerated.

Out of watermelon season.

- The juice of one lemon with 16-24 oz. of water and drink throughout the day
- Additional fluids to maintain the state of over-hydration.
- One glass of unsweetened cranberry juice throughout the day.

D. Other herbal drainage options (MarcoPharmo):

Sinus support:

- Hydra,
- Luffa
- Topical application of remedies very effective through a syringe or Netti pot; add therapeutic salt, herbs, tea tree oil and other medicines to the sinus wash

Spleen:

- Scholapendium

Blood/ circulation detoxifiers:

- Lappa,
- Asceulus,
- Viscum

Lung:

- Pulmonest, .

## **B. Spa and other modalities used in the office or at home that are very helpful to get the toxins out especially during the chelation phase.**

During the aggressive chelation phase, every effort should be used to support the detox organs to support the drainage organs and **remove as much of the neurotoxins as possible**. Make this chelation count as much as possible!

1. Removing toxins through the **bowel**:

- Colonics is very helpful, but consider it the next day after DMPS
- Coffee enema – is part of NIHA detox spa colonic, but can be done at home very effectively. Coffee enemas are a very important part of cancer therapies (Gershwin), and coffee delivered to the liver (via the colonic) will stimulate the production of glutathione 1000 times the normal liver output. Glutathione is a very important natural detox agent that can be very beneficial at this time. Therefore the coffee enema is an inexpensive way of receiving an IV glutathione push at home.

2. Removing the toxins thorough the **skin**:

The skin is one of the largest detox organs and unlike other organs the skin excretes outside of the body immediately with little chance of re-uptake, unless the vapors are re-breathed. Note that mercury is a volatile metal, which means that if it is secreted through the skin the mercury vapor is present. Re-breathing mercury vapors needs to be minimized by having well ventilated saunas and rooms there the mercury vapors are removed.

The skin functions as a third kidney and can very effectively remove toxins from the blood by sweating. The sweat will detox the lymph and the blood, the two most important fluids that carry the mercury and other toxins out. Spa detox through the skin is very important to efficiently remove heavy metals and toxic chemicals.

Before or during any skin detox for mercury drink 16 – 32 oz. of water with selenium (400-800 mcg). Selenium binds mercury and carries it effectively through the skin.

The sauna program of L Ron Hubbard is very sound to enhance the sauna detox of chemicals and metals. Before the sauna:

- Drink water 16-32 oz with selenium (see above)
  - Take grain or seed oils (1-2 tablespoons); the fats enter the blood stream and dissolve and carry the toxic chemicals through the blood and out through the sweat. The oils are also important in rebuilding the membranes, the primary cellular component damaged by toxic chemicals.
  - Take Vitamin B-3 until you have a peripheral flush; the dose might be as low as 50 mg, but often the flushing dose is higher. The flushing further opens the pores.
- Sauna – of the saunas, infra-red is the best for most, however some very sensitive patients cannot tolerate and must use the standard saunas. See the sauna protocol for enhancing toxic chemical and mercury elimination.
  - Exercise and sweating – mentioned here but reviewed later. Do perform strenuous exercise during the chelation cycle it may drive the toxins deeper.
  - Ozone steam sauna – is very good because in that it supplies oxygen and immunological stimulation through the oxidative action of the ozone. The ozone steam can be very helpful if chronic infections like Lyme are a problem.
  - Magnetic detox clay in a full emersion bath or foot bath – this at home therapy is very effective in drawing out the heavy metals (mercury, aluminum and radiation) through the skin
  - Detox baths are highly recommended during detox. There are many types of detox baths:
  - Epsom salts (magnesium sulfate) is a favorite for it removes toxins and replaces magnesium; the most important mineral is detox. 1 cup
  - 2 cups of vinegar and 1 cup of sea salt
  - ½ cup of baking soda and ½ cup of Epsom salts – alkaline the body with the baking soda, especially when allergy or hyper-reactive symptoms prevail
  - 3 table spoons of ginger, and /or 1-2 teaspoons of cayenne can be added to any of the above to enhance the opening of the skin pores.
  - Hydrogen peroxide foot soaks are very helpful for whole body lymphatic drainage and can be added to a full bath.

### 3. Energetic **detox foot bath** support:

We at NIHA have learned since 1994 that the energetic foot baths are a very important part of increasing the heavy metal yield and reducing un-wanted side effects. Detox can sometimes be a rough sail, but these detox foot baths are very helpful in reducing symptoms of detox. Placing one's feet in the foot bath for 30 minutes will aid the lymphatic system, kidney and liver drain the toxins out. There are a number of energetic foot baths that we have used over the years. These can also be used for home use.

- Toxaway, Aqua-chi, Erchonia, and BEFE are some

The benefit of the footbaths is the energetic detox assistance, not the toxins that are purported by some to be removed from the feet.

### 4. **Lymphatic** and general body - detox support:

The lymphatic system must move the toxins, it by nature a slow system, all the lymphatic support one can have will increase the toxic yield during chelation. The following are some of the favorites:

- Lymphatic massage
- Chi machine

- KMT microcurrent – lymphatic therapy
- Photon- genie
- Walking and light exercise
- Trampoline

5. Using the **frequency of mercury** to aid the body in the release of the toxic metal, through the resonance phenomena.

Delivering the frequency of mercury to the body is a subtle, safe and effective energetic method to increase the yield of mercury during detox. The frequency of mercury can be delivered to the body through homeopathic remedies, which we usually recommend in Phase IV, and through beaming the frequency into the body through microcurrent (KMT), sound and light.

- **Sound: Mozart's Requiem** has been shown to greatly aid the release of mercury during chelation. The music resonates with the frequency of mercury because Mozart composed it as his last composition when he was dying of mercury toxicity (mercury was the treatment for syphilis in his day).
- Mercury frequency is delivered when a **mercury vapor light** is shined on the body. Unfortunately mercury vapor lights are proliferating due to misguided leaders and industry trying to reduce the energy of the incandescent light bulb – so getting mercury vapor lamps is now easy, but the environmental impact and enhanced mercury toxic burden of the earth (which is already too much) due to the industrial use and discarding of the new mercury vapor light bulb will be tragic. Better learn to detox for life.

## 6. Photon light therapy – delivering the remedies to the brain.

This is a newly discovered method of delivering the remedies to the brain by energetically piggybacking the remedies on a photon light machine. Photon light therapy has been used very successfully for all types of mental and physical disorders for the past 30 years. Its success is well documented. This technique is to beam the detox remedies into the eyes during a photon light therapeutic session of carefully prescribed colors and flicker rates, which delivers the frequency into the brain and greatly enhances the brain detox. Getting remedies through the blood-brain –barrier is harder. This appears to be a very simple, safe and effective means.

## 7. More on Up-take enhancement

**Every in office and at home detox strategy needs to include some form of remedy/ drug up-take enhancement.**

Remedy (drug) uptake enhancement is an important part of any detoxification program and an important regulation concept to understand in general for more effective results in any health endeavor. 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 (into the areas that need it the most) 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 (IV / IM) 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 in the body while **maximizing the dosage in the areas needing it 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 Autonomic Nervous System regulation. These techniques should be employed during the chelation phase (and to a lesser amount it is optional during the mobilization phase) to maximize the drug uptake of whatever is being taken therapeutically.

- **Neural Therapy** is a German therapy, which traditionally involves the injection of Novocain and other (regulation and chelation) remedies. Novocain injected into the skin, tissues or ANS structures will increase the blood flow to the area for 3-7 days and often permanently overcome the hypo-perfusion to the affected tissues or organs. 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 and functional rehabilitation of any tissue or organ can be delivered **energetically without injections** with:
  - **Low Level Laser therapy devices**; (in-office or at home) – deeply penetrating and very effective for brain, tooth and mouth and any other organ or structure that needs enhanced detoxification or rehabilitation.
  - **Face/ body shield**: a multi laser system that flood the area, very effective for kidney, liver and toning any part of the body
  - **Anodyne**: is a multi laser system that is very effective
  - Special electrical units that function as ANS - TENS units: (**Electro-blok**).
- **Laser enhanced detox (LED)** or the Dr. Cowden protocol
  - This is a very sophisticated technique that used laser enhancement and frequencies of heavy metal and chemical toxins, allergens, pathogens and their healing antidotes to correct the autonomic dysfunction in the affected organs (and thus an effective drug uptake), as well as energetically releasing the toxins from the affected bodily compartment.
- **Acupuncture** is a regulation therapy, which modulated the ANS, increasing the blood flow and cellular responsiveness. Its effect will last for 3-7 days. Acupuncture is a very effective and long tested method to reestablish normal regulation to tissues and organs. A relationship with a Traditional Chinese Medical Doctor during detox is a very helpful idea.
- **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 Autonomic Nervous System, the significance of which is not fully understood.
  - The **hand reflex** has been extensively studied by Dr. Yoshiaki Omoura. (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. Omoura’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.
  - The medulla of the brain is located below the “bump” in the back of the head and it can be stimulated directly or indirectly for drug up-

take for all areas at once. The hand reflex point for the medulla is the back of the middle finger above the first joint – pinch it for 5 min.

The medulla can be stimulated directly by placing a **magnet with the south -pole (or negative pole) against the skin**. For drug up-take to work metals across the midline (including glasses and jewelry) should not be worn, rings and watches (metals that encircle the body will prevent up-take), electro-magnetic devices such as watches, pagers, phones and areas of high EMF pollution should be avoided. Synthetic clothes and clothes labels that have metal (most) will prevent up-take.

To get the most out of your at home therapy, to target the remedies to the areas where it is needed the most, drug up-take is very important. **The remedies for heavy metals and chronic infections simply will not go to the areas needed without these techniques or another remedy up-take procedure listed in this section**. If drug up-take is hard to do during the day because of schedule, this procedure should be done **at night before bed to get the remedies working through the night**.

### **MFT (Master Field Therapy) tapping points**

Tapping master acupuncture points have been used very effectively in a number of therapeutic disciplines. Emotional Freedom Technique (EFT) or Thought Field Therapy has used these MFT points to remove the emotional blocks or change the charge behind mental, emotional and physical issues and very successfully eliminate the health problem. EFT is a simple technique, which when learned, can be employed at home to help with any of a wide variety of health problems – pain, anxiety, allergy, addiction and cravings, and any other physical, emotional and mental problem.

Each patient has specific MFT master acupuncture points that when stimulated will regulate the autonomic nervous system. By tapping these points drug / remedy uptake will also be affected. Therefore before any detox remedy (or any other food, nutrient, drug or supplement) we strongly suggest this simple 1-2 minute exercise. The effects are multiple – remedy / drug uptake, less allergy (or ANS hyper-reaction) to everything, better therapeutic effects and by reinforcing ANS regulation your nervous system can start to react appropriately.

### **8. Exercise Program:**

Exercise is a very important part of every detox and rehabilitation program. The documented benefit of exercise programs for health is indisputable, from cardiovascular to hormonal and blood sugar health and every system in between. Movement and flexibility of the skeleton-muscular system, the largest system of our body is essential for every recovery and health maintenance program. Healthy exercise is pushing the body and allowing it to recover by building more muscle, stretching joints and structures, enhancing our oxygen carrying and cardiovascular capacity, using the available blood glucose and rebuilding supplies, reducing our adrenal stress and in general just using our systems. Use it or lose it!

In detox, there is an added benefit of sweating the toxins out during exercise. There are all different types of exercise, aerobic - using oxygen and taxing the cardiovascular system (like running, rowing, jumping rope, swimming...); anaerobic, which stresses more the stretching and muscular system workout and less the cardiovascular system (like weight training, yoga, trampoline jumping, walking...). Whatever the choice of exercise, the program must cause no harm and that is done by being aware of the condition of the adrenal gland and exercise accordingly.

When we exercise within our adrenal gland limit, which is not over stressing the adrenals, the benefit is a rise in cortisol temporarily to support the immediate demand for cortisol. But this is followed by a lowering in the stress hormone of the adrenals – cortisol. The objective

of every rehabilitation program is to lower the stress hormone – cortisol. Cortisol is chronically high in all stress related conditions (major problem in modern life) and especially heavy metal toxification, which we have previously described as a chronic form of stress to the nervous system and therefore adding to the adrenal gland being continually overtaxed. In addition, if the right amount of exercise is done, DHEA levels - the rebuilding (or anabolic hormone of the adrenal gland) will rise. Exercise to lower the stress hormone (cortisol) and build up the rehabilitation hormone DHEA blood levels is exactly the result of any healthy exercise program.

However some chronically debilitated/ fatigued patients report that whenever they try to exercise, they feel worse for many days after. Exercise for them is destructive and it can be a problem for many if any exceeds their healthy limit. 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 it further stress. There are three adrenal gland conditions that will dictate the level and vigor of exercise:

Stage III of adrenal stress – adrenal exhaustion or fatigue is when the patient is unable to respond to exercise with adequate amounts of cortisol and little or no DHEA production. If the patient is in adrenal fatigue – the exercise schedule is no more than 5 minutes of light exercise with prolonged rest; no overtaxing the adrenal system. But exercise is important to ultimately rehabilitate the adrenals.

Stage II of adrenal stress (or the hyper- stress condition) is characterized when the adrenal gland is chronically over producing cortisol but incapable of making adequate and healthy amounts of DHEA and often the sex hormones that come from DHEA in the adrenal gland. If this condition persists, adrenal exhaustion usually follows. This chronic state of stress is where most heavy metal and toxic chemical patients find themselves. The symptoms vary and are listed in the assessment section of this paper. A salivary hormone test, which measures the adrenal hormone levels 4-6 times a day through their circadian rhythm is the diagnostic determinant. The goals of the exercise program remain the same, that is to lower the cortisol and aid in the recovery of the adrenal gland, certainly not adding to its' stress load. The exercise program should be less aerobic and no more than 25 minutes for stage II of adrenal stress.

Stage I of adrenal stress is characterized by high cortisol levels and high DHEA levels. In this condition the adrenal glands are still functioning well and responding to the body's demand, but the stress levels are too high. Stress levels can be high due to blood sugar problems (hypo-glycemia), creating up and down blood sugar levels. Hypo-glycemia chronically taxing the adrenal glands to raise the blood sugar when the blood levels of sugar fall and the brain, which cannot store glucose (the brain's only fuel) demands to be fed. Stress levels can be high due to chronic heavy metal and chemical toxicity, chronic infections over-taxing the immune system, a bowel that is functioning less than ideal. Allergies and chronic environmental conditions at home cause enhanced stress levels, as well as chronic physical structural problems like Dental stress from a mal-aligned jaw and cranium (TMJ) or postural stress from leg length problems. Of course psycho-emotional stress, the kind of stress produced by our mind and emotional patterning is the type of stress that we all recognize the most. The Autonomic Nervous System of the brain handles the stress and the adrenal gland responds to the brain's stress signaling. The brain (ANS) sees all stress as one and additive. In other words to lower the total stress load - all the above stresses need to be addressed. The exercise program for a patient in Stage I of adrenal stress is 45 minutes.

After 45 minutes of vigorous exercise, the blood glucose storage reserves of the liver and muscles are used. This triggers an additional adrenal response to activate the gluconeogenesis pathway which converts the muscle mass (or the amino acid glutamine of the muscle) into blood sugar to feed the brain. This creates two unwanted health and rehabilitation problems: one is that we are tearing down muscle (to make energy); the other is

that the additional stress on the adrenal gland causes a high cortisol level to remain for days, thus adding to our bodily stress level and eliminating the DHEA rehabilitating hormone to activate.

Good (non-overstress) exercise therefore can be beneficial to the adrenal gland. Mildly increasing cortisol levels for a short time but then reducing the cortisol levels for an extended period post exercise while increasing the DHEA, 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 cortisol output for many hours while concurrently decreasing the androgenic (rebuilding) hormone levels.

A good fitness book/ reference is “PACE, Rediscover your native fitness” by Al Sears MD. Dr. Sears explains why how to exercise to rebuild fitness in your skeleton-muscular system, strengthen your oxygen carrying cardiovascular system, regulate properly your metabolic system for fat burning, blood glucose regulation and the metabolic glands (adrenal, thyroid and growth hormone). The secret to PACE exercise, whatever your level or exercise of choice is to exercise to oxygen exhaustion or when you are out of breath, recover and repeat. Note that patients in adrenal exhaustion Stage III need to modify drastically their PACE. See references for Dr. Sears book.

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