

# The Klinghardt Neurotoxin Elimination Protocol

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## **What are Neurotoxins?**

Neurotoxins are substances attracted to the mammalian nervous system. They are absorbed by nerve endings and travel inside the neuron to the cell body. On their way they disrupt vital functions of the nerve cell, such as axonal transport of nutrients, mitochondrial respiration and proper DNA transcription. The body is constantly trying to eliminate neurotoxins via the available exit routes: the liver, kidney, skin and exhaled air. Detox mechanisms include acetylation, sulfation, glucuronidation, oxidation and others. Often the host is triggered to produce neurotoxins (which are damaging to their own tissues) by the invading microbes through molecular trickery.

The liver is most important in the toxin elimination process. Here most elimination products are expelled with the bile into the small intestine and should leave the body via the digestive tract. However, because of the lipophilic/neurotropic nature of the neurotoxins, most are reabsorbed by the abundant nerve endings of the enteric nervous system (ENS) in the intestinal wall. The ENS has more neurons than the spinal chord.

From the moment of mucosal uptake the toxins can potentially take four different paths:

1. neuronal uptake and via axonal transport to the spinal chord (sympathetic neurons) or brainstem (parasympathetics) – from here back to the brain.
2. Venous uptake and via the portal vein back to the liver
3. Lymphatic uptake and via the thoracic duct to the subclavian vein
4. Uptake by bowel bacteria and tissues of the intestinal tract

Here is an incomplete list of common neurotoxins in order of importance:

- (i) Heavy metals: such as mercury, lead, cadmium and aluminum.
- (ii) Biotoxins: such as tetanus toxin, botulinum toxin (botox), ascaridin (from intestinal parasites), unspecified toxins from streptococci, staphylococci, lyme disease, clamydia, tuberculosis, fungal toxins and toxins produced by viruses.

Biotoxins are minute molecules (200-1000 kilodaltons) containing nitrogen and sulfur. They belong to a group of chemical messengers which microorganisms use to control the host's immune system, host behavior and the host's eating habits.

(iii) Xenobiotics (man-made environmental toxins): such as dioxin, phthalates, formaldehyde, insecticides, wood preservatives, PCBs etc.

(iv) Food Preservatives, excitotoxins and cosmetics: such as aspartame (diet sweeteners) food colorings, fluoride, methyl-and propyl-paraben, etc.

I have found that mercury in its different chemical forms has a synergistic amplifying effect with all other neurotoxins. When mercury is removed, the body starts to more effectively eliminate all other neurotoxins, even if they are not addressed.

### **What are the symptoms?**

Any illness can be caused by, or contributed to, or exaggerated by neurotoxins. Fatigue, depression, insomnia, memory loss and blunting of the senses are common early symptoms (see list of mercury related symptoms on the following pages).

### **How is the diagnosis established?**

1. History of Exposure: (Did you ever have any amalgam fillings? A tick bite? etc)
2. Symptoms: (How is your short term memory? Do you have areas of numbness, strange sensations, etc?)
3. Laboratory Testing: (Metals: hair, stool, serum, whole blood, urine analysis, xenobiotics: fatty tissue biopsy, urine. Mold: Immunosciences mold panel)
4. Autonomic Response Testing: (Dr. Dietrich Klinghardt M.D., Ph.D.)
5. BioEnergetic Testing (EAV, kinesiology etc.)
6. Response to Therapeutic Trial
7. Functional Acuity Contrast Test (measure of Retinal Blood Flow)

## **TREATMENT**

*Why would we want to treat anyone at all? Is it really needed? Can the body not eliminate these toxins naturally on its own?*

Here is a short list of **independent risk factors** which can either cause accumulation of metals in an otherwise healthy body - or slow down, or inhibit the body's own elimination processes.

- genetics

- occupational exposure to toxic material
- prior illnesses
- surgical operations
- medication or 'recreational' drug use
- emotional trauma, especially in early childhood
- social status
- high carbohydrate intake combined with protein malnutrition (especially in vegetarians)
- use of homeopathic mercury
- food allergies
- the patients electromagnetic environment (mobile phone use, home close to power lines etc)
- constipation
- compromise of head/neck lymphatic drainage (sinusitis, tonsil ectomy scars, poor dental occlusion)
- number of dental amalgam fillings over the patients life-time, number of the patients mothers amalgam fillings

We will discuss here only those elimination agents, which are natural, safe and have also been shown to be as effective (or more effective) than the few available pharmaceuticals. Because these products cannot be patented and exploited for unethical personal gain, little attention has been given to them by European or North American medical researchers. Many of the best scientific studies on this topic are from Asian countries.

## **The Basic Program:**

### **1. High protein, mineral, fatty acid and fluid intake**

- proteins provide the important precursors to the endogenous metal detox and shuttle agents, such as coeruloplasmin, metallothioneine, glutathione and others. The branched-chain amino acids in cow and goat whey have valuable independent detox effects.
- Metals attach themselves only in places that are programmed for attachment of metal ions. Mineral deficiency provides the opportunity for toxic metals to attach themselves to vacant binding sites. A healthy mineral base is a prerequisite for all metal detox attempts (selenium, zinc, manganese, germanium, molybdenum etc.). Substituting minerals can detoxify the body by itself. Just as important are electrolytes (sodium, potassium, calcium, magnesium), which help to transport toxic waste across the extracellular space towards the lymphatic and venous vessels.

- Lipids (made from fatty acids) make up 60-80 % of the central nervous system and need to be constantly replenished. Deficiency makes the nervous system vulnerable to the fat soluble metals, such as metallic mercury constantly escaping as odorless and invisible vapor evaporating from the amalgam fillings.
- Without enough fluid intake the kidneys may become contaminated with metals. The basal membranes swell up and the kidneys can no longer efficiently filtrate toxins. Adding a balanced electrolyte solution in small amounts to water helps to restore intra-and extracellular fluid balance

## **2. Cilantro (Chinese parsley)**

This kitchen herb is capable of mobilizing mercury, cadmium, lead and aluminum in both bones and the central nervous system (*“Removal and Preconcentration of inorganic and methyl mercury from aqueous media using a sorbent prepared from the plant Coriandrum Sativum”*, *J of Hazardous Materials B 118(2005) pp 133-139 D Karunasagar et al*). BioPure cilantro uses a special seed from Brazil that is grown under conditions and in soil that enhances its detox power. It is probably the only effective agent in mobilizing mercury stored in the intracellular space (attached to mitochondria, tubulin, liposomes etc) and in the nucleus of the cell (reversing DNA damage of mercury).

Because cilantro mobilizes more toxins than it can carry out of the body, it may flood the connective tissue (where the nerves reside) with metals that were previously stored in safer hiding places. This process is called re-toxification. It can easily be avoided by simultaneously giving an intestinal toxin-absorbing agent. Our definite choice is the algal organism chlorella. A recent animal study demonstrated rapid removal of aluminum from the skeleton superior to any known other detox agent (*Intl J Acup and Electro-Therapeutics Res*, 2003).

**Dosage** and application of BioPure cilantro tincture: give 10 drops in hot water at bedtime (during the vagus-dominant sleep phase many detox functions are most active) or 30 minutes after taking chlorella. Cilantro causes the gallbladder to dump bile - containing the excreted neurotoxins - into the small intestine. The bile-release occurs naturally as we are eating and is much enhanced by cilantro. If no chlorella is taken, most neurotoxins are reabsorbed on the way down the small intestine by the abundant nerve endings of the enteric nervous system). Gradually increase dose to 10 drops 3 times/day for full benefit. During the initial phase of the detox cilantro should be given 5 days on, 2 days off.

**Works most effectively when combined with Toxaway microcurrent foot bath.**

Other ways of taking cilantro:

- rub 5 drops twice/day into ankles for mobilization of metals in all organs, joints and structures below the diaphragm, and into the wrists for organs, joints and structures above the diaphragm. The wrists have dense autonomic innervation (axonal uptake of cilantro) and are crossed by the main lymphatic channels (lymphatic uptake).
- Good for headaches and other acute symptoms (joint pains, angina, headache): rub 10 –15 drops into painful area. Often achieves almost instant pain relief.

### 3. Chlorella:

Both *C.pyreneidosa* (better absorption of toxins, but harder to digest) and *C.vulgaris* (higher CGF content – see below, easier to digest, less metal absorbing capability) are available. A peer-review literature list is available from BioPure. Be aware that there are huge differences in quality. We only recommend BioPure chlorella.

Chlorella has multiple published health inducing effects:

**Antiviral** (especially effective against the cytomegaly virus from the herpes family)

- **Toxin binding** (mucopolysaccharide membrane) all known toxic metals, environmental toxins such as dioxin and others
- Repairs and activates the body's **detoxification functions**:
- Dramatically increases intra-cellular reduced glutathion,
- Sporopollenin is as effective as cholestyramin in binding neurotoxins and more effective in binding toxic metals than any other natural substance found.
- Various peptides restore coeruleplasmin and metallothioneine,
- Lipids (12.4 %) alpha-and gamma-linoleic acid help to balance the increased intake of fish oil during our detox program and are necessary for a multitude of functions, including formation of these peroxisomes.
- Methyl-cobalamin is food for the nervous system, restores damaged neurons and has its own detoxifying effect.
- Chlorella growth factor helps the body detoxify itself in a yet not understood profound way. It appears that over millions of years chlorella has developed specific detoxifying proteins and peptides for every existing toxic metal.
- The porphyrins in chlorophyll have their own strong metal binding effect. Chlorophyll also activates the PPAR-receptor on the nucleus of the cell which is responsible for the transcription of DNA and coding the formation of the peroxisomes (see fish oil), opening of the cell wall (unknown mechanism) which is necessary for all detox procedures, normalizes insulin resistance and much more. Medical drugs that activate the PPAR receptor

(such as pioglitazone) have been effective in the treatment of breast and prostate cancer.

- **Super nutrient:** 50-60% amino acid content, ideal nutrient for vegetarians, methylcobolamin - the most easily absorbed and utilized form of B12, B6, minerals, chlorophyll, beta carotene etc.
- **Immune system strengthening**
- **Restores bowel flora**
- **Digestive aid (bulking agent)**
- **Alkalinizing agent (important for patients with malignancies)**

**Dosage:** start with 1 gram (=4 tablets) 3-4 times/day. This is the standard maintenance dosage for grown ups for the 6-24 months of active detox. During the more active phase of the detox (every 2-4 weeks for 1 week), whenever cilantro is given, the dose can be increased to 3 grams 3-4 times per day (1 week on, 2-4 weeks back down to the maintenance dosage). Take 30 minutes before the main meals and at bedtime. This way chlorella is exactly in that portion of the small intestine where the bile squirts into the gut at the beginning of the meal, carrying with it toxic metals and other toxic waste. These are bound by the chlorella cell wall and carried out via the digestive tract.

When amalgam fillings are removed, the higher dose should be given for 2 days before and 2-5 days after the procedure (the more fillings are removed, the longer the higher dose should be given). No cilantro should be given around the time of dental work. During this time we do not want to mobilize deeply stored metals in addition to the expected new exposure. If you take Vitamin C during your detox program, take it as far away from Chlorella as possible (best after meals).

Side effects: most side effects reflect the toxic effect of the mobilized metals which are shuttled through the organism. This problem is instantly avoided by significantly increasing the chlorella dosage, not by reducing it, which would worsen the problem (small chlorella doses mobilize more metals than are bound in the gut, large chlorella doses bind more toxins than are mobilized). Some people have problems digesting the cell membrane of chlorella. The enzyme cellulase resolves this problem. Cellulase is available in many health food stores in digestive enzyme products. Taking chlorella together with food also helps in some cases, even though it is less effective that way. *C.vulgaris* has a thinner cell wall and is better tolerated by people with digestive problems. Some manufactures have created cell wall free chlorella extracts (NDF, PCA) which are very expensive, less effective - but easily absorbed.

## **Chlorella growth factor (CGF)**

This is a heat extract from chlorella that concentrates certain peptides, proteins and other ingredients. The research on CGF shows that children develop no tooth decay and their dentition (maxillary-facial development) is near perfect. There are less illnesses and children grow earlier to a larger size with higher I.Q and are socially more skilled. There are case reports of patients with dramatic tumor remissions after taking CGF in higher amounts. In our experience, CGF makes the detox experience for the patient much easier, shorter and more effective.

Recommended **dosage**: 1 cap. CGF for each 20 tablets chlorella

## **4. Garlic (*allium sativum*) and wild garlic (*allium ursinum*)**

Garlic has been shown to protect the white and red blood cells from oxidative damage, caused by metals in the blood stream - on their way out – and also has its own valid detoxification functions. Garlic contains numerous sulphur components, including the most valuable sulph-hydryl groups which oxidize mercury, cadmium and lead and make these metals water soluble. This makes it easy for the organism to excrete these substances. Garlic also contains alliin which is enzymatically transformed into allicin, nature's most potent antimicrobial agent.

Metal toxic patients almost always suffer from secondary infections, which are often responsible for part of the symptoms. Garlic also contains the most important mineral which protects from mercury toxicity, bio active selenium. Most selenium products are poorly absorbable and do not reach those body compartments in need for it. Garlic selenium is the most beneficial natural bioavailable source. Garlic is also protective for against heart disease and cancer.

The half life of allicin (after crushing garlic) is less than 14 days. Most commercial garlic products have no allicin releasing potential left. This distinguishes freeze dried garlic from all other products. Bear garlic tincture is excellent for use in detox, but less effective as antimicrobial agent.

**Dosage**: 1-3 capsules freeze dried garlic after each meal. Start with 1 capsule after the main meal per day, slowly increase to the higher dosage. Initially the patient may experience die-off reactions (from killing pathogenic fungal or bacterial organisms). Use 5-10 drops bear-garlic on food at least 3 times per day.

## 5. Fish oil:

The fatty acid complexes EPA and DHA in fish oil make the red and white blood cells more flexible thus improving the microcirculation of the brain, heart and other tissues. All detoxification functions depend on optimal oxygen delivery and blood flow. EPA and DHA protect the brain from viral infections and are needed for the development of intelligence and eye-sight. The most vital cell organelle for detoxification is the peroxisome. These small structures are also responsible for the specific job each cell has: in the pineal gland the melatonin is produced in the peroxisome, in the neurons dopamine and norepinephrine, etc. It is here, where mercury and other toxic metal attach and disable the cell from doing its work.

Other researchers have focused on the mitochondria and other cell organelles, which in our experience are damaged much later. The cell is constantly trying to make new peroxisomes to replace the damaged ones– for that task it needs an abundance of fatty acids, especially EPA and DHA. Until recently it was believed, that the body can manufacture its own EPA/DHA from other Omega 3 fatty acids such as fish oil. Today we know that this process is slow and cannot keep up with the enormous demand for EPA/DHA our systems have in today's toxic environment. Fish oil is now considered an essential nutrient, even for vegetarians. Recent research also revealed that the transformation humans underwent when apes became intelligent and turned into humans happened only in coastal regions, where the apes started to consume large amounts of fish. Why not benefit from that knowledge and consume more fish oil?

The fatty acids in fish oil are very sensitive to exposure to electromagnetic fields, temperature, light and various aspects of handling and processing. Trans fatty acids, long chain fatty acids, renegade fats and other oxidation products and contaminants are frequently found in most commercial products. Ideally, fish oil should be kept in an uninterrupted cooling chain until it ends up in the patient's fridge. The fish-source should be mercury and contaminant free, which is becoming harder and harder. Fish oil should taste slightly fishy but not too much. If there is no fish taste, too much processing and manipulation has destroyed the vitality of the oil. If it tastes too fishy, oxidation products are present. I recommend to use the product recommended below (grade I), where meticulous care has been taken to comply with all the necessary parameters. The clinical results are outstanding.

**Dosage:** 1 capsule Omega 3 taken 4 times/day during the active phase of treatment, 1 caps. twice/day for maintenance. Best if taken together with chlorella.

The VegiPearls contain half the amount of EPA/DHA. The vegetarian capsules eliminate even the most remote possibility of containing prions and make the

idea of taking fish oil more easily acceptable for vegetarians. Recently a fatty acid receptor has been discovered on the tongue, joining the other more known taste receptors. If the capsules are chewed, the stomach and pancreas start to prepare the digestive tract in exactly the right way to prepare for maximum absorption. Children love chewing the VegiPearls.

To treat bipolar depression, post partum depression and other forms of mental disease, 2000 mg of EPA are needed/day (David Horrobin). For the modulation of malignancies, 120 mg of EPA 4 times/day are needed. The calculations can easily be done with the information given on the label.

### **Matrix Electrolytes (ME)**

The autonomic nervous system in most toxic patients is dysfunctional. Electric messages in the organism are not received, are misunderstood or misinterpreted. Toxins cannot be shuttled through the extracellular space. Increased intake of natural ocean salt (celtic sea salt) – and avoidance of regular table salt - has been found to be very effective in resolving some of these problems. Most effective is a solution pioneered by the American chemist Ketkovsky. He created the formula for the most effective electrolyte replacement, which was further improved by our research team and is available under the name “Matrix Electrolyte”. I recommend this to all my patients and have observed, that every aspect of the detoxification process seems to be enhanced. Dramatically enhances the absorption and clinical effectiveness of herbs when given together with ME.

Five percent of the population is sodium or chloride sensitive – the blood pressure goes up (easily reversible). In these patients the detox process takes longer and is more difficult.

**Dosage:** 1 tsp in a cup of good water 1-3 times/day  
Gradually increase the dosage to 1 tbsp 3 times/day

Additional Options:

### **Toxaway microcurrent foot bath:**

This Australian invention has been greatly improved by Swiss engineers. Toxins are excreted via the plantar skin and lymphatics. The frequencies also stimulate via the ANS both liver and kidneys in their respective detox activity. Yet unpublished German research shows a dramatic toxin elimination effect when combined with oral cilantro.

**Phospholipid Exchange:**

Soy derived phospholipids, magnesium, alpha-lipoic acid and Na-EDTA. This magical mix encourages the “reverse cholesterol transport” (taking deposits out of endothelium), has a strong anti-microbial effect and detoxes neurotoxins including mercury in the cell wall and probably inside the cell as well. Long term results are dramatic especially in the treatment of Lyme related heart problems and in treating disturbed microcirculation of the frontal lobe of the brain. Phospholipids have a profound synergistic effect with herbs, facilitating their absorption and distribution into the matrix and beyond.

**Mucuna powder:** used since ancient days in India. Powerful antimicrobial and to restore depleted neurotransmitter levels in the chronic Lyme patient. 1-6 tsp/day

**Chloralyte** –osmotically broken cell wall chlorella: highly bioactive, releases sporopollenin (which is damaged in most other chlorella preparations)

**Garlic Tincture** – for topical use and treatment of oral mucosa/periodontal disease

**Rechts Regulat:** potent enzyme-rich fermented drink from Germany that has been shown to break up abnormal proteins in blood and matrix. Fibrinolytic. Can also be sprayed on skin for healing of psoriasis and other illnesses.

**Oxo:** plant root derived compound that was used as Malaria treatment in the past. Very effective for Babesia

**Matrix Microbes:** 83 beneficial bacteria and fungi. Great for short term use as bowel probiotic. Cleans open wounds in a few days (use in ulcerating breast cancer, open pulp during dental intervention, bed-sores). Used to spray the home with dilution to change microbial environment. Great for flu prevention. Use for skin ailments, including hair loss.

**NDF/HMD/PCA** are expensive combinations of enzymatically broken up chlorella and cilantro

*More aggressive approaches, such as i.v. Glutathione, Vit.C, DMPS, CaEDTA and others have a place in reasonably healthy people but often worsen the condition in patients with advanced illness.*

*Most valuable is the addition of psychotherapeutic interventions such as applied psycho neurobiology (APN) and mental field therapy (MFT) to trigger the release of toxins from their hiding places.*

Chlorella, cilantro, garlic-products and fatty acids vary greatly in quality and nutrient content, also in content of contaminants.

## **A few specifics on neurotoxins and other ways our human system is tricked into becoming a comfortable host**

### **Lyme Borreliosis**

It appears that Lyme spirochetes are highly intelligent and have learned to a large degree to live with us and manipulate our system to their advantage. Our health becomes compromised, but only rarely severely. This is when we make the diagnosis “Lyme Disease”. Bb is inducing the host to make his/her own neurotoxins, which disable the host to a degree but are however essential and necessary for the survival of Bb. Most other infectious microbes make their own neurotoxins and immunotoxins. This adaptation of Bb points towards the fact that Bb or close relatives have been with us for a long time (10s of thousands of years).

- 1. Quinolinic acid (Quin):** potent neurotoxin. Spirochetes induce microglia of brain (4% of brain mass) to convert tryptophane into this compound. Elevated in chronic Neuroborreliosis in CSF. In brain tissue 10 times increased over CNS level. Potent synergistic effect with ROS (Lyme spirochetes are potent ROS inducers. ROS are used by macrophags and other white cells to kill spirochetes)

Quin-effects:

- interference with neurotransmitter production
- damage to synaptic connections
- brain atrophy/cerebral volume loss
- neuronal death

Treatment:

- chlorella and CGF in high doses (BioPure)
- Cilantro and Detox foot bath (Toxaway system)
- Mucuna Powder (BioPure)
- zinc: prevents hippocampal damage from QUIN
- copper (at low doses) reduces strital GABA depletion and blocks oxidative injury to neurons use combination 30 mg zinc picolinate with 2 mg copper
- Resveratrol from Japanese Knotweed (Source Naturals, 500 mg whole herb/capsule. Use 3-4 caps 3-4 times/day)
- Phospholipid Exchange (BioPure): EDTA, alpha lipoic acid prevent ROS damage, Phospholipids repair toxic injury and work as a shuttle agent to bring other toxin binding substances to deep tissue places. 1 tbsp/day

- KMT microcurrent therapy
- Lymphatic drainage and colon hydrotherapy

**2. Gossypol:** anti-androgenic substance (Buhner, pg 131)

effect:

- low testosterone levels
- fatigue and low sex drive
- immune system fatigue
- adrenal fatigue

Treatment:

- use testosterone transdermal cream for several months, until Lyme tx sufficiently progressed.
- Pregnenolone, DHEA have disappointed in Lyme
- Ashwagandha (ayurvedic herb): increases testosterone levels in both men and women . Repairs adrenal/ovarian/testicular damage (adaptogen)
- Smilax (sarsaparilla): 500 mg caps : 1-3 caps t.i.d.
- Moderate exercise as soon as possible

**3. Lyme spirochets** have up to 12 linear and 12 circular **plasmids** (extrachromosomal DNA) which are activated by environmental cues

Treatment:

- Reduce stress in life, simplify
- Change the clients inner and outer environment!
- moderate, not excessive exercise
- beware of high protein diets (good with chronic mold, often poor results with Lyme)
- lean towards raw foods in diet
- avoid food allergens
- avoid bad energy consuming relationships
- do what you love to do

**4. upregulation of virulence factors**

- connective tissue penetration
  - example: adhesins ( decorin binding proteins) .Decorin is part of the collagen type III maintenance system. By binding it in the initial phase of the Lyme infection colonization in collagen and tissue penetration is facilitated. Makes it impossible for immunsystem to recognize camouflaged spirochetes
  - upregulation of plasminogen binding factors as well as its activator, urokinase. Spirochets ride piggyback on plasminogen (which inactivated fibrin during initial phase of infection). Outcome: spirochets move faster through connective tissue then through blood.

Spirochetes love connective tissue which explains their 5 favorite tissues to set up their housekeeping:

- ligaments and joints (asymmetric affliction of large joints, especially hip and knee)
- skin and subcutaneous tissues (collagen breakdown and premature aging)
- meninges and astroglia (connective tissue of brain)
- heart tissue
- aqueous humor of the eye

Treatment:

- Heparin 5000 iu s.c or
- Rechtsregulat 1 tbsp twice daily in glass water
- Matrix Electrolytes
- Proteolytic enzymes
- KMT microcurrent
- Lymph drainage
- Auto-urine therapy
- Homeopathic aesculus (horse chestnut)
- Trans-dermal growth hormone
- When giving iv antibiotics, add 3-5ml low molecular weight hyaluronic acid for better tissue penetration

Other factors to facilitate tissue penetration:

- infection of fibroblasts (fibroblasts are induced to make more GAGs and less collagen)
- disruption or rearrangement of cytoskeleton'
- collagenolytic, fibrinolytic and proteolytic actions
- inhibition of wound healing factors, including hGH
- upon binding to collagen release of porins OMS 28 (form pores in the outer membrane of cells)
- stimulating the body's release of metalloproteinases (MMPs) – mostly type 1, 3 and 9 (facilitate travel through extracellular matrix) – the MMPs are responsible for most the damage in Lyme arthritis
- release of Borrelia glycosaminoglycan binding protein ( binds GAGs to Borrelia surface – Bb uses Gags as food source)

Treatment:

- Chlorella and CGF in high doses (BioPure)
- Matrix Electrolyte
- KMT microcurrent
- Cilantro/Toxaway
- Phospholipid Exchange

- Resveratrol and trans-Resveratrol from Japanese Knotweed (polygonum cuspidatum)  
Source Naturals Resveratrol from Knotweed (Hu Zhang) 500 mg caps: 3 caps tid

immune system manipulation

- Powerful upregulation of TH-1 lymphocytes via unknown mechanism (IL-2, TNF-beta, IF-gamma)  
treatment: fluconazole 100 mg twice daily for 50 days
- CD 57: aggressive white cell, gets lowered by Bb via unknown mechanism. Patients with low CD 57 have more co-infections and feel sicker, have more neurological symptoms and more immune problems. Stricker MD recommends this as marker for progression of disease ( Ann Agric Environ Med 2002, 9:111-113)

Treatment:

- BioPure energy modulated PC-Samento: start with 4 drops twice daily in glass water. Slowly increase to 15 drops twice daily, as Herxheimer reactions permit
- Energy modulated PC-Noni: 6 drops twice daily. Increase slowly to 15 drops 3 times/day. Take 20 min away from samento

*Recommended Literature:*

*Stephen Buhner "Healing Lyme" Raven Press 2005*

*www.chronicneurotoxins.com ( Ritchie Shoemaker, MD)*

*www.neuraltherapy.com*

## **Mold**

Many fungi produce toxic metabolites called mycotoxins, many of which are neurotoxic. Over 100 species known to cause infection in humans.

### **Three classifications of infection:**

1. systemic (by inhalation): in healthy individuals self limited illness, in immune suppressed individuals may disseminate (generally fatal).  
Example: Histoplasmosis, Coccidioidomycosis and Paracoccidioidomycosis, Blastomycosis
2. opportunistic infection (common in Lyme and as result of heavy metal toxicity): facultative parasites – can use living and dead substrates for nutrition .  
Example:
  - Stachybotrys

- Candida
  - Aspergillus
  - Mucor
  - Cladosporium (most commonly found genus of fungi in outdoor air in temperate climates; refridgerators and moist window frames, discolors interior paint, textiles and paper, soil of over-watered house plants, sporulates heavily with buoyant spores, together with Alternaria causes hay fever and asthma)
  - Rhizopus
  - Cryptococcus
  - Fusarium graminearum: in water damaged carpets, often found in schools, also in cereals
3. Dermatophytes (hair, skin and nails). Usually contracted by direct contact through sharing grooming utensils, showers, and towels). Also passed on via soil.

### **Mycotoxins:**

- Aspergillus and Penicillium species produce:
  - Aflatoxin
  - Sterigmatocytin
  - ochratoxin
- Stachybotrys species and fusarium produce (worst is probably stachybotrys chartarum – greenish-black fungus that grows on fiberboard, gypsum/dry-wall, dust and lint, wallpaper, insulation, particleboard, water-damaged wood. The spores are not destroyed in fire. Spores gravitate to floor: even finding one airborne spore often indicates “lost cause”):
  - Satraoxins
  - Tricothecine (extremely potent): several subtypes of macrocyclic tricothecenes: stachybotryolactone, verrucarin J, roridin E, satratoxin F, G&H, sporidesmin G, trichoverrols and trichoverrins, 9-phenylspirodrimanes (cyclosporins &spirolactams)
  - T-2 toxin
  - Vomitoxin
  - Fumonisin
  - Zearalenone

Numerous other mycotoxins produced by these and other fungi of which the health effects remain unknown

## Symptoms of mycotoxin exposure:

- Acute exposure:
  - Acute memory loss
  - Sinus problems
  - Flu like symptoms
  - Body aches and pains
  - Sore throats
  - Diarrhea
  - Generalized malaise
  - Headache
  - Nose bleeds
  - Dermatitis
  - Multiple ANS symptoms: neurogenic switching, blocked regulation
  - Symmetric arthritis of spinal joints and small joints of fingers
  
- Chronic exposure
  - Immune suppression with all it's consequences ( lower proportion of CD3 T-lymphocytes
  - CFIDS
  - MCS
  - Fibromyalgia
  - Memory loss and multiple cognitive problems
  - Hair loss
  - Ovarian cysts and fibroids, fertility problems both male and female
  - Chronic sinusitis
  - Cancer (many mycotoxins are highly carcinogenic)
  - In children: neurodevelopmental problems (autism, seizures, ADHD) and cancer
  - Fetal malformations and other problems
  - MS like symptoms and CNS pathology
  - Parkinson like symptoms and CNS changes
  - mood disorders
  - uncontrolled emotions
  - psychiatric presentation
  - Tingling, numbness vibrations (both inside head and extremities)
  - ANS symptoms: blocked regulation
  - Human studies on infants Ueno, 1980; Jacob et al., 1994) in Jan 17, 2005 in MMWR: cluster of fatal pulmonary hemorrhage and hemosiderosis
  - Animal studies: necrosis and hemorrhage within brain, thymus, spleen, intestine, heart, lung, lymph nodes, liver and kidney

- allergic symptoms:
  - sinusitis
  - cognitive and memory problems (neurogenic switching)
  - bronchitis
  - asthma
  - rhinitis
  - conjunctivitis
  - urinary urgency
  - blurry vision
  - loss of visual contrast (FACT)
  - hypersensitivity pneumonitis

### Treatment

- Indoor air quality inspection and culturing of organisms: leaky roofs, plumbing leaks, overflow from sinks and sewers, damp basement or crawl space, steam from shower or cooking, flooding, sprinkler spray hitting the house or underground flow of rain water, humidifiers, damp clothing or dryers exhausting indoors
- HEPA air filter in home
- Avoidance (often means to move)
- Klinghardt neurotoxin elimination protocol (most important: Freeze Dried Garlic, KMT microcurrent therapy and Phospholipid Exchange) [www.neuraltherapy.com](http://www.neuraltherapy.com)
- Desensitization (EPD, homeopathy, ART based techniques (NAET, EAV or EDS, APN allergy technique)
- Intravenous protocols (Vit C 25-5- gms, glutathione 600-4500 mg, alpha-lipoic acid 600 mg over 1 hour, Hepa Merz =ornithine aspartate, weekly Ca-EDTA, nutritional ivs (Majid Ali)
- Medical drug and others: chlorella, cholestyramine, beta-sitosterol, reedgrass - and apple pectin, charcoal, propolis, ground flax seed and fiber for prevention of enterohepatic recirculation of toxins, fluconazole and other antifungals, nystatin

### *Recommended Literature*

[www.mold-survivor.com](http://www.mold-survivor.com)

[www.mold-help.org/stchybotrys\\_chartarum.htm](http://www.mold-help.org/stchybotrys_chartarum.htm)

[www.grayenvironmental.com/background\\_to\\_molds.htm](http://www.grayenvironmental.com/background_to_molds.htm)

[www.cal-iaq.org/mold0107.htm](http://www.cal-iaq.org/mold0107.htm)

## Clinical tips from Dr Klinghardt

Most symptoms of heavy metal toxicity, mold exposure, Lyme disease and parasite infestation often look identical. Here is a way to differentiate:

Tip #1:

- Lyme symptoms worsen during and after successful mercury detoxification (Hg-poisoning was successfully used as a treatment for spirochetes. After eliminating Hg, the microbes recover before the host immune system does).
- Mold symptoms improve after successful Hg removal (mold uses Hg to protect itself from the host immune system)

Tip#2:

- Lyme arthritis affects the large joints, mostly knee and hip
- Mold arthritis affects the small joints of the spine (facet joints) and of the fingers

Tip#3: rhythms and biorythms:

- mold symptoms can flare up within minutes after exposure (ie visiting someone who lives in a moldy home)
- Lyme symptoms undulate with slower biorythms: 9-10 day cycles, 28-day cycles . When symptoms come back, usually slow rise in intensity over 24 hours.
- Worm and parasite symptoms worsen for 2-3 days during the full moon (this is when they are sexually most active and propagate – with accompanying immune reaction). Patient feels relatively well during new moon

Tip#4: location:

- mold sufferers feel better in dry climates
- Lyme sufferers cannot tolerate sunshine and often feel worse in dry/sunny climates (avoid sun, get depressed in sun)

Tip#5: behavior/moods:

- worms in men: risk taking behavior. In women: docile behavior. In both: short episodes of odd crazy schizoid behavior (hours).

- Neuro-Lyme: episodes of rages and depression. Same mood may last for a few days or weeks, not minutes. Normal/nice episodes even in illest person. Get easily infatuated in inappropriate ways
- Mold: often moods connected with dullness of brain. Can change in minutes after exposure. Often chronically irritated as long as in mold environment and immediately better, as soon as out
- Metal toxicity: affected patients drawn to the dark/evil. Man made: artificial environments (prefer Disney land over trip to the ocean), rhythm without real music

**Detox has to be done carefully and right!**

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