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Public Health Alert

Vol. 5, Issue 5 | Investigating Lyme Disease & Chronic Illnesses in the USA | May 2010

In This Issue

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Kryptopyrroluria (aka Hemopyrrollactamuria): A Major Piece of the Puzzle in Overcoming Chronic Lyme Disease

by Scott Forsgren

Dr. Dietrich Klinghardt MD, PhD is a practicing physician in Kirkland, Washington with a focus on the treatment of chronic neurological conditions such as Lyme disease, autism, and CFIDS. In the many years that he has treated patients with chronic infections, he has observed that, for many, recovery is elusive. Patients may often plateau or find that their recovery is stalled. In other cases, patients may not succeed in their attempts to rid the body of a particular toxic or infectious burden; such as in patients with long-standing or therapy-resistant late stage Lyme disease.

In looking for possible explanations as to why some patients struggle more than others to regain their health, Dr. Klinghardt has found a high correlation between patients with chronic Lyme disease and those with Kryptopyrroluria (KPU), or more precisely Hemopyrrollactamuria (HPU). The condition is alternatively known as the "Mauve Factor" or "Malvaria". HPU may be an inherited condition but it can also be induced by childhood psychological trauma or chronic infections.

The HPU complex is a biochemical marker and neurotoxic substance frequently identified in the urine of patients with autism, learning disabilities, alcoholism, substance abuse, schizophrenia, ADHD, Down syndrome, depression, bipolar disorders, and even criminal behavior. Some estimate the incidence of KPU to be 40-70% in schizophrenia; 50% in autism; 30% in ADHD; and 40-80% in alcoholism and substance abuse.

Dr. Klinghardt has found the incidence of HPU in Lyme disease to be 80% or higher; in patients with heavy metal toxicity (lead, mercury, cadmium, and others) over 75%; and in children with autism over 80%. These are very significant percentages of the patient population with chronic illness that may benefit from a treatment program which addresses HPU. Normal, healthy controls do not test positive for HPU.

History

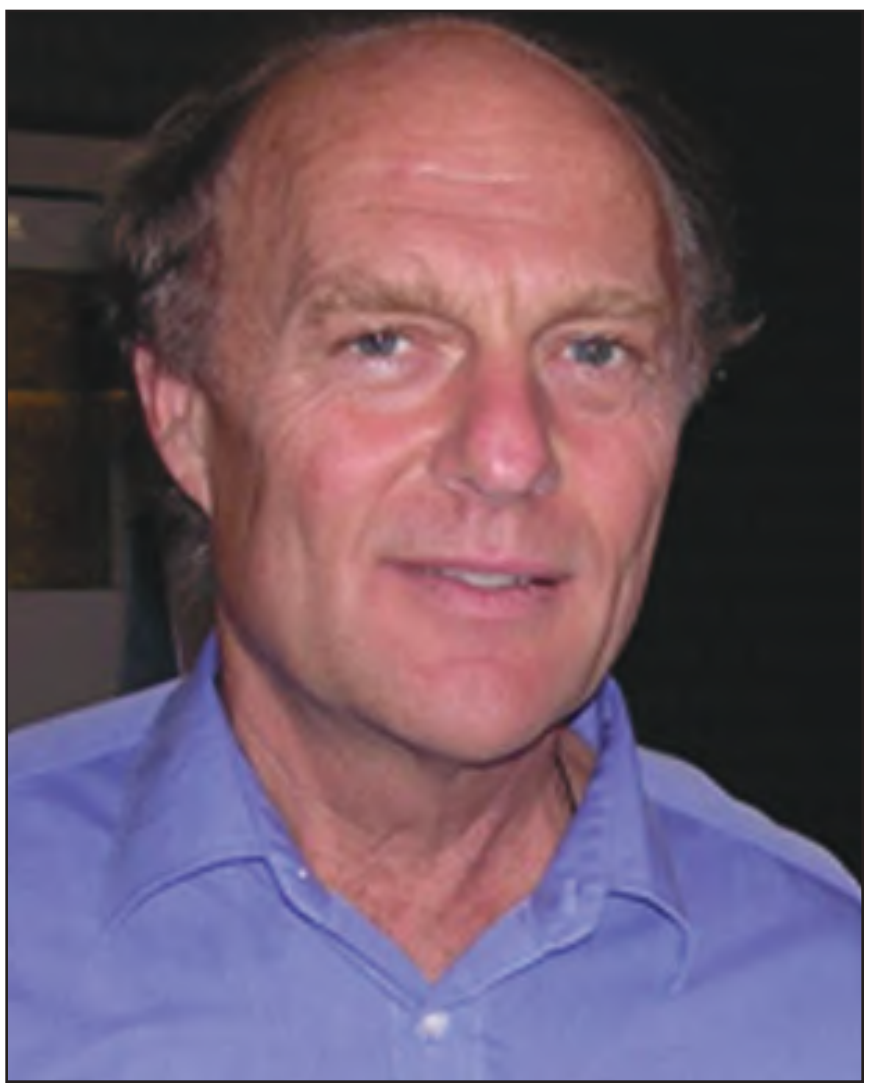
In 1958, a psychiatric research program in Saskatchewan, Canada led by Abram Hoffer MD, PhD, the father of orthomolecular psychiatry, was looking for the possible biochemical origin of schizophrenia. One study involved evaluating the urine for certain chemical fractions and evaluating those of schizophrenic patients and those of normal controls. The effort yielded the "mauve factor" - a specific substance that reliably allowed the examiners to identify the schizophrenic patients, as it was not identified in the normal controls.

Early on, the substance was known as "the mauve factor" due to the mauve color that was observed on the stained paper. It was then termed "kryptopyrrole", later identified as hydroxy-hemopyrrolin-2-one (HPL). The researchers first called the disease associated with this condition "Malvaria", but it was renamed by Dr. Carl Pfeiffer MD, PhD to "Pyrolleuria" which was, for no obvious reason, consistently spelled "Pyrroluria" in later publications. In the 1970's, Dr. Pfeiffer created an assay for the condition and was able to show clinical improvement in positive patients with high doses of zinc and vitamin B6.

Overview

Elevated levels of HPL found in urine are the result of an abnormality in heme synthesis. Hemoglobin is the substance the holds iron in the red blood cells. HPL is a byproduct of hemoglobin - or heme - synthesis and can be identified in the urine. HPLs bind to zinc, biotin, manganese, vitamin B6, arachidonic acid and other important compounds and lead to a significant depletion of these substances in the body.

Turning to the importance of zinc, biotin, manganese, vitamin B6, and arachidonic acid in the body, it becomes clear how widespread the problem may be that is created by this condition.



Zinc deficiency may result in emotional disorders, delayed puberty, rough skin, delayed wound healing, growth retardation, hypogonadism, hypochlorhydria, mental lethargy, short stature, diarrhea, stretch marks or striae (which may be misinterpreted as Bartonella in some patients), white spots on the fingernails, reduction in collagen, macular degeneration, dandruff, skin lesions such as acne, hyperactivity, loss of appetite, reduced fertility, transverse lines on the fingernails, defective mineralization of bone leading to osteoporosis and many others.

Zinc is a powerful antioxidant and lower levels of zinc, as found in those with HPU, lead to an increase in oxidative stress. Lower levels of zinc are correlated with low levels of glutathione, an important part of the detoxification system. Zinc is required to support proper immune function. "White blood cells without zinc are like an army without bullets," says Dr. Klinghardt.

Biotin deficiency may be evidenced by rashes, dry skin, seborrheic dermatitis, brittle nails, fine or brittle hair, and hair loss. More importantly, however, it may be associated with depression, lethargy, hearing loss, fungal infections, muscle pain, and abnormal skin sensations such as tingling. Biotin is an important factor in the production of energy in the mitochondria. Biotin is essential for a healthy brain and nervous system. Biotin deficiency is associated with many aspects of the aging process.

Manganese deficiency may be associated with joint pain, inflammation, and arthritis. It may result in a change in hair pigment or a slowing of hair growth. It is essential for normal growth, glucose utilization, lipid metabolism, and production of thyroid hormone. It may be associated with diseases such as diabetes, Parkinson's disease, osteoporosis, and epilepsy.

Vitamin B6 deficiency is thought to be a rare occurrence. However, in those with HPU, this is not the case. B6 deficiency may lead to nervousness, insomnia, irritability, muscle weakness, poor absorption of nutrients, decrease of key enzymes and cofactors involved in amino acid metabolism, impairment in the synthesis of neurotransmitters, impairment in the synthesis of hemoglobin, seborrhoeic dermatological eruptions, confusion, and neuropathy. Similar to zinc, B6 is also an anti-oxi

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Editorial: Letter to the Editor

Crime and Punishment in Connecticut: An Update on Dr. Charles Ray Jones

by Kris Newby

In February the Connecticut Medical Examining Board (CMEB) voted to discipline Dr. Charles Ray Jones, the 80-year-old pediatrician featured in UNDER OUR SKIN, for technical violations in the way he diagnosed and treated three children suspected of having tick-borne diseases.

The medical board's final decision, which will be signed in March, specifies that Jones pay a $10,000 fine and finance four years of supervised probation by a licensed pediatrician. This is on top of another $10,000 fine and two years of probation specified in a 2007 ruling, which is currently in appeal.

Jones supporters question the fairness of the proceedings against this pediatric Lyme specialist, who has treated more than 10,000 children with tick-borne diseases over the course of his career. Dr. Jones' lawyer, Elliott Pollack, believes that the undue harshness of the sentence is related to the heated controversy surrounding his use of long-term antibiotics in treating children with persistent Lyme disease.

The medical board, on the other hand, says that the most recent charges are not related to Lyme disease. The panel chairman, Dr. Richard Bridburg, elaborated: "For us, at least, this issue was perhaps because of the size and busyness of Dr. Jones' practice, we thought that he takes shortcuts." (Source: Hartford Courant)

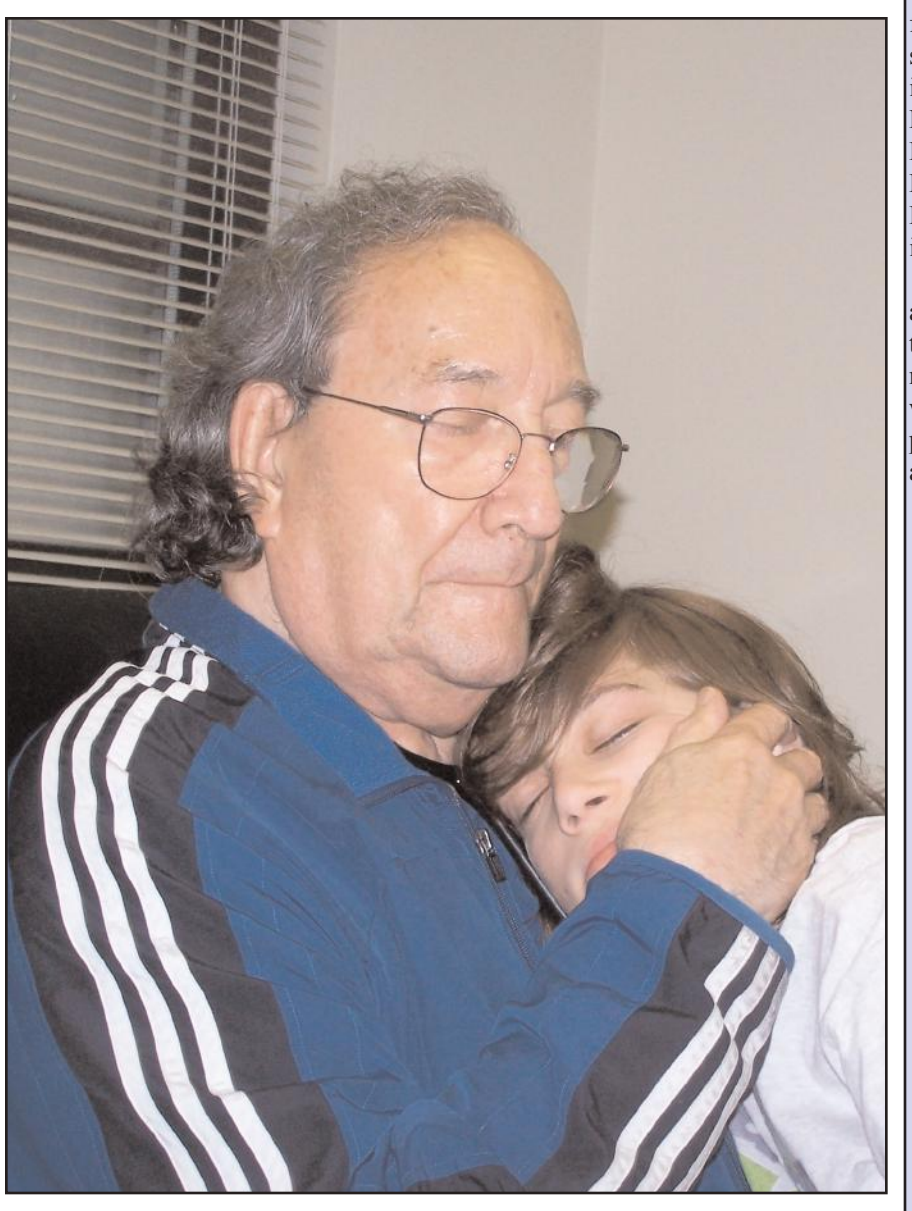
While no one disputes that Dr. Jones took "short cuts," a review of all CT Physician Disciplinary Actions 2009 rendered by the CT medical board raises questions about fairness of his punishment for these procedural issues.

Last year the medical board punished 43 physicians for serious charges such as substance abuse, sexual misconduct, mental illness, and negligence; not one of these physicians received a fine larger than $5,000. And only one other physician, accused of drug abuse, received a longer supervised probation period than Dr. Jones – though this drug-addict doctor did not receive the additional $20,000 in fines levied on Dr. Jones.

None of Dr. Jones' treatments resulted in patient harm and his medical decisions were motivated by his desire to begin the treatment of these very sick children as soon as possible. The cases under investigation were:

Case 1: Dr. Jones ordered tick-borne disease blood tests for two siblings he hadn't physically examined, in advance of an appointment, based on a phone interview with the children's grandmother.

Case 2: Dr. Jones prescribed antimicrobial drugs over the phone for a child who had tested positive for Babesiosis, a serious tick-borne disease similar to malaria, before a physical exam. This was after interviewing the mother and a referring health care provider, and learning that the child had a history of a tick bite and a physician-observed Lyme rash.



Dr. Jones and one of his pediatric Lyme patients. Photo By Tracy Will

Irrespective of whether the punishment fits the "crime," the medical board's six-year investigation into Dr. Jones has sent a headline-grabbing message to every pediatrician in Connecticut – If you treat children with Lyme disease with more than four weeks of antibiotics, you may lose your medical license and be treated as a pariah among your peers. So, with Connecticut Lyme cases skyrocketing up 118% from 2006 to 2008, and the state desperately needing every Lyme specialist it can get, the children of Connecticut are the ones receiving a potential life sentence of suffering, if they acquire one or more tick-borne diseases.

Whether they admit it or not, the Connecticut medical board has turned their hearing rooms into a virtual battlefield for the two standards of care in Lyme disease: the academics at IDSA (with "one-size-fits-all" antibiotic limits) v. the ILADS community-based physicians (who treat until the child is well). With the board's expert witness list drawing from IDSA-friendly Yale and UConn, it's no secret where the CT board's loyalties lie. Given that the IDSA Lyme guidelines are under legal scrutiny by the Attorney General Blumenthal of CT, it's time that the citizens of Connecticut ask their medical board, "Is justice being served here?"

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Support Dr. Jones' Legal Defense Fund

Make Donations payable to:
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Mail to: Elliott Pollack
c/o Pullman & Comley, LLC
90 State House Square, Hartford, CT 06103-3702
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Public Health Alert

The PHA is committed to researching and investigating Lyme Disease and other chronic illnesses in the United States. We have joined our forces with local and nationwide support group leaders. These groups include the chronic illnesses of Multiple Sclerosis, Lou Gehrig's Disease (ALS), Lupus, Chronic Fatigue, Fibromyalgia, Heart Disease, Cancer and various other illnesses of unknown origins.

PHA seeks to bring information and awareness about these illnesses to the public's attention. We seek to make sure that anyone struggling with these diseases has proper support emotionally, physically, spiritually and medically.

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Website:
www.publichealthalert.org
e-mail:
editor@publichealthalert.org

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dant and correlates to levels of glutathione.

Arachidonic acid (from omega-6) deficiency may lead to the impairment of white blood cell function, primarily the leukocytes which may lead to one being more vulnerable to infection. It may lead to neuropathy, neural and vascular complications in preterm babies, skin eruptions, behavior changes, sterility in males, arthritic conditions, dry eyes, growth retardation, dry skin and hair, slow wound healing, hair loss, kidney dysfunction, heart beat abnormalities, and miscarriages.

When one considers the magnitude of potential health problems that may be present when a single condition causes a deficiency in zinc, biotin, manganese, vitamin B6, and arachidonic acid simultaneously, the negative implications on health are almost endless.

HPU and Lyme Disease

Three possible origins of HPU are discussed in the literature: genetics, early childhood trauma, and chronic infections. The connection between HPU and many of the illnesses previously discussed has been known for quite some time. However, never before has a connection been observed or published between HPU and Lyme disease. This discovery has been a key for Dr. Klinghardt to return his patients to a better state of health and wellness. The changes he has observed have been profound.

Dr. Klinghardt has found that **4 of 5 patients with chronic Lyme disease test highly positive for this condition.** That suggests that 80% of patients with symptoms of chronic Lyme disease might benefit from a treatment protocol that addresses HPU.

Dr. Klinghardt believes that it is not possible to have chronic symptomatic Lyme disease as an adult without a preceding mold illness or the patient having developed HPU. He postulates that the biotoxins from microbes block one or more of the eight enzymes of heme synthesis. This leads to a significant loss of key minerals in white blood cells which effectively disarms cellular immunity.

One young adult female struggling with Lyme for several years had severe multiple chemical sensitivities (MCS) that were not improved by any previous treatment. After starting the HPU protocol, she noticed improvements in her MCS for the first time since she became ill. Other patients with intractable chronic infections have experienced significant improvements in immune function and a resulting lowering of total microbial body burden.

Dr. Klinghardt has observed numerous patients that have struggled to rid the body of parasitic infestations. In these patients, regardless of the interventions used, the patient continues to expel these parasites on an ongoing basis.

ADHD	Depression	**Multiple Sclerosis**
Alcoholism	Down Syndrome	**Parkinson's**
Autism	**Heavy Metal Toxicity**	Schizophrenia
Bipolar Disorders / Manic Depression	Learning Disabilities	Substance Abuse
Criminal behavior	**Lyme Disease**	Epilepsy

Table 1: A partial list of conditions where Kryptopyrroluria (KPU) may be a co-factor. Conditions in bold are those which Dr. Klinghardt also found to be associated to KPU and HPU.

Therapy-resistant infections are a hallmark sign of HPU. Dr. Klinghardt has found that once the HPU protocol is put in place, there is often swift resolution of long-standing infections and infestations. This includes patients who have failed years of antibiotic therapy for chronic or late stage Lyme disease.

Chronic Lyme disease patients often suffer from severe jawbone infections that may require cavitation surgery, which often tends to fail in these patients. When the clients are pre-treated for HPU, the outcome of the surgical procedure is generally much better. In some cases, ozone treatment of the jaw is sufficient to turn things around.

Dr. Klinghardt has followed the interest in HLA genetic typing in regards to biotoxin illnesses such as Lyme disease and mold. Until now, patients with certain haplotypes were considered more difficult to treat as the body could not properly and effectively respond to and remove biotoxins from Lyme disease, molds, or in the worst cases, both. In his experience, once the HPU issue is addressed, these HLA types become far less of a concern in most patients.

Once all of the bodily systems are back online and functioning properly, a few months after introducing the HPU protocol, patients are essentially made invulnerable to Lyme disease, to molds, and even to heavy metals. Their bodies are now much better equipped to deal with these conditions when they have appropriate levels of zinc, biotin, manganese, vitamin B6, and arachidonic acid to support optimal functioning of numerous bodily processes.

HPU and Multiple Sclerosis

Dr. Klinghardt has treated many patients with Multiple Sclerosis. All of the MS patients that he has tested have been highly positive for HPU. Over time, he has come to the conclusion that HPU can lead to MS in some patients. He has found that patients with MS respond favorably to HPU treatment.

In patients with HPU, histamine levels are almost always low. The treatment for MS patients with HPU should include histamine in addition to the HPU protocol outlined later in this article. Treatment with histamine may be either with oral or transdermal products. Prokarin is a transdermal patch which delivers histamine and has been used by some in the treatment of MS.

HPU and Heavy Metal Toxicity

As mentioned earlier in this article, both zinc and vitamin B6 deficiencies - important cofactors in the methylation cycle - reduce levels of glutathione in the body. Glutathione is important for the detoxification of heavy metals.

When HPU is an issue and zinc and vitamin B6 are depleted, the detoxification pathways are overwhelmed and ineffective.

Replacing missing zinc and vitamin B6 increases glutathione. This in turn increases the rate of detoxification of heavy metals and other body burdening toxins.

However, it is also the case that incorporating the HPU protocol will liberate additional heavy metals in the body. This aspect of the HPU protocol is discussed later in this article and is of utmost importance for the practitioner to understand before beginning to treat patients for the condition.

Evaluation and Testing

HPL levels can be measured from urine through the laboratory Vitamin Diagnostics. The test costs approximately $55 dollars. A lab kit is ordered and the urine sample is returned to the lab by the patient. It is important that the patient follow the instructions as Dr. Klinghardt outlines and not the directions that come with the test kit from the lab.

Until recently, Vitamin Diagnostics offered a test for the related compound called kryptopyrrol only. Recently, they began to offer a test for the hydroxy-hemopyrrolin-2-one (HPL) compound. When filling out the requisition, the practitioner can now select HPL in addition to kryptopyrrol. The HPL test results in a much higher yield.

Dr. Klinghardt finds that in order to get the best possible insight into the patient's condition, it is best to avoid all supplements, especially those containing zinc, biotin, and vitamin B6, for 5-7 days before the urine sample is collected. He suggests that patients use a 24-hour urine collection as opposed to first morning urine as the release of HPL complex into urine is not consistent and might be missed in a single urine collection. The sample should be shielded from light. 500mg ascorbic acid should be added to each liter of urine as a preservative.

To further maximize the benefit of testing for the condition, it is best for the patient to be under stress at the time the test is being performed as HPL excretion is known to increase during times of stress.

Dr. Klinghardt has found that Vitamin Diagnostics has the best test for HPU available in the United States. In some circumstances, however, patients may still test negative even when the condition is suspected. In those cases, an empiric trial of the HPU protocol may still be warranted.

Other laboratory results that may be suggestive of HPU include:

- ❖ WBC < 5000/mcL (due to low levels of zinc)
- ❖ High LDL / Low HDL
- ❖ Low normal alkaline phosphatase (<60U/L)
- ❖ Low omega-6 fatty acids in red cell membrane test
- ❖ Low taurine in amino acid profile
- ❖ High MCV
- ❖ WBC and RBC zinc and manganese levels may be normal while biopsies from bone and CNS are completely deficient
- ❖ Bone biopsies are a reliable predictor of HPU. Severe deficiencies of zinc, manganese, lithium, calcium, magnesium, and molybdenum are often found

Treatment

Hemopyrrollactamuria is a severe, but reversible deficiency of zinc, biotin, manganese, vitamin B6 (or P5P), and arachidonic acid.

The treatment that Dr. Klinghardt uses for HPU is as follows (dosages for adults):

Before Breakfast

❖ **Zinc** 27-40mg elemental zinc per day (as Picolinate, Gluconate or Sulfate; liquid is more effective). Initially, up to

"Overcoming" ...cont'd pg. 5

Symptoms of KPU/HPU

Table 2: A partial list of symptoms experienced in KPU/HPU. Symptoms in bold are tell-tale signs of the condition.

Poor Dream Recall	Constipation	Anxiety / Nervousness
Nail spots (Leukodynia)	Eosinophilia	Pessimism
Poor breakfast appetite	Light, sound, odor intolerance	Depression
Stretch marks (striae)	Tremor, shaking, spasms	Familial
Pale skin, poor tanning	Hypoglycemia, glucose intolerance	Paranoia / Hallucinations
Acne, allergy	Delayed puberty, impotence	Perceptual disorganization
Obesity	Amenorrhea, irregular periods	Crime and delinquency
Course eyebrows	B6-responsive anemia	Substance abuse
Knee and joint pain	Stress intolerance	Attention Deficit / ADHD
Cold hands or feet	Emotional liability	Autism
Abdominal tenderness	Explosive or episodic anger	Withdrawal
Mood swings	Poor short-term memory	Abnormal fat distribution

Holding On

by Linnette R. Mullin

Battle after battle. Will it never end? I recline on the couch helpless. Even holding a book takes great effort. My body weak, I tremble and ache with every attempt to move.

I finish my book and lay down. Sheer exhaustion takes over. My body is so heavy I can hardly move or even raise my head, and getting up to use the bathroom takes great effort. I need to take my medicine, but it'll have to wait until later. I'm just too weak to get it.
What is wrong with me?

I had avoided seeing the doctor following my second pancreatitis attack. After all, the test results following the first one came back normal, so I didn't have it, right? The attack sounded like I could have a kidney stone. Instructed to run to the ER for further evaluation if symptoms persisted, the attack subsided and didn't return. I had avoided the ER once again.

I hate going to the ER. Doctors who don't know you and who aren't Lyme literate…they give you those funny looks that tell you you've lost your mind…your story is too incredible to believe - especially when your test results have the tendency to come back normal.

I, also, hesitate to call the doctor's office. Time, money, energy…frustration at seemingly no answers and miniscule progress after four years of treatment. I'm so tired of feeling like a fool. Don't get me wrong. I'm blessed with the best of doctors, but I hate talking through nurses. I never get the answers I need. It's just too difficult to explain everything third person over the phone, you know? And what chronically ill person can afford to run to the doctor every time there's a crisis?

It's 4:55 p.m. - too late for an appointment. Should I go to the ER? Scared and feeling like I'm going to die, I give in and call my doctor. Knowing it's too late in the day for him to return my call, I still feel a measure of relief just leaving him a message. I trust God to get it to him at the right time. I can hold on a little longer.

Typically, I'm a strong person. It takes a lot to make me cry. But now, I'm hit with exhaustion like I haven't felt in years and I'm weepy. I can't seem to help myself. I wish I could fall asleep and never wake up. Thankfully, God strengthens me a bit and prompts me to take my hydrocortisone.

During the course of the evening, I decide that eight weeks of torture is enough and I need answers. I've put off seeing the doctor for too long and I intend to make an appointment as soon as the office opens the next morning.

Though I sleep past 8:00, the nurse calls me. Doctor wants me to double my hydrocortisone for a week. But, needing more answers, I make an appointment.

I write down everything I can think of…every symptom, every pain, every weakness, every weird neurological sensation - all the gory details, so I can give him the overall view of my life for the past eight weeks.

After listening, examining, and asking questions, he tells me that I do have subacute pancreatitis. He said, "We just didn't happen to catch it in the blood work." He also said that between all the illness, all the pain, and all the problems created by pancreatitis, my neurological system is going bonkers. My brain is trying to figure out how to cope with it all and do what it needs to do in order to heal me. So, it tells the adrenal glands to excrete cortisol (a natural hormone affecting the proper function of every organ in your body). The problem lies in that there is no cortisol to secrete - Addison's disease.

> "The Lord is my strength and my shield; in Him my heart trusts, and I am helped; my heart exults and with my song I give thanks to Him." Psalm 28:7
>
> "Trust in the Lord with all your heart and lean not on your own understanding." Proverbs 3:5
>
> "You will keep him in perfect peace, whose mind is stayed on You, because he trusts in You." Isaiah 26:3

How could I have forgotten my need for hydrocortisone? For now, it is my life saver and life sustainer - physically speaking, that is. It saved my life once before, following a heat stroke, and it apparently has kept me alive and going for nearly three years. I ended up in this crisis because I had been missing doses. I pray I never make that mistake again.

Ironic, isn't it, how you can fear that you're dying and wish to die all at the same time. It seems contradictory, yet it happens. I rarely ever sink so low, but I can't deny that it does happen now and then.

What makes me hold on? What keeps me from giving up?

God always reminds me that my babies, my young men, need me. I imagine the devastation of their hearts and lives if I were to pass away. It provides me with the will power to keep going. I know God would take care of them if I were to die, but I'm not ready to go there just yet and, apparently, God isn't either. So, I trust Him to keep me - even when it means tough days like these.

It's not always easy to accept God's will, especially when it involves chronic illness. Does God enjoy my being sick? No! He takes no pleasure in it. But, He uses it to teach me, to draw me closer to Him, to make me more like Christ…maybe even to cause me to long for heaven rather than set my affections on the things of this world.

I love the invitation Christ gives in Matthew 11:28, "Come to me, all who labor and are heavy laden, and I will give you rest." (ESV) In verses 29-30, He continues by saying, "Take my yoke upon you, and learn from me, for I am gentle and lowly in heart, and you will find rest for your souls. For my yoke is easy, and my burden is light." (ESV)

When I hold on to Jesus, or maybe it's Him holding on to me, it is far easier to bear the suffering. Through exercising faith in Him, by clinging to Him through it all, He truly gives love, joy, peace, patience, kindness, goodness, faithfulness, gentleness, and self-control as the fruit of His Spirit (Galatians 5:22-23, ESV). And it is this fruit that makes His yoke easy and His burden light - enabling me to hold on in the most trying moments of life.

What are you holding on to? What keeps you going? Is it Jesus?

Or maybe you don't want to hold on. Maybe you want to give up. Please don't. It's not too late to place your life in His loving hands.

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You may contact Linnette through her website: www.LinnetteMullin.com

All contacts are kept confidential.

Strengthening Verses:

"Do not grieve, for the joy of the Lord is your strength." Nehemiah 8:10 (NIV)

"I can do all things through Christ who strengthens me." Philippians 4:13 (NKJV)

"In all things, we are more than conquerors through Him who loved us." Romans 8:37 (NIV)

And for homework, take comfort by reading the entire 91st Psalm, "He who dwells in the shelter of the Most High will abide (or rest) in the shadow of the Almighty..." (ESV)

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240mg of elemental zinc may be used under the care of a doctor in those with metal toxicity and chronic infections. Nausea after zinc supplementation may be a sign of hypochlorhydria or low stomach acid. This tends to resolve after 2-4 months on the protocol.

❖ **Manganese** 5mg per day (initially up to 20mg per day in those patients with joint and ligament weakness)

With Breakfast

❖ Arachidonic acid from **Omega-6 oils** (Ghee, Evening Primrose Oil, Black Currant, Borage, Pumpkin; 4-6 capsules of Evening Primrose Oil per day is commonly used)

❖ **Fish oil** 1 teaspoon per day

Before Bedtime

❖ **Vitamin B6/P5P** 25mg B6 per day and 50mg P5P per day (Most patients do better with a combination of both B6 and P5P. Some require P5P. Approximately 10% do not tolerate P5P at all. Initially, up to 750mg per day may be used, especially in those with seizure disorders.)

❖ **Magnesium** (Glycinate or Malate) 600-2000 mg per day - or titrate to bowel tolerance

❖ **BioPure MicroMinerals** 1 tablespoon per day

❖ **Biotin** 10mg per day for brain, skin, hair, and nails

This is the core treatment for HPU.

Optional

❖ **Niacinamide** 1000mg three times per day for psychiatric symptoms

❖ **Taurine** 500mg three times per day for brain-related symptoms such as seizures, brain fog, and memory loss. Supports elimination of neurotoxins, improves bile quality, increases glutathione, and normalizes brain rhythms

❖ **Lithium Orotate** or Aspartate 60mg-240mg per day

❖ **Chromium:** 500 mcg per day (initially up to 2 mg, especially in certain brain disorders and hypo/hyperglycemia and insulin resistance)

❖ **Molybdenum** 300 mcg (initially much higher, especially with sulfur reactivity)

❖ High Gamma **Vitamin E** 400 IU per 40lbs of body weight per day (Unique E is the brand often used)

❖ HPU clients are also often deficient in **silica, iodine,** and **boron.**

In Europe, "Depyrrol" is a product which contains Zinc, Manganese, and a mix of vitamin B6 and P5P. It is used as a method of treating HPU. The more complete US product "Core" is available from BioPure Healing Products. Omega-6 oils must be supplemented in addition to Depyrrol or Core, but these products provide the patient the convenience of getting the key components of the protocol in one product. One potential consideration is that some patients may not tolerate both vitamin B6 and P5P; both of which are contained in Depyrrol and Core. As a result, it is occasionally necessary for patients to take each component of the HPU program separately.

It is critically important to monitor mineral levels during this treatment. Copper levels should be assessed using a red cell mineral test. Copper replacement is often necessary at a dose of 2-4mg per day due to the high zinc dosage. This is evaluated and introduced when necessary after the treatment has begun, often between months four and six. Zinc, manganese, and vitamin B6 are copper antagonists. Thus, monitoring levels of copper and supplementing where needed is an important part of the treatment protocol. Zinc and copper should not be taken at the same time of day.

Copper deficiency can lead to hemorrhoids, varicose veins, fatigue, edema, hair loss, anorexia, skin problems, osteoporosis, cardiovascular disease, aneurisms, and many other undesired conditions. Current nutritional teachings are misinformed on the topic of copper toxicity. The immune system uses copper and iron to fight infections associated with Lyme disease. As a result, oxidized copper is displaced in the connective tissue and may appear as though the patient is copper toxic by some testing methods when in fact copper supplementation may be appropriate. High dose Vitamin C has the effect of changing copper to a form that can be reused by the body.

Detoxification and Course of Treatment

For many patients, the course of treatment will not be an easy one. **This is a treatment that should be done only under the care and supervision of a doctor** as patients often experience a worsening in their condition before they improve.

> White blood cells without zinc are like an army without bullets

According to Dr. Klinghardt, many of our metabolic enzymes use zinc as part of their molecular makeup. However, in patients with HPU, there is not enough zinc available to satisfy the need. In these cases, lead, mercury and other 2-valent metals bind to these sites instead in a poor attempt to fulfill the role of zinc.

> Dr. Klinghardt has found the incidence of HPU in Lyme disease to be 80% or higher

Once zinc is reintroduced into the body, heavy metals are displaced from these sites. Zinc is once again highly supportive of human health. However, the patient now has dislodged heavy metals circulating throughout the body. These are either competing for the already overtaxed detoxification pathways or are redistributed to places where they may be more harmful.

For this reason, it is wise to have detoxification and binding agents on board at all times while implementing the HPU protocol. **In fact, starting a heavy metal detoxification protocol several months prior to beginning the HPU treatment is strongly advised.**

Heavy metal detoxification agents may include chlorella, BioPure MicroSilica, BioPure Phospholipid Exchange (NaEDTA), Detoxamin (CaEDTA) suppositories, fiber, green and red clays, zeolites, pectins, beta-sitosterol, DMSA, DMPS, OSR, and other agents to mop up the mobilized heavy metals.

Generally speaking, about two to six weeks after the treatment begins, it is important for the practitioner to be ready to deal with symptoms of acute metal toxicity. This healing crisis continues in waves for months. The severity is not to be underestimated. Hair analysis can be used to monitor the client. Strong metal detoxification agents are often needed.

Supplementing zinc liberates 2-valent metals such as Mercury, Cadmium, Aluminum, and Lead. Patients express symptoms of acute heavy metal toxicity, which have to be addressed. At this stage of the protocol, the patient generally will require treatments addressed at heavy metal detoxification such as binding agents, chelators, colonics, liver/gallbladder flushes, castor oil packs, sauna and other heavy metal detoxification modalities. The practitioner may opt for the old workhorses such as DMPS, DMSA, EDTA, and IV Glutathione to address detoxification of metals. Freeze-dried garlic and vitamin E have a protective effect.

To increase the body's ability to detoxify, sound-wave enhanced chlorella at a dose of 15 tablets three times per day with meals is often used. To mobilize heavy metals from their binding sites and provide glutathione precursors and binding-peptides, nanonized chlorella (BioPure Matrix Metals) at 5-6 sprays twice daily and energized cilantro tincture at 15 drops three times daily are used. To assist in shuttling metals from the intracellular environment to the liver, BioPure Phospholipid Exchange (alpha-lipoic acid, phospholipids, and magnesium) is used.

One approach is to start the patient on agents that will first support removal of metals from the gastrointestinal tract such as chlorella and BioPure MicroSilica. Rectal EDTA (Detoxamin) may be used next followed by BioPure Phospholipid Exchange. Most patients will require a number of different agents.

It is critical to support the kidneys with specific drainage remedies in order to optimize the removal of heavy metals. BioPure Matrix Electrolytes at two tablespoons daily mixed with a capful of M-Water in water and a teaspoon of agave syrup supports kidney function.

In some cases, the rate of detoxification may need to be slowed in order to improve patient tolerance and comfort. Consideration may be given to both lowering the dosages of the protocol as well as to agents that will alkalinize the body. Detoxification of heavy metals occurs only in an acidic environment. However, in such an environment, these metals are also highly reactive. Thus, the practitioner may alkalinize the patient in order to slow down process underway. The saliva and urine pH is monitored and used in determining if an alkalinizing protocol may be appropriate.

The next stage of the treatment response is often the appearance of fevers as the immune system wakes up and begins to respond to previously ignored or under-addressed infections. As soon as the nutritional losses of HPU are corrected, the previously intractable chronic Lyme patient tends to respond to much milder and more biological antimicrobial interventions. Dr. Klinghardt prefers the use of plant peroxides from ozonated plant oils such as Rizol Gamma, Rizol Zeta, and BioPure Quintessence.

An interesting observation has been that patients with HPU often get worse when an attempt is made to incorporate detoxification agents or antimicrobial agents prior to having first addressed the HPU condition. Once HPU has been addressed, these other treatment options are much more effective and better tolerated.

"Overcoming" ...cont'd pg.7

"Overcoming" ...cont'd from pg. 5

Additional Considerations

Many patients with chronic Lyme disease have issues with sulfur intolerance. This leads to a patient being unable to effectively utilize a number of detoxification agents such as alpha-lipoic acid, DMSA, DMPS, and glutathione as well as supplements such as garlic. This may be related to genetics, but some of the enzymes involved in sulfur metabolism (CBS and others) are heme and B6 dependent - both of which are depleted in HPU. As patients are treated for HPU, these sulfur tolerance issues may resolve. Dr. Klinghardt has found that molybdenum at a dose of 300mcg per day may correct sulfur intolerance in patients with HPU; as molybdenum may also be lost in these patients.

Ammonia is generally high in patients with HPU. As HPU is treated, high levels of ammonia tend to normalize.

Final Thoughts

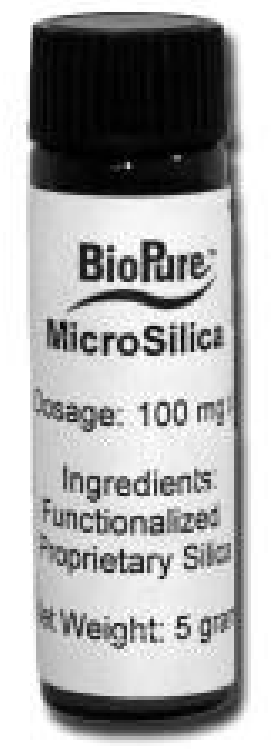
Once patients are on the HPU protocol and mobilized metals have been addressed, the body begins to respond to backlogged infections and significant improvements in the patient's condition are often observed. Hormonal status often improves without supplementation. Some patients who have been on thyroid medication for years may even become hyperthyroid as the body begins to function more optimally. Other patients may lose weight. All symptoms directly related to low levels of zinc, biotin, manganese, vitamin B6, and arachidonic acid resolve.

Just as homes are built by first laying a solid foundation, addressing HPU and the deficiencies in zinc, biotin, manganese, vitamin B6, and arachidonic acid are key pieces of the puzzle in addressing the complexities of chronic Lyme disease and many other conditions.

Evaluation for HPU is now one of the first things that Dr. Klinghardt pursues in working with patients with chronic illnesses. For those that test positive, implementing the HPU protocol often yields progress that had not previously been possible and patient recovery is accelerated in a very deep and profound way. *pha*

24 Hour Urine Test for HPU Directions

- ❖No vitamins five days prior to test; especially B vitamins and minerals
- ❖Exposure to normal daily stress is needed
- ❖Use clean, large orange juice or milk carton for collection and later to fill the transport tube provided by the lab
- ❖Add 500 mg of ascorbic acid per liter of urine to stabilize pyrroles
- ❖Wrap aluminum foil around collection container and transport-tube to prevent breakdown of pyrroles which results from exposure to light
- ❖Keep the collection container in the refrigerator
- ❖Collect urine for a full 24 hour period; best collected under dim light
- ❖Once the 24 hour collection is complete, shake the container and pour into the collection tube
- ❖Briefly freeze the tube in order to break up tetrapyrroles
- ❖Ship Monday - Wednesday only
- ❖Contact the lab to ensure that the sample is kept in the refrigerator or freezer until they perform the test



About Dr. Klinghardt

Dietrich Klinghardt MD, Ph.D. is a highly-respected pioneer in the treatment of chronic illness and treatment of Lyme disease. Dr. Klinghardt studied medicine in Freiburg, Germany. He has since created a comprehensive diagnostic system known as ART, or Autonomic Response Testing, which has transformed many medical practices and helped numerous practitioners become gifted healers.

Dr. Klinghardt has recently released a new 5-DVD set which takes the viewer on a journey into how Dr. Klinghardt thinks. The set is entitled "Fundamental Teachings of Dietrich Klinghardt MD, Ph.D." and is available now at http://klinghardtneurobiology.com/

Statement Concerning KPU/HPU from Dr. Klinghardt

Dr. Klinghardt believes that the KPU/HPU issue is a significant one, hence he has explored and used various treatments for the condition. He believes that a combination of zinc, manganese, vitamin B6 and certain other constituents is for many patients an effective combination based on his own clinical experience and also based on what he has gathered from its use in Europe.

Dr. Klinghardt also believes that if someone is proceeding without a practitioner to undertake a KPU/HPU protocol of any kind, caution must be exercised. Generally it is better to start slowly and at low doses in order to determine what is tolerable. It may be that large doses, particularly of zinc, may be required to remedy deep mineral deficiencies. In the presence of large doses, however, one must be aware of possible toxicity, for example in context of the zinc/copper balance. And there may be specific conditions, such as Parkinson's disease and its possible relationship to manganese, that deserve cautious application of KPU/HPU protocols.

Dr. Klinghardt believes in the basic chemistry underlying mineral supplementation to treat KPU/HPU but the key point is caution should be the rule.

About the Author

Scott Forsgren is the editor and founder of BetterHealthGuy.com where he shares his thirteen year journey through a chronic illness only diagnosed as Lyme disease after eight years of searching for answers. He has attended numerous conferences taught by Dr. Klinghardt as well as having been a patient of Dr. Klinghardt for the past four years. Dr. Klinghardt has been a powerful mentor, teacher, and guide as Scott has worked to understand the disease which had previously taken so much of his life and moves toward a place of health and wellness. Scott is himself on the HPU protocol.

Disclaimer: **This is a treatment that should be done only under the care and supervision of a doctor.**

Resources

The following resources are intended for practitioners. Treatment of HPU should not be done without the guidance of a healthcare practitioner. Attempts to self-treat the condition may result in unintended negative consequences.
BioPure Healing Products, LLC can be found at http://www.BioPureUS.com. M-Water is available from BioPure.

Detailed information on Dr. Klinghardt's HPU Treatment Protocol can be found at http://www.klinghardt-neurobiology.com/KPUprotocol.pdf

Kryptopyrrol and hydroxy-hemopyrrolin-2-one (HPL) testing can be ordered through Vitamin Diagnostics for about $55 dollars.
Vitamin Diagnostics, Inc
540 Bordentown Avenue
Suite 4930
South Amboy, NJ 08879-1544
PH: 732-721-1234
FAX: (732) 525-3288?
lab@vitdiag.com
Lab Director: Tapan Audhya, PhD

Directions on how to perform the testing can be found at http://www.klinghardt-neurobiology.com/KPUtestinstructions.pdf

Additional information on Prokarin is available at http://www.edmsllc.com/. Oral histamine is available from Deseret Biologicals at http://www.desbio.com/.

Other Reading

- ❖ Discerning the Mauve Factor, Woody R. McGinnis, MD, October 1, 2006 http://web.mac.com/autism-protocols/Site/Pyroluria_files/woodymcginnis.pdf (Last Accessed January 17, 2010)
- ❖ Discerning the Mauve Factor Part 1, Woody R. McGinnis, MD, Tapan Audhya, PhD, et al., Alternative Therapies, March/April 2008, Vol. 14, No 2
- ❖ Discerning the Mauve Factor Part 2, Woody R. McGinnis, MD, Tapan Audhya, PhD, et al., Alternative Therapies, May/June 2008, Vol. 14, No 3
- ❖ Pyroluria, Jeremy E. Kaslow, MD, FACP, FACAAI, http://www.drkaslow.com/html/pyroluria.html (Last Accessed January 17, 2010)
- ❖ The Mauve Factor by Age Diagnostic Laboratories http://www.pathlabim.com.au/documents/tests/Mauve_Detailed_Description.pdf (Last Accessed January 17, 2010)
- ❖ Pyroluria: Hidden Cause of Schizophrenia, Bipolar, Depression, and Anxiety Symptom, Woody McGinnis, MD, May 2004 http://www.alternativemental-health.com/articles/pyroluria.htm (Last Accessed January 17, 2010)
- ❖ Kryptopyrolles, Donald Lee McCabe, DO, FACGP, FAPM, FAPHA http://www.orthomolecular.org/library/jom/1983/pdf/1983-v12n01-p002.pdf (Last Accessed January 17, 2010)
- ❖ Pyroluria: The Mauve Factor, Dana Gorman, December 2006 http://web.mac.com/autism-protocols/Site/Pyroluria.html (Last Accessed January 17, 2010)
- ❖ Pyroluria, Blake Graham, B.Sc, Clinical Nutritionist http://www.nutritional-healing.com.au/content/articles-content.php?heading=Pyroluria (Last Accessed January 17, 2010)

National Support Groups

National Multiple Sclerosis Association:
www.nmss.org

Alabama
3840 Ridgeway Drive
Birmingham, AL 35209
Phone: (205) 879-8881
Phone: 1-800-FIGHT-MS
Email: alc@nmss.org
www.nationalmssociety.org/alc

Northern California
150 Grand, Oakland, CA 94612
Phone: 510-268-0572
toll-free: 1-800-FIGHT MS
Email: info@msconnection.org
http://www.msconnection.org

Colorado
700 Broadway, Suite 808
Denver, CO 80203-3442
Phone: 303.831.0700
1.800.FIGHT.MS

Georgia
455 Abernathy Rd. NE,
Suite 210
Atlanta , GA 30328
Phone: 404-256-9700
Phone: 1-800-FIGHT-MS
mailbox@nmssga.org

Florida
2701 Maitland Center Pkwy,
Suite100
Maitland, FL 32751
Phone: (407) 478-8880
Email: info@flc.nmss.org
www.nationalmssociety.org/flc

Texas
8111 N. Stadium Drive,
Suite 100
Houston , TX 77054
Phone: 713-526-8967

ALS Association DC / MD / VA
http://www.alsinfo.org/
7507 Standish Place
Rockville, MD 20855
(301) 978-9855
toll free: (866) 348-3257
fax: (301) 978-9854

Great Philadelphia ALS Chapter
321 Norristown Road,
Suite 260
Ambler, PA 19002
Phone: 215-643-5434
Toll Free: 1-877-GEHRIG-1
(1-877-434-7441)
Fax: 215-643-9307
alsassoc@alsphiladelphia.org

South Texas Chapter
http://www.alsa-south-tx.org/
(210) 733-5204
toll free at (877) 257-4673

North Texas
http://walk.alsanorthtexas.org/site/PageServer
1231 Greenway Dr.,
Ste.385
Irving, TX 75038

s.melson@alsanorthtexas.org
972-714-0088
877-714-0088

Lyme Disease Support Arizona

Southern Arizona - Donna Hoch: nanandbo@cox.net
520-393-1452

L.E.A.P. Arizona
Tina J. Garcia
Lyme Education Awareness
http://www.leaparizona.com
480-219-6869 Phone

Lyme Disease Support

Arkansas
Mary Alice Beer
(501) 884-3502
abeer@artelco.com

California
Dorothy Leland
website: www.lymedisease.org
contact@lymedisease.org

Mid-Peninsula Lyme Disease Support Group
Mountain View, CA
2nd Tuesday each month:
6:30-8:30 PM
ldsg_scott@hotmail.com

Colorado
Mary Parker
303-447-1602
milehightick@yahoo.com

Connecticut
www.timeforlyme.org
914-738-2358
Meetings: first Thursday of every month from 7-8:30 p.m. at the Greenwich Town Hall

National Support:
truthaboutlymedisease.com/
Dana Floyd, director

LDA of Iowa
PO Box 86, Story City, IA
515-432-3628
ticktalk2@mchsi.com

Kansas
913-438-LYME
Lymefight@aol.com

Montana
bepickthorn@earthlink.com

North Carolina
Stephanie Tyndall
sdtyndall@yahoo.com

South Carolina
Contact Kathleen at
(864) 704-2522
greenvillelyme@bellsouth.net

Lyme Disease Support

New Mexico
Veronica Medina
(505)459-9858
vrmedina@comcast.net

Oklahoma
Janet Segraves 405-359-9401
Janet@LDSG.org
www.LDSG.org

Portland, Oregon
Meets 2nd Sunday of each month 2010 NW 22nd Street Second Floor from 1-3 PM.
503-590-2528

TEXAS :

Greater Austin Area Lyme Council. Teresa Jones
tmomintexas2@yahoo.com

Dallas/Ft Worth
John Quinn
Jquinn@dart.org
214-749-2845

Houston
Contact: Teresa Lucher
lucher@sbcglobal.net

League City/ ClearLake & ĮASA Area
Sandra Mannelli
smannelli@comcast.net

Washington State
Alexis Benkowski
WA-Lyme-owner@yahoogroups.com

WI / IL / MN Regional areas
Contact PJ Langhoff
(920) 349-3855
www.Sewill.org
www.LymeLeague.com (Intl)

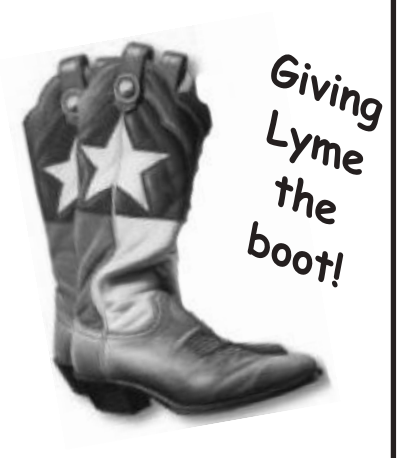
Western Wisconsin Lyme Action Group
Marina Andrews
715-857-5953

Military Lyme Disease Support

Military Lyme Support is an online source of information and emotional support. This site is for Military Members, Veterans, and their family members who suffer from Lyme and other vector-borne diseases. Members are stationed in the United States and abroad.

http://health.groups.yahoo.com/group/MilitaryLyme/

Texas Lyme Disease Association



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Multiple Sclerosis: A History of Vikings, Scots, Germs, and Genes

by M.M. Drymon

Multiple sclerosis, abbreviated here to MS, is a complex disease of the brain and spinal cord that has a modern history of human misery. Its roots lie somewhere in a tumultuous historical past amid the heather and hills of Highland Scotland and on the longboats of the Vikings. Although causation is yet to be determined, MS seems to be associated with both genes and germs.

In MS patients, inflammation creates a series of scar-like plaques at multiple places in the brain and spinal cord where the myelin covering of nerve cells have been destroyed. These plaques interfere with the normal function of nerve cells and cause the symptoms of MS. Early symptoms can include tingling, numbness, loss of balance, weakness in one or more limbs and blurred or double vision. As the disease progresses, other symptoms may include muscle spasms, sensitivity to heat, fatigue, and changes in thinking or perception. It is a disease that usually strikes when a person has reached full adulthood-sometime between the ages of 20 and 50. Symptoms can wax and wane with periods of symptom free relapse in between. No cures have been discovered for this disease, although some medications have been found to be effective in relieving symptoms.

Although there is no concrete proof that MS is a genetic or hereditary disease, having a first degree relative, such as a parent or a sibling, with MS increases an individual's risk of developing MS to a level much higher than the risk for the general population. Some studies show a higher prevalence of certain genes in certain populations with high rates of MS. Since the 1970s, scientists have been aware of a very strong association between MS and the genes that control immune cell function, known as HLA.[This HLA susceptibility has also been recognized in people who suffer from Lyme induced arthritis] HLA proteins are found on the surface of all body cells. They act as a signal to the immune system to confirm that the cell is part of the body and should not be attacked. In the case of MS and Lyme arthritis, it is likely that subtle changes in the structure and function of HLA cause it to malfunction.

It is estimated that between 1.11 and 2.5 million people are affected with MS throughout the world, predominantly in temperate climates. Research has found an association between living in northern latitudes during early childhood and MS incidence. Moving to an area where there is more sunlight later in life is not protective. New research, which has discovered that Vitamin D plays an important role in fighting infections, may underscore what happens to MS patients in childhood. Deprived of sunlight as a child, they may become infected with a chronic form of a disease agent that then spends decades at work before the plaques become destructive enough to cause symptoms. A genetic influence here could conceivably come through variants in the Vitamin D receptor protein or in other proteins that are activated when Vitamin D binds to this receptor. Scientists at the University of Copenhagen have discovered that Vitamin D is crucial to activating the immune defenses and that without sufficient intake of the vitamin, the killer cells of the immune system - T cells - will not be able to react to and fight off serious infections in the body. For T cells to detect and kill foreign pathogens such as clumps of bacteria or viruses, the cells must first be 'triggered' into action and 'transform' from inactive and harmless immune cells into killer cells that are primed to seek out and destroy all traces of the foreign pathogen. The researchers found that the T cells rely on vitamin D in order to activate and will remain dormant if vitamin D is lacking in the blood.

A good case study for an infective history for MS can be made by an examination of a cluster of MS that has occurred on the Faroe Islands. Located in the North Atlantic midway between Norway, Scotland and Iceland, the inhabitants of these small islands are the descendants of Nordic adventurers who settled down there in around 900 AD. There had been no reports of MS occurrence among native born residents prior to 1943. After that year, 25 cases of MS occurred in three distinct clusters prior to 1973. The most interesting event that took place on the Faroes at around that time was the British occupation during WWII. Most of the occupying soldiers came from the Scottish Highlands. It seems that they brought with them whatever causes MS in Scotland and spread it to the previously uninfected Faroenese people. This speaks clearly to an infective agent as a causative agent. The genetic factor may be something organic that affects the thickness or resilience of the lining of the nerve sheaths which, like red hair or light colored eyes, would be hereditary. A study of the skin thickness of redheads, for example, shows that they are indeed "thin skinned" when compared to people with darker hair. This may translate inwardly into thinner interior mechanisms like myelin . Thick nerve sheaths may be more resistant to viral or bacterial damage.(Hakes 2002]

The highest MS rates in the world are found in northern areas, the highest being in the Orkney and Shetland Islands of Scotland. Highland Scotland has the next highest risk of all with a prevalence rate of 1 case for every in 500 people in the population. There are also high prevalence rates in Canada, New Zealand, and Southeast Australia, where a large number of Celtic Scots emigrated in the 18th and 19th centuries.[www.msif.org] One study concluded that "Scottish Ancestry appears to be a risk factor for the development of MS, and this may explain the high prevalence of the disease in countries in which there are significant numbers of Scottish migrants." (P.M. Rothwell, D. Charlton 1998) This risk factor may be genetic or it may lie in the viruses and bacteria present in Scotland that they brought with them when they moved around. Scotland has a long history of sending its people out into the world through land clearances, emigration, and the mercenary soldier tradition. Scottish soldiers, sometimes called Gallowglass, interacted with almost every country in Europe, fought in every Crusade, served in the forces of King Gustav Adolphus of Sweden and throughout Scandinavia. Though initially they were mercenaries, over time some of them settled down and intermarried with the people that had hired them, leaving a Scottish presence and a penchant for plaid throughout the world.

The Scandinavian countries also have high rates of MS. The areas of the northern US that have high MS rates tend to be settled by Scandinavian immigrants, especially Minnesota. C.M. Poser, a Harvard professor, looked at this link between areas of Scandinavian descent and MS and thought about the Vikings. When he looked at Viking history, he found that the Vikings did more that just terrorize Northern Europe-they and their descendants spread throughout most of the known world. He used the examples of Viking carvings in a mosque in Istanbul and on a statue outside Athens. There was a Viking regiment in the Chinese Emperors Imperial Guard in the 1300's and in the service of the Eastern Roman Empire 300 years earlier, and also in the Crusades. Wherever the Vikings went in the world there seems to be more MS.

He cited the test case of Palestinian Arabs living in Kuwait. They have about two and a half times more MS than the Kuwaiti Arabs. Historically Palestinians originated near Jerusalem-an area of biblical conflict and subject to interaction with Europeans during the Crusades. To find evidence of Viking contact, Poser looked at eye color. He found that 62% of the Palestinian Arabs with MS had blue or hazel eyes, whereas 78% of all Kuwaiti Arabs had black or brown eyes. He found this suggestive of Viking descent. He also found hot spots of MS in the Canary Islands and the Parsee in India-he feels that the Vikings may have made contact there, also.(Poser 1994)

An overlay of a map of the Viking sphere of influence on top of a map of modern occurrence rates for MS does produce a remarkable fit. Australia and New Zealand were later colonies that were populated by Celtic felons who may have had some Viking originated genes in their DNA. But if this disease has a genetic base and was spread by the Vikings, the question becomes what genes are they? A Viking was a member of a very diverse group with a set of similar technologies, religious beliefs, and willingness to go out raiding, but with no homogeneous genetic base. Dominantly Norse, they did not have a strict gene code for marriage. Modern Scandinavians, especially Finns, show a great deal of genetic differences. All have high levels of MS.

Iceland is a particularly interesting case because of its high rate of MS and the fact that it has been well studied in a human genome database project run by deCODE. This study found that despite the fact that it was founded 1100 years ago and Norse Sagas historical interpretations of profound Norse-ness, the population may have more variation than the modern country of France, and that there was a significant Celtic-Scottish genetic presence, varying from ¼ to just under ½ of the original settlers.(Stefansson 2000 and Trivedi 2000.) Based on this information, if the Viking spread the genes for MS, they may have come from this interrelationship with the Scots in the northern areas of what is modern Scotland.

Another, perhaps more compelling argument, comes from the scientists who argue that MS is caused by a virus, a bacteria, or a combination of both. But which ones? There are many good candidates. In The Virus Within, by Nicholas Regush, evidence is presented that indicated that a Human Herpes Virus, HHV-6, has been found in the lesions in brain tissue samples of MS victims. The Epstein Barr virus has also been found to inhabit these Plesions. As early as 1957, Time Magazine reported that researchers had found Spirochaeta myelophthora in spinal fluid of an MS patient. Chlamydia pneumoniae has been found in the spinal fluid of some MS patients. Derek Gay argued in a 1986 Lancet article that the disease was caused by an oral spirochete. A significant association of spinal fluid cysts and MS was identified in a small study among residents in a coastal area of southern Norway. The cysts could be of spirochetal origin. Megan Blewatt has found a statistically highly significant geographical correlation between Lyme disease and MS in the United States, the correlation between MS and Lyme was highly significant, producing a p-value of 0.010. Spastic Paraparesis, which is a differential diagnosis of MS, is a known retro virus. New viruses occur on a worldwide basis. There are many ways for a virus to become more virulent. Changes can occur through mutation or they can swap a gene within a single segment to be recombinant, thus creating new forms. Viruses that were there all along may emerge as problems only when their hosts undergo an increase in susceptibility or there can be environmental effects that make a virus more virulent. An example of this would be acquiring a suppressed immune response or, in the case of MS, just simply, through better nutrition and control of deadly disease, living long enough for myelin damage to cause symptoms. (Oldstone 1998).

Whatever causes MS, it has been around for eons- a stealth invader that unlike the Black Plague or the English Sweating Sickness, didn't kill or disable its hosts. It was able to live, reproduce happily, and spread to new host bodies without even being noticed. However, when the human lifespan began to increase, instances of people with MS-like symptoms begin to appear in the historical record. A possibly infected young woman named Halldora appears fleetingly in the Icelandic Sagas from around the year 1200. The earliest well documented case is from 1400 when Lydwina of Schieden-the Dutch Patron Saint of Ice Skaters-symptoms were described. (www.mult-sclerosis.org) As time went on, the fact that people began to live longer changed the playing field. Life spans became longer as better nutrition, antibiotics and medical progress worked their magic. If we think of the effects of MS as the work of an infective agent, slowly, patiently, gnawing away at the delectable myelin sheaths of a host's nervous system, a few thing stand out in its progression. MS is a disease that rarely shows its presence before full adulthood. It works in a slow inconsistent manner coming and going until it fully sets in. By that time the patient has lived part of a life, had children, and possibly spread the infective agent around a bit. The French neurologist Jean-Martin Charcot was the first person to label multiple sclerosis as a distinct disease in 1868. Summarizing previous reports and adding his own clinical and pathological observations, Charcot called the disease sclerose en plaques.

To a Viking or even an early Highland Scot, MS would be a disease of old age. The presence of an infective agent or genes for susceptibility would not have had a huge impact on their culture but would have been as much a part of their legacy as the ideas, artwork, runes, and descendants that they left behind.

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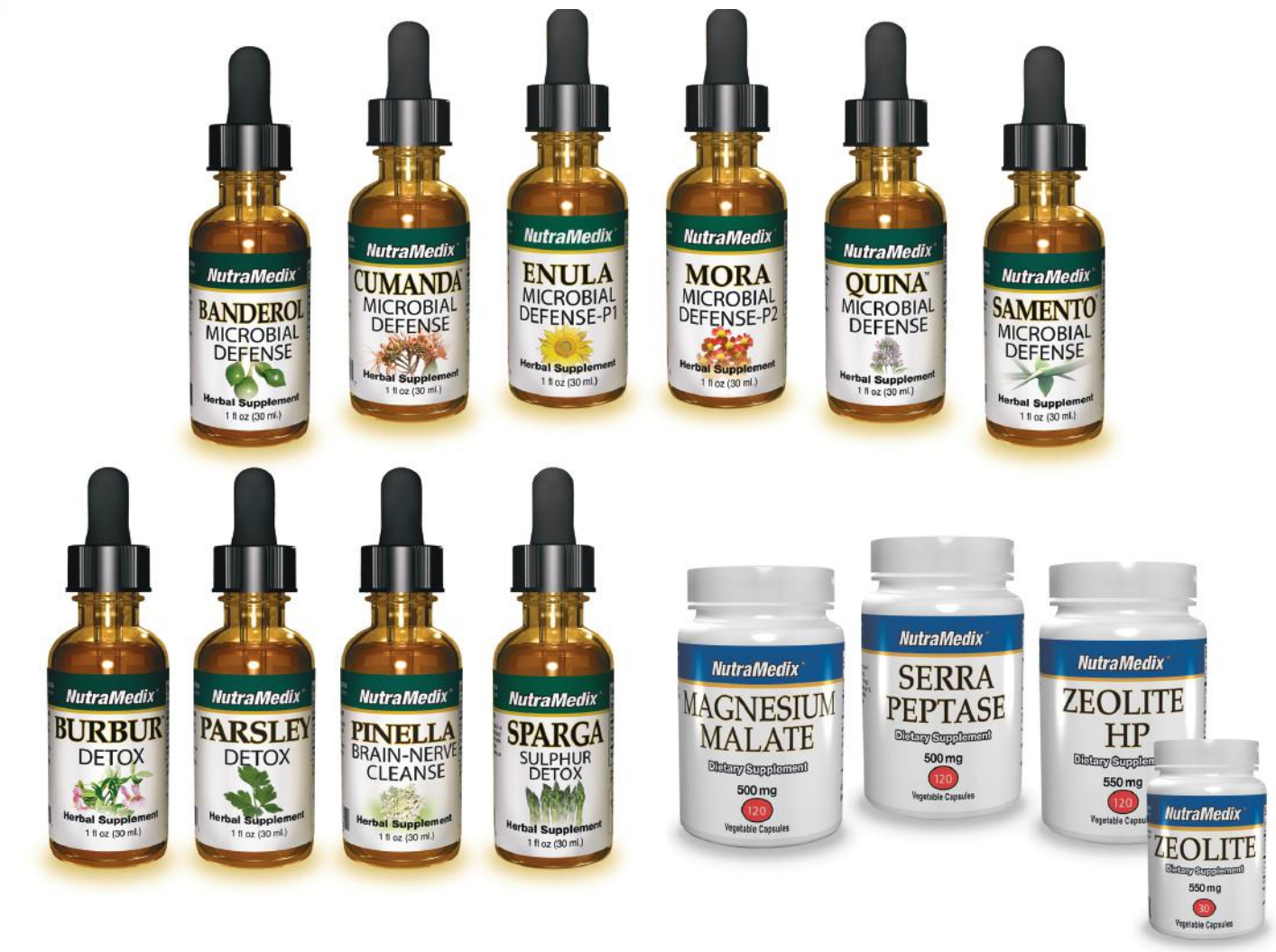
"CONDENSED" COWDEN SUPPORT PROGRAM



FINANCIAL ASSISTANCE IS AVAILABLE FOR THE CONDENSED COWDEN SUPPORT PROGRAM FOR ONE PATIENT OF A PRACTITIONER

LIMITED AVAILABILITY – CONTACT US FOR MORE INFORMATION

ABOUT THE COMPANY

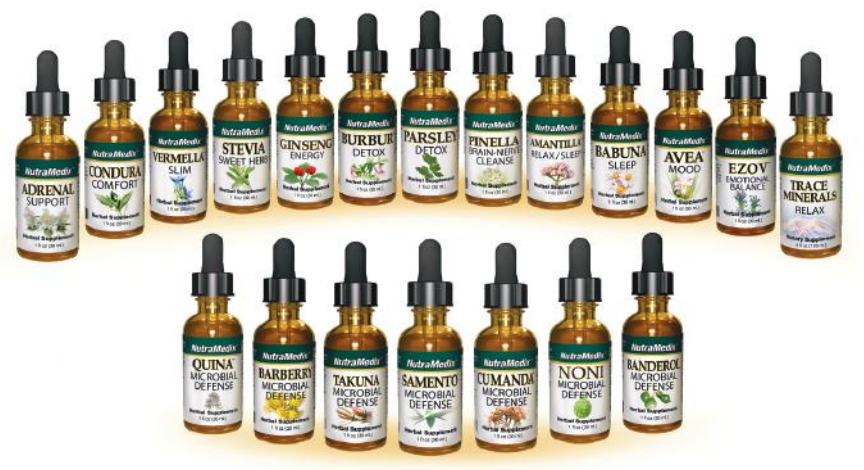
Nutramedix was founded in 1993 and currently has facilities in Jupiter, Florida, USA and in Shannon, Ireland supplying highly bio-active nutritional supplements to health care professionals and consumers.

From the beginning, Nutramedix has operated with a unique business model. First, the owners and management work diligently to operate a company according to Biblical principles– with honesty, integrity, value and respect for all people. Its corporate environment is one that works to serve both its customers and its employees, producing one the best customer service teams in the industry. Second, Nutramedix was founded with the goal of using a significant amount of its proceeds to support orphans, widows, Christian pastors and missionaries in economically distressed parts of the world. So as a customer, you are not just purchasing high quality nutritional supplements, you are helping us give back to people in need all around the globe.

ABOUT THE PRODUCTS

Nutramedix has made a significant investment to develop a novel, proprietary extraction and enhancement process used to manufacture its liquid extracts. The result is a highly bio-available whole plant, broad-spectrum extract that is also very cost effective. We were the first to introduce Samento, a rare chemo-type of Cat´s Claw, which has remained one of our signature products. We have since developed a full line of liquid extracts utilizing the same proprietary extraction and enhancement process.

Nutramedix also conducts extensive research to procure the very highest quality raw materials for its powdered capsule products, many of which have been designed to enhance the effectiveness of the liquid extracts. We are committed expanding our line of natural products meeting the highest expectations of health care professionals and consumers.



ABOUT THE FOUNDATION

The owners of Nutramedix have been involved in international Christian ministry since the 1980s. Prior to starting the company in 1993, our Founder and President was a missionary pilot serving tribal groups in Peru. The Kairos Foundation was created in 1995 to fund projects that address both the physical and spiritual needs of people in some of the most disadvantaged areas of the world. The foundation provides ongoing financial support for organizations operating in Africa, Asia, Eastern Europe, North America and South America.

NutraMedix®
Providing Quality Natural Products Since 1993
info@nutramedix.com • www.nutramedix.com
Tel: 800-730-3130 561-745-2917 • Fax: 561-745-3017