

Lyme Toxins The Primary Cause of Your Symptoms!

by Dr. David A. Jernigan

When considering toxins, it must be recognized that toxins are poisonous substances that are irritating and sometimes permanently damaging to the tissues of the body. Toxins of any type must be avoided and eliminated at all costs. In this article, we will be going exhaustively through the primary types of toxins that I guarantee that you have: microbial toxins and environmental toxins. Microbial toxins, like the neurotoxins of Lyme disease, require a different and more targeted treatment approach than do the more common environmental toxins. Fifty percent of the health restoration every Lyme sufferer seeks will come from effectively eliminating the toxins and reducing the sources of the toxins, i.e., bacteria and toxic lifestyle products. The other 50% of healing will revolve around restoring structure and function and optimal coherence within the body, mind, and spirit.

Research and clinical studies have determined that there are neuro-toxins released by the *Borrelia burgdorferi* (Bb) spirochete [Klinghardt 2002]. Neurotoxins are nerve poisons. These toxins, according to research, are the cause of most, if not all, the symptoms of Lyme disease. It is also believed that tissue damage is not caused by Lyme bacteria directly; in other

words, the bacteria are not "eating" your tissues. It is the accumulation of Bb toxins in your body that is most likely responsible for the symptoms experienced by Lyme sufferers.

In the scheme of facilitating healing in the body, mind, and spirit, toxins are poison in the body. In that the body, mind, and spirit are all interconnected and interdependent, if the body is poisoned, then the mind and spirit must necessarily be poisoned as well. These toxins are a major interference to your body's ability to heal itself.

An astonishing new finding was released by John Travis in *Science News* (July 2003;164). Travis reported that research performed by John F. Prescott found that certain antibiotics, such as the fluoroquinolones, the class of antibiotics that includes the name-brands and generic brands of Levaquin®, Cipro®, Tequin®, and Avelox®, actually are known to trigger a type of virus called bacteriophages (viruses that can infect bacteria) to change the genetic sequencing of the bacteria, causing the bacterium they have infected to start producing toxins. These viruses can act as genetic delivery vans, invading bacteria, such as spirochetes, often lying dormant, until activated by a change in the host (your body's) environment. Once activated, these viruses insert

their toxin-generating genes into the bacterial chromosomes. These viruses can turn basically harmless bacterium into killers through this genetic sequencing of toxins (Travis 2003).

So now we see that not only are these toxins released through bacteria die-off and not only can antibiotics actually increase the production of the toxins, but these viruses can cause the bacteria to rupture, spilling their toxins into the body (Waldor 2004).

When a doctor uses an antibiotic and kills some Lyme spirochetes, there is a resultant Jarish-Herxheimer (Herx) reaction – i.e., a worsening of the patient's symptoms in response to the increased release of bacterial die-off toxins. The toxins are dumped into the bloodstream and circulated throughout the body, until they can either be eliminated by the body or lodged in areas of weakened tissues. As neurotoxins, they are preferentially taken up by nerve tissue. These lodged toxins are one reason why symptoms can persist even after the actual Bb infection is gone, because the toxins can remain as an irritant in the tissues for years.

In truth, a severe Herxheimer reaction is a sign of poor elimination pathway drainage, poor organ support, and poor treatment by your



Lyme Toxins

▶ doctor. The bodies of most chronic Lyme sufferers are toxic dumps to start with, therefore, if a doctor does not get the pathways of elimination open and working, the body grows even more toxic as the bacteria begin to die and their toxins dump. Many doctors think good treatment is indicated by the fact that you feel like crap, i.e., worse than usual, which they feel confirms that they have selected an effective antibiotic. Most of my chronically ill patients cannot afford to feel worse just from the treatment. The person with Lyme disease has already suffered enough; they don't need to go through a "herx" just to prove they have Lyme disease.

One of the more popular herbal remedies on the market causes such a severe herx that it is advised that only one drop be taken. Because of my previous Lyme disease books, I have spoken to hundreds of people from all over the world who have taken natural products and/or pharmaceuticals and now not only have their old symptoms but many new symptoms as well. Remember, no matter what you decide to take, whether the resulting herx is a true bacterial die-off or is a direct toxic effect of the remedy/medication, these toxins must be given just as high a priority as the actual infection. Chronic Lyme sufferers do not have adequate detoxification mechanisms to detoxify these Bb toxins.

I worked for many years, sifting through and trying many of the world's finest detoxification products with mediocre results at best. While I was presenting research at the 1999 International Tick-Borne Diseases Conference in New York City, I took a break one day and wandered through Chinatown. In my wanderings, I found a Chinese herbal pharmacy. It had a huge assortment of exotic herbs and medicines from China, all held in drawers that covered a long wall from floor to ceiling. Each drawer had three bins, each holding something different. Since I was on a quest to find the elusive solution to what would address the specific toxin of Lyme spirochetes, it dawned on me to use Bio-Resonance Scanning™ (BRS, a real-time, non-computerized testing technique I developed) to test these herbs to see if there was anything that would work. The BRS testing required only a few moments and resulted in four herbs testing as beneficial, out of the hundreds in the apothecary. The Chinese pharmacists were quite certain I was doing some sort of magic with my BRS testing. I must have been a rare spectacle to them, since my six foot-seven-inch frame towered over them, and the BRS testing is not like any conventional testing. I think they were glad to hand over the bags of herbs and be rid of me.

Upon arriving home again, I prepared my herbs into a hydro-alcoholic extract as I had been taught by the anthroposophical medical doctors in Eckwalden, Germany. With great elation, I discovered that the final product tested out as highly beneficial for some of my Lyme patients who had previously hit a plateau in their healing. The new formula took these patients to another 25% improvement. I and they were elated. It wasn't the end-all solution, but it definitely was a step in the right direction. Unfortunately, in their rush to be rid of me, the Chinese pharmacists, who spoke no English and had to look up the Pinyin (the English derivation of the Chinese name for an herb) name for the herbs, must have written down the wrong names. When I called to order more of the herbs from another supplier

of Chinese herbs, one who did speak English, the herbs I received were not the same and would not work. Formula lost! Not to worry, in those days, no one knew what the exact Lyme neurotoxin was; it took me five more years to identify ammonia as the primary toxin, even though I could detect the general frequency of the Lyme toxin with the BRS during the days of the Chinese apothecary. This story is the reality of how I ultimately found better remedies for real people in my clinic.

Today, I am convinced that the newest formulations, the NeuroAntitox II formulas, are the most advanced Lyme-ammonia detoxification products on the market. I once again identified the herbs in these formulas using BRS. The herbs, Silphium and Pale Spike Lobelia, were both growing in my own pasture, and it was just my inborn curiosity, or more likely divine inspiration, that led me to pull up these herbs and carry them into the clinic to test them. Like all of the different formulas I make, the primary herbs cannot be purchased from any herbal supply house. I must grow, harvest, process, and bottle them each year. And each formula is the result of striving to help real people (over 3,000 patients) in my clinic, after trying, with minimal results, all the big-name, heavily marketed, nutritional supplements. Direct Resonance testing, a clinical research technique, along with the Functional Acuity Contrast Test (FACT) seem to verify that these formulas reach all the hidden reservoirs of ammonia in the body, even crossing the blood-brain barrier, restoring integrity to the body, mind, and spirit.

It must be remembered, however, that symptoms will not completely disappear just with the elimination of Lyme toxins, simply because health and healing entails more than the absence of toxins. The toxin-damaged tissues must be restored, the diseased mindset must be reset to that of positive affirmative health, and the spirit must learn and live the new insights gained during the illness.

continued on page 145 ▶



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by
Karen Y. Milleson

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The FACT™ test is a very good test for detecting the presence of neurotoxins in the brain. It is also known as a Visual Contrast Test (VCS). The FACT test has been successfully used in medical diagnosis and subclinical neurotoxicity detection. Produced by the Stereo Optical Company, the test is simple to use and can be used indefinitely without wearing out. If your doctor does not use this test, let him know about it, because it is well-researched, and for once, you can track your progress on a weekly basis if you so desire. As brain neurotoxin levels go down, your test should improve. To perform the test, you simply hold the apparatus in front of you, as the instructional sheet will indicate, and the degree to which you can visually see certain images on a card determines the level of neurotoxins.

Reading about the many general body detoxification nutritional and botanical supplements that are plentiful on the nutraceutical market can be confusing. These products are designed to be general detoxifiers of the liver and intestines. While these products are a very good idea for almost everyone, they are not designed to handle Lyme neurotoxins, nor do many, if any, of these products actually cross the blood-brain barrier to reach the ammonia in the brain.

Lyme Leaky Brain Syndrome

Although many people have heard of Leaky Bowel Syndrome (LBS), few have heard of (Lyme) Leaky Brain Syndrome (LLBS). I coined this term when I became aware of the damaging effects on the blood-brain barrier (BBB) from the accumulation of Lyme-induced ammonia in the brain. Ammonia in the brain is a primary cause of neurological and psychological hypersensitivity. Ammonia alters the permeability of the BBB, enabling larger molecules, such as common amino acids, to cross. When these random molecules touch the brain tissues, they set up hypersensitivities, otherwise known as cerebral allergies. The symptoms of these cerebral allergies are unique and depend on what part of the brain is being affected. Ammonia-induced

Leaky Brain Syndrome is one of the primary causes of multiple chemical sensitivities, cognitive dysfunction, chronic fatigue syndrome, and a myriad of other chronic conditions.

There are only a few ways ammonia can become a problem in the brain. Severe liver disease is a well-recognized producer of global or systemic ammonia. No one knew, until I discovered quite unexpectedly, that Lyme spirochetes could cause ammonia to accumulate in localized areas of the brain. I first became aware of brain-ammonia problems while treating a gentleman from England who came to me having been diagnosed with Lyme disease (*Neuroborreliosis*). Quite surprisingly, my testing revealed *Trypanosoma gambiense* as his primary microbial challenge. *T. gambiense* causes African Sleeping Sickness (ASS). Only after subsequent study did I find that the symptoms of ASS are caused by the neurotoxic effects of ammonia produced in the brain by the microbe. Interestingly, the man said that for years he had told doctors that it felt like someone was pouring ammonia over his brain. The severe debilitation this man was experiencing reminded me of some symptoms reported by many of my extreme chronic fatigue, fibromyalgia, multiple sclerosis, ALS, and Lyme patients. Subsequent testing revealed that all these people had localized ammonia accumulations primarily in the brain, heart, liver, and gums caused by the bacteria *Borrelia burgdorferi* (Bb), the causative agent in Lyme disease.

It would seem that Bb releases ammonia, which is converted to glutamine by way of the glutamine synthetase pathways, leading to localized swelling of astrocytes (brain cells). This ammonia-induced glutamine accumulation may cause dysfunction of astrocytes, which leads to impairment of vascular reactivity (other than through a decrease in arginine availability for nitrous oxide) and increased production of nitric oxide (Toshiki 2000). It has been reported that many neurological problems are caused by either congenital or acquired hyperammonemia (Albrecht 1998).

All ammonia-related pathological changes predispose these individuals to cerebral allergies, due to alterations in the blood brain barrier, and subsequently allow larger molecules, such as common dietary amino acids, to pass through to the brain. Neurotransmitter receptors and function is impaired, resulting in possibly the most common symptom: altered brain energy metabolism, leading to cognitive brain dysfunctions, i.e., the total fatigue of the mind when forced to read, talk, or think for extended periods.

Direct Resonance Testing (DRT) was used to test for the presence of ammonia in the brain, heart, and liver of over 100 chronic-illness patients; all patients were positive for ammonia

Aggravating Factors in Lyme Leaky Brain Syndrome and Lyme Disease Symptoms

- Weather conditions
- Diet
- Herpes viruses
- pH balance
- Smoking
- Severe constipation
- Eating a high-protein or a low-protein diet
- Using medicines that increase blood ammonia levels, such as heparin, some diuretics (such as furosemide), acetazolamide, and valproic acid
- Using medicines that decrease ammonia levels, such as neomycin, tetracycline, diphenhydramine, isocarboxazid (Marplan), phenelzine (Nardil), and tranylcypromine (Parnate), heparin, and lactulose

Lyme Toxins

over these areas. Several other doctors have confirmed this finding using DRT. A DRT test is based upon the fact that every bend, rotation, or atomic bond of a given molecular structure, such as NH₃, has a certain resonant frequency (Oschman 2000). When two substances with similar molecular frequency come in close proximity to each other, they will tend to vibrate "sympathetically" through harmonic resonance (Allen and Cross 1963, Sauer 1995).

Weather-Related Worsening of Symptoms

Depending upon the severity of infection and tissue environmental issues, including pH, temperature, oxygen levels, emotional state, etc., the amount of ammonia could cause variable and cyclical worsening of symptoms. Localized astrocyte swelling would be aggravated by changes in barometric pressure, because any intracellular swelling is going to swell more when there

is less atmospheric pressure on it, as in the case of falling barometric pressure before a storm, thereby causing a worsening of symptoms. This variable worsening of symptoms is described in medical science by the term *allodynia*. Allodynia occurs when a pain signal doesn't reach the brain, and therefore pain is not felt by the person. Allodynia explains why the "old-timer" knows it is going to rain before the weatherman. The old-timer's knees may have mild swelling due to arthritis, but the knees don't hurt until the barometric pressure falls, as is the case just before a thunderstorm. As the barometric pressure falls, there is less pressure on the swelling in the knees, allowing swollen tissues to swell even more. Increased swelling causes the pain signals to be stronger, reaching the brain and therefore is experienced as true pain. It may help to think of a balloon. If you measure the diameter of a balloon in clear weather, it will be smaller than before a storm, because there is more atmospheric pressure pushing in on all sides. Now, imagine the brain cells (astrocytes) and other inflamed tissues becoming more

swollen and inflamed with changes in barometric pressure. This same phenomenon can be seen many times when one goes to a higher altitude. For this reason, living or traveling in the mountains can aggravate Lyme-related symptoms. A possible logical conclusion may be to move to a lower altitude to relieve some of the symptoms while healing.

Atmospheric-related worsening of symptoms, as seen with moon phases and the onset storms, are a common complaint in Lyme sufferers. Understanding this can help preserve sanity, since it can be very disconcerting to have a sudden worsening of your symptoms and wonder if the treatments have suddenly stopped working. Keep in mind as well that any time a symptom worsens even due to something like the weather, the tissues are being aggravated, and therefore the symptoms may not clear up simply because the storm passes.

For those who want to be proactive and avoid increased symptoms related to atmospheric/barometric changes, possible preventive measures may include purchasing a barometer that also shows the phases of the moon. With careful charting, you may notice that your symptoms generally get worse at a certain level of the barometric pressure. If you observe the barometer falling to that level, or hear the weatherman saying the barometric pressure is falling, you will want to begin increasing your systemic proteolytic enzymes, such as Vitalzyme™ or Wobenzym-med™. Both products are the safest anti-inflammatory remedies for people suffering with Lyme disease. Prescription corticosteroids and Non-Steroidal Anti-Inflammatory Drugs (NSAID) are contraindicated for anyone with Lyme and therefore should not be used. Another great product and the only product I know that has been developed to specifically address weather-related and chemical sensitivities is the German homeopathic remedy *Solum Uliginosum*, which also comes as massage oil. Any good sports cream or ointment rubbed into affected joints and muscles ahead of time may also help to avoid a worsening

How to Test Yourself for Ammonia

Rapid Testing for Ammonia:

Direct Resonance Testing (DRT) for ammonia is a simple test that a lay person, or health care practitioner can perform in one minute, for less than 20 cents. It is recommended that anyone with any chronic condition be tested in this way.

To perform a DRT, you will need a vial or small bottle of pure ammonia. A muscle strength challenge should be performed to identify a strong muscle, preferably using the deltoid muscle with the patient's thumb pointing towards the feet. The muscle should "lock" and be strong immediately when challenged, without being spongy. Once a good strong muscle has been identified, hold the vial of ammonia over various areas of the brain, heart, liver, and teeth, testing to see if the previously strong muscle goes weak when the ammonia is held over any of these areas (Andreev et al. 1994). Due to the temporary neuromuscular interference caused by the harmonic resonance of ammonia in the vial with the ammonia present in the tissues, the strong muscle will go weak (Adolf 1979, Frohlich 1978). The most effective treatment can be identified by adding the corrective substance, such as one of the NeuroAntitox Formulas™. To determine the best corrective substance, hold the vial of ammonia and the remedy over the same spot where the strong muscle went weak. If you have found the proper corrective substance, the formerly weak muscle test now will go strong. You will likely find that general liver and intestinal detoxification supplements will do nothing to clear out ammonia.

of your pain. Staying ahead of your symptoms in these situations helps keep you from literally taking two steps forward and one step back and prolonging your complete recovery. And, obviously, the best way to combat any of the Lyme symptoms is to directly address the toxins (NeuroAntitox Formula II) and reduce the cause of the toxins, Lyme spirochetes.

Dietary Worsening of Lyme Symptoms

High-protein foods, such as grains and meat, contain an amino-acid (the breakdown unit of protein) called L-arginine. L-arginine in foods and as a nutritional supplement should not be taken in the presence of ammonia. Research reveals that ammonia + arginine + manganese = increased nitric oxide (NO), up to 53% in astrocytes (brain cells), leading to increased brain swelling. When you increase localized brain swelling, the symptoms increase dramatically, and the perception of fatigue can escalate to critical. Armed with this knowledge, health care professionals would be wise to instigate a protein-poor diet for Lyme patients during treatment to minimize aggravations from arginine. Another way in which diet can be used to combat the effects of arginine is to eat foods high in the amino-acid L-Lysine, such as legumes, or one can easily purchase L-Lysine as a nutritional supplement from a health food store.

The mineral molybdenum, available in capsule form, can dramatically aid in the detoxification of the toxins caused by the dysfunction of multiple tissues in chronic illness. Molybdenum is very useful for detoxifying the toxin aldehyde from the die-off of Candida-type yeast. This is important to Lyme sufferers because aldehydes are considered neurotoxins, or nerve poisons. Aldehydes are also the toxins responsible for the hangover experienced by drinking excessive amounts of alcohol. I know of many Lyme patients who complain of this hung-over feeling without having drunk any alcohol. (However, it is our experience that molybdenum will not detoxify the specific Bb

toxin.) Even though Lyme sufferers should use molybdenum to get rid of the aldehyde toxins, they also need to drink plenty of purified water to keep the everyday metabolic toxins flushed out of the tissues. Taking molybdenum will help slow the degeneration of tissues and related symptoms from the toxic overload.

Viral Worsening of Lyme Leaky Brain Syndrome

The Centers for Disease Control (CDC) reports that about 92% of Americans would test positive to having the antibodies to at least six strains of Herpes viruses. This means that even without any Herpes symptoms, such as cold sores, canker sores, ulcers in the mouth and genital tissues, you likely have these viruses. Lyme Disease researchers have found that a common virus in chronic Lyme disease is the Human Herpes Virus-6 (HHV-6). The Herpes viruses, especially the *Herpes simplex*, synthesize or produce arginine-rich protein. Herpes viruses

Lyme Toxins

need arginine in order to continue replicating (Griffin et al. 1981). Armed now with the knowledge that Lyme spirochetes increase ammonia and mixing arginine with ammonia leads to increased brain swelling and energy deficits, addressing viruses becomes a very important issue in healing from Lyme disease.

Dietary supplementation with the amino-acid L-Lysine helps block the Herpes virus from replicating by several different mechanisms. L-Lysine limits the absorption of L-arginine in the gut; it promotes the rapid, enzymatic breakdown of L-arginine; and it generally antagonizes the growth-promoting actions of arginine on the Herpes viruses (Miller 1984).

I developed the frequency-matched products Virogen™ and Microbojen™ to provide the body's crystalline matrix with the specific



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Lyme Toxins

information necessary to facilitate the control and ultimate destruction of viruses. Clinical experience suggests that a general recommendation would be to start out using L-Lysine (from foods or in capsule form) for four to six months and Virogen for two to three months, then switch to

Ammonia-induced Leaky Brain Syndrome is one of the primary causes of multiple chemical sensitivities, cognitive dysfunction, chronic fatigue syndrome, and a myriad of other chronic conditions.

Microbojen for two to three months. Ideally, you will find a doctor to test you on all your nutritional supplements before implementing any protocol.

Supplemental vitamin C (Ester-C) and/or high-dose intravenous vitamin C has been shown to be beneficial in many viral conditions. My favorite form of oral vitamin C is an advanced, highly bio-absorbable product called Beyond C™ by Longevity Products, Inc.

pH Aggravations of Lyme Ammonia

Ammonia is very alkaline. Many doctors have been taught that most sick people have acidic bodies. The reality is not that simple. People may be predominantly acidic and may also be extremely alkaline in the areas of ammonia accumulation. This is why many people worsen when they are given dietary recommendations such as fresh fruits and vegetables, which work to alkalize the body. It appears that alkalizing these people is only aggravating the already over-alkaline ammonia regions of their body, the brain, heart, and liver. The ammonia conditions must be cleared before addressing the more acidic regions of their body.

The alkalinity of ammonia is also another reason why one must be careful when using magnets to heal. Before anyone knew about Lyme ammonia, it was generally thought that using only the negative polarity of a magnet over the body would be beneficial. It turns out that this

thinking is all wrong when ammonia is present. The negative polarity will increase the alkalinity even more, creating more problems in those areas, since too much alkalinity is just as bad as too much acidity. In the hands of a trained health care professional, 4"x6"x1," ceramic, positive polarity magnets used for *five minutes only* over these areas of ammonia can help counteract over-alkalinity in the tissues. Too much

positive polarity over an area will cause the area to become acidic. Caution: Positive polarity should never be used near any type of cancerous tissue.

ALS (Lou Gherig's Disease) and Lyme Ammonia

I have found through DRT that every person suffering from ALS has not only Lyme disease as its instigator; they all have global accumulations of ammonia. In other words, most people with typical Lyme disease have ammonia only in the liver, heart, brain, and gums; ALS sufferers have ammonia in every part of their bodies. In most people with typical Lyme, the ammonia is converted virtually instantly into nitric oxide in the extremities, muscles, and joints. In ALS, the conversion of ammonia into nitric oxide appears to be blocked by some unknown biochemical defect.

David A. Jernigan, BS, DC, is a published author and is nationally recognized as a leader in Biological Medicine and the treatment of chronic illness. Graduating with a Bachelor's degree in Nutrition with honors, he received his doctorate at Cleveland Chiropractic College-KC. Post Graduate studies have taken him far and wide, studying natural and anthroposophical medicine in Germany and Biological Medicine with the world-renowned Paracelsus Klinik of Switzerland, with later studies providing certification in Botanical Medicine through the University of Colorado, School of Pharmacy. Dr. Jernigan is also the developer of the diagnostic and treatment technique Bio-Resonance Scanning™ and a whole new concept in medicine called Circuit Healing™. He is the author of *Beating Lyme Disease Using Alternative Medicine*, which will be released in a second edition this year, and *Everyday Miracles by God's Design*.

The first time I tested a person with ALS, I was shocked to find global ammonia accumulations. Upon questioning, every ALS sufferer I have encountered has told me that when they perspire, they smell ammonia. One woman said that when her husband with ALS would come out of their infra-red sauna at home, his towels would wreek of ammonia, but no other doctor had ever picked up on this fact.

Another fascinating finding is that the muscle fasciculations of ALS – the worming, twitching of the individual muscle that leads to the nerve-ending dying – has been dramatically improved when the person soaks in a bath with four ounces of NeuroAntitox II Formula. This finding is remarkable in that if one could completely stop the muscle fasciculations, the nerve-endings would not continue to die, and the ALS would be brought to a halt. However, the reality is still that the cause of the lack of biochemical breakdown of ammonia must be corrected, the source of ammonia (Lyme spirochetes) must be brought to controllable levels, and the tissues must be repaired. So far, the "cure" for ALS is still elusive, but the Lyme-ammonia connection is a profound revelation. Good results are also being reported in ALS using intravenous (IV) glutathione, peroxide drips, and IV phosphatidylcholine.

This article continues online at www.Townsendletter.com with Dr. Jernigan's "Realities of Antibiotics for Lyme Disease."



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