Working with Chronic Lyme Disease

Discover the herbs and nutrients that can aid recovery from PTLDS

Lyme disease is a bacterial infection caused by the bacterium *Borrelia burgdorferi* and possibly other related species (like *B. mayonii)*. It is transmitted primarily through tick bites. Several days after the bite, the person typically develops a bulls eye-like rash (see picture on page 3), fever, headache and fatigue. Most cases of acute Lyme disease can be treated successfully with a few weeks of antibiotics.

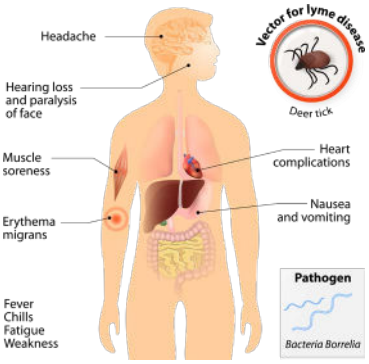
According to the Center for Disease Control (CDC) 10-20% of people treated for Lyme disease develop ongoing symptoms, a condition that has been called Post Treatment Lyme Disease Syndrome (PTLDS). It has also been called chronic Lyme disease.

Symptoms of PTLDS can include chronic fatigue, pain (especially migrating joint and muscle pain), restless or disturbed sleep, swelling in the knees, shoulders, elbows and other large joints, decreased short-term memory, difficulty concentrating (brain fog) and speech problems. Other symptoms can include eye pain, tooth pain, muscle twitching, dizziness, tremors, chest pain, irregular heartbeat, shortness of breath, headaches and chronic flu-like symptoms. These symptoms last more than 6 months, and can sometimes last for many years.

It has been estimated that about 300,000 Americans are infected with Lyme disease each year. Many of these people become ill but don't know why as many medical doctors aren't trained to recognize PTLDS. So, if you've ever been bitten by ticks and are suffering from symptoms like those listed above, you should consider the possibility of that you have PTLDS. That's true even if you didn't notice any acute symptoms after the tick bite as some people with PTLDS didn't experience the acute symptoms of Lyme disease.

This issue of *Sunshine Sharing* is devoted to those suffering from this difficult to diagnose and treat disease. We'll talk how to deal with tick bites and recognize acute Lyme disease so you can seek appropriate treatment for it. We'll also explain why *Borrelia burgdorferi* and other related species of bacteria have been called stealth bacteria and how they hide from antibiotics and the immune system. Primarily, however, we'll discuss PTLDS and the remedies used by many herbalists and holistic doctors to aid recovery.

Chronic Lyme Disease (PTLDS) Symptoms and Causes



Lyme Disease can have many symptoms, both acute and chronic. But, in PTLDS the bacteria appear to be gone. So, why do symptoms sometimes show up months or years after the bacterial infection was treated with antibiotics? There are several possible explanations for this.

The first is that the bacteria may have been removed but the damage done by the initial infection never fully healed. In fact, the high doses of antibiotics used to treat acute Lyme disease may have disrupted the friendly flora and the immune system causing negative residual effects.

A second potential explanation is that ticks carry other bacteria besides the *Borrelia* genus. They can also carry chlamydia, rickettsia (which causes Rocky Mountain Spotted fever), mycoplasma (which are the smallest bacteria and difficult

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to detect), and other infectious organisms. So, it's possible that PTLDS could actually involve a low grade, chronic infection of more than one bacterial species.

A third possible reason for PTLDS is that *Borrelia burgdorferi* and several other types of bacteria carried by ticks behave differently than the disease-causing bacteria with which we're familiar. They have been called stealth bacteria because of their ability to burrow into tissues, create cysts and otherwise hide from both antibiotics and the immune system. This why it may appear the bacteria have been destroyed by antibiotics, yet may still be present in the tissues. Here's how the process works.

Tick Bites and Disease

When a tick bites, it releases its saliva that contains numbing compounds into the skin so you don't feel the bite. It also contains chemicals that inhibit the normal inflammatory reaction of the immune system, which protects the microbes it carries from being immediately recognized and sequestered by the immune system.

This provides the opportunity for bacteria living in the tick to enter your blood stream. From there, the *Borrelia* bacteria try to escape destruction by burrowing into tissues to hide from the immune system. Their corkscrew shape (see illustration in the right column) helps them do this very efficiently.

The favorite food of *Borrelia* bacteria is collagen, so they are attracted to collagen-rich tissues such as joints, muscle (especially the heart muscle), the brain, eyes and skin. This is why untreated Lyme disease may eventually affect the joints, heart and nervous system.

Antibiotics have a harder time reaching bacteria that have burrowed into the tissues. That's why they are given in very high doses when a person has acute Lyme disease. Unfortunately, if the initial round of antibiotics doesn't kill them all, the one's that remain are more resistant to antibiotics.

To further complicate the problem, *Borrelia* bacteria can form cysts to hide from antibiotics. This also helps them hide from the immune system to a degree, but not completely. Certain neutrophils are very proficient at destroying cysts. So, a functioning immune system, and not just antibiotics, is important in getting rid of *Borrelia* bacteria.

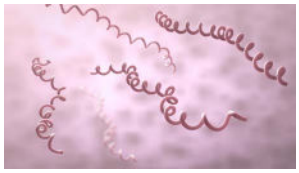
Understanding Stealth Microbes

Most disease-causing bacteria multiply rapidly and produce toxic substances which damage cells and can eventually kill the host. These include *Salmonella*, *C. botulinum* and *E. coli*. Bacteria like those associated with Lyme disease, however, do not produce toxins, nor do they multiple rapidly. The only damage they cause is using up nutrients, like collagen, that the body needs. As long as their numbers remain small, one doesn't notice the problem.

In fact, it's helpful to think of these bacteria as hitchhikers rather than invaders. They're not trying to multiply wildly and kill the host, they're trying to hide out by keeping their numbers low, until they can hitch a ride on the next tick.

When another tick bite occurs, the presence of the tick saliva alerts them to come out of hiding so they can enter the tick to hitch a ride to the next possible host. This stealth hitchhiking strategy isn't just true for *Borrelia* bacteria, it's also true for mycoplasma and other micro-organisms spread by ticks.

Why is Lyme Disease on the Increase?



With many people living in cities it may be surprising to learn that the incidence of tick-borne disease been rising in recent decades. It could be that we weren't aware of the problem before, but it is more likely that it is due to a rise in weakened immune systems.

Lyme disease isn't just about the bacteria, it's about overall health and how well a the immune system is functioning. Many people who are bitten by ticks don't get sick and symptoms of PTLDS may not show up until years later when the body gets weakened in some way. Both of these facts suggest that the health of the immune system is involved. Researchers also believe that the symptoms associated with PTLDS aren't actually caused by the bacteria themselves, but rather with inflammatory cytokines that are released when the immune system overreacts to their presence.

The Challenge of Diagnosing and Treating Chronic Lyme Disease

All of this explains why modern medicine has had a difficult time identifying and treating people who have PTLDS. It doesn't act like the infections they are used to treating. It's difficult to diagnose a disease if you can't detect the bacteria causing it.

When they are identified, it takes very high doses of antibiotics (often several at a time) over a long period of time to try to get rid of them. This treatment method has problems of its own, including the weakening of the immune system by the destruction of the friendly bacteria that are part of the gut-immune system.

This is why many people who are chronically ill with PTLDS turn to natural medicine for answers. Dr. Sunjya K. Schweig, an advisor for the Bay Area Lyme Foundation said, "This is why I love plants. Antibiotics have a single mechanism of action. They're very focused and very targeted. Plants on the other hand can have hundreds of different active compounds that have a variety of different activities."

Dr. Schweig was one of the authors of a study conducted at John Hopkins Bloomberg School of Public Health and published in the peer-reviewed journal *Frontiers in Medicine*. The study found seven herbs with potential benefit against the *Borrelia* bacteria in test tubes. The top performers were cryptolepsis,

Japanese knotweed, black walnut, sweet wormwood, cat's claw (uña de gato), rock rose and Chinese skullcap.

Stephen Harrod Buhner, author of the book *Healing Lyme* and recognized authority Lyme's disease, has a protocol that includes many of those top performers: Japanese knotweed (or it's extract resveratrol), cat's claw and Chinese skullcap. In addition to these he also uses andrographis, ashwaganda, eleuthero root, licorice root, red sage and sometimes echinacea. He also recommends bone broth for collagen support and many other supplements depending on the different body systems the PTLDS is affecting.

Another protocol, based partly on Buhner's is that set forth by Dr. William Rawls, MD, in his book *Unlocking Lyme*. His list includes most of the remedies Buhner uses, but he also recommends garlic with stabilized allicin, sarsaparilla, cordyceps, reishi, hawthorn and milk thistle. Nutrients he recommends include glutathione, n-acetyl-cysteine, alpha lipoic acid, Co-Q10, vitamin D3, and omega-3 essential fatty acids.

The exact protocol for PTLDS needs to be adapted to each individual, but based on the experience of these and other experts, here are three key categories of remedies to consider. Other remedies would be added based on the organs affected by PTLDS. For example, if the heart is affected remedies like hawthorn and Co-Q10 would be helpful. We recommend working with an experienced herbalist or other natural health care provider to determine the best remedies for you.

Antimicrobial Herbs to Fight Infection

As indicated above, there are several antimicrobial herbs that appear to be helpful for PTLDS. The first is andrographis, which is widely regarded as helpful for acute and chronic infections. For PTLDS a dose of about 200-800 mg. per day is suggested.

Andrographis is found in the ***Seasonal Cold and Flu formula***, which also contains eleuthero, one of the herbs mentioned in part two as an immune modulator. The appropriate dose would be one capsule 2-3 times a day.

Another potentially helpful remedy for PTLDS is cat's claw. It enhances lymphocytes and natural killer (NK) cells, including a specific NK cell that is deficient in PTLDS. At the same time, it calms down an overactive immune system and helps reduce inflammation. Cat's claw is also one of the best herbs for restoring gut health (along with probiotics) in people who have taken high doses of antibiotics. It also aids join health. The recommended dose is 400-800 mg. daily.

The ***Gut Immune Formula*** combines cat's claw with echinacea and astragalus, two herbs that boost immune functions. The dose of this blend would be 1-2 capsules twice daily. Buhner recommends taking **Astragalus** daily to prevent infection from ticks. He recommends 1,000 mg. (about two capsules) throughout the year and 3,000 mg. (about six capsules) during the tick season if you live in an area where Lyme disease is prevalent.

Garlic with stabilized allicin may also be helpful. It is a broad spectrum anti-microbial. It can help rebalance gut flora after antibiotics and has some activity against various species of *Babesia* bacteria. A rather high dose is required of about two tablets three times daily.

Resveratrol, extracted from Japanese knotweed, is a primary remedy for *Borrelia* in typical Lyme protocols. It is helpful against other infectious organisms that can be transmitted by ticks, such as *Bartonella* and mycoplasma and helps with *Candida* infections from antibiotics. The recommended dose is 200 to 800 mg. per day.

Resveratrol can be found in the ***High ORAC Blend***, which also contains anti-inflammatory and antioxidant herbs like mangosteen, açaí and turmeric. The dose would be about 2-4 capsules per day. It is also in the ***Cardiovascular Protection***

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Handling Tick Bites

Tick bites are usually painless and cause only minor irritation, but to reduce the possibility of getting infected with Lyme disease, Rocky Mountain spotted fever and other microbes the tick should be removed as quickly as possible.

Current medical advice is the remove the tick with tweezers by grasping the body of the tick as close to the skin as possible (see illustration). Pull the tick out with a steady gentle motion. Modern experts don't recommend coating the tick with petroleum jelly or fingernail polish or trying to use a hot match to remove a tick.

Carefully wash the site of the bite using soap and warm water. You can also disinfect the area with rubbing alcohol, colloidal silver or iodine. Buhner recommends putting the tincture of Andrographis on the site. You may wish to save the tick by putting it into a container and freezing it so the doctor can examine it if you develop symptoms.

If part of the tick remains in the skin, you may want to consult a doctor to help you re-move it. The longer the tick remains in the body, the greater the risk of infection.

You should definitely see a doctor if a rash develops around the bite site, which usually happens within 3-14 days. You should also seek medical attention if fever, chills, fatigue, muscle or joint pain and/or a headache accompany the rash.

This is one case where antibiotics should be used, although you may wish to use some of the remedies listed in this newsletter in addition to the antibiotics. Antibiotics should be followed by taking probiotics to restore friendly gut flora.

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Blend, which also has hawthorn (to protect the heart) and several vitamins. The dose would be 1 capsule three times daily.

Another herb worth mentioning is sarsaparilla, which binds endotoxins from dying bacteria and was traditionally used as a remedy for syphilis, another spirochete bacterial infection. Additional antimicrobial remedies to consider would include Chinese skullcap, black walnut, cryptolepsis and sweet annie.

Immune Modulators to Balance Immune Reactions

Cordyceps has proven to be a valuable remedy for many people with PTLDS. It decreases inflammatory cytokines while aiding NK cells and macrophage activity to help fight infection. It is a general tonic to the body, but also helps to protect the heart. The recommended dose is 1-3 grams (about 2-6 capsules daily).

Another medicinal mushroom that may be helpful is reishi (or *Ganoderma*). It improves immune responses, but also reduces inflammatory cytokines. It also helps the nervous system and protects the heart. The recommended dose here is 1-2 grams.

A ***Mushroom Immune Blend*** containing cordyceps and reishi, along with other medicinal mushrooms like chaga and turkey tail would probably be beneficial. One scoop contains 3 grams of medicinal mushrooms, so 1-2 scoops daily would be a good dose.

Eleuthero root is an adaptogen which aids basic immune responses and improves resistance to stress. It can be a helpful immune modulator where fatigue is one of the symptoms, but a relatively low dose is needed. One capsule per day is plenty.

Ashwaganda is another helpful immune modulator that can also aid sleep. An ***Ashwaganda Complex*** that also contains the adaptogens rhodiola and schizandra may also be helpful. Dose would be 1-2 capsules per day.

Restorative Remedies to Support Health and Healing

Since collagen is the prime target of stealth microbes like *Borrelia* and mycoplasma, increasing collagen intake can aid with recovery. This may be done by making and drinking bone broth on a regular basis or by taking a **collagen** supplement. The dose for collagen is 6,000 mg. or more per day

The silica in horsetail can help with collagen support. If you're experiencing joint or muscle pain as part of PTLDS you could take **horsetail** or ***Watkin's Hair, Skin and Nails Formula*** daily. The formula also contains dulse, sage and rosemary and is helpful not only for bone and joint health, but also the health of the nerves, which may also be attacked by Lyme infection. The dose for either is 1-2 capsules three times daily.

For pain and sleep problems CBD may be helpful. CBD also helps modulate the immune system, which is important in recovery from PTLDS.

A ***Multi-vitamin and Mineral supplement*** would probably be helpful, but specific nutrients that may help support recovery from PTLDS include **vitamin C**, **vitamin D3**, **zinc** and selenium.

Omega-3 essential fatty acids also modulate immune responses and may be helpful for supporting nerve and joint function with chronic Lyme disease. An ***Anti-Inflammatory Pain Formula*** may also be helpful if you have joint or muscle pain. It contains andrographis, mentioned earlier for infection, along with the anti-inflammatory herbs boswellia, mangosteen and turmeric.

Additional Help and Information

For more information about PTLDS contact the person who gave you this newsletter. You can also consult the following resources:

Healing Lyme by Stephen Harrod Buhner
Unlocking Lyme by William Rawls, MD
Epoch Times, April 23-29, 2020, pg. C1,5