

Dr. Hinchey's 10B Approach for Holistically Healing Lyme and Tick-Borne Disease

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The International Lyme and Associated Diseases Society (ILADS) is a nonprofit, international, multidisciplinary medical society dedicated to the diagnosis and treatment of Lyme and other complex inflammatory diseases. With these educational blog posts from experts and members of our board, ILADS aims to promote awareness and understanding of health and wellness, especially as it relates to complex inflammatory diseases, so that we can all learn and grow together. If you have any questions or want more information, you can email us at contact@ilads.org.

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As the public health landscape evolves, Lyme and other tick-borne diseases (TBDs), such as Babesia, have emerged as significant concerns due to their treatment resistance and increasing prevalence both in the United States and globally (149,156,157,160,159,151). The Centers for Disease Control and Prevention (CDC) has reported a dramatic increase in diagnosed and treated cases, from approximately 30,000 in 2003 to over 476,000 recently (149,157,165). The epidemic status and evolving complexity of TBD epidemiology are attributed to accelerated transmission rates, alternative insect vectors, and potential sexual and gestational transmission (155,152,163,164,147,148,171). TBDs exhibit a range of symptoms, from mild flu-like illnesses to severe, long-term complications affecting the nervous system, joints, and heart (167, 156). These escalating statistics highlight the urgent need for proactive intervention strategies to address the growing burden of both acute and persistent phases of TBDs.

Long-Term Lyme

The CDC's recent acknowledgment of persistent symptoms beyond initial treatment as "Post-Treatment Lyme Disease" (PTLD) underscores the chronic nature of Lyme disease and emphasizes the importance of addressing lingering effects to mitigate adverse outcomes. However, the term "Chronic Lyme Disease" is discouraged due to "its unknown causes" (150). Inflammation is identified as a central driver of ongoing symptoms in both chronic Lyme disease and PTLD, highlighting the importance of addressing inflammatory processes despite incomplete understanding of individual-specific factors (146,161). Still, misconceptions regarding the necessity of a bull's-eye rash, regional prevalence, clinical nuances, and overreliance on laboratory tests hinder prompt treatment, exacerbating diagnostic challenges and fueling chronic TBDs (166,174,170).

Testing Is Not the (Only) Answer

While diagnostic testing remains a valuable tool in identifying TBDs, its limitations necessitate a nuanced approach to prevent infections from progressing to chronic states (175,150). Conventional two-tier methods (ELISA/Western Blot) at standard laboratories may yield false negatives if conducted too early, as peak antibody production occurs 3-6 weeks post-bite, and they fail to detect numerous Lyme strains and all co-infections (156,145). Recent updates supported by ILADS and the CDC stress the integration of laboratory findings with clinical assessment for optimal diagnostic accuracy and tailored therapeutic interventions (175,150).

Mechanisms of Persistent Lyme Disease

TBDs, already challenging to detect due to testing limitations, may also act as underlying triggers for various rampant health conditions including neuropsychiatric disorders, developmental disorders, autism spectrum disorders, mood disorders, Pediatric Acute-onset Neuropsychiatric Syndrome (PANS) (146,147), breast cancer, lymphoma (176,143), and Mast Cell Activation Syndrome (158). Incorporating chronic TBDs into the framework addressing these health challenges could yield significant benefits.

Persistent TBDs induce immune dysfunction and chronic inflammation, creating a conducive environment for infection and treatment resistance (162,172). Lyme and co-infections also employ tactics to evade host immunity, impeding conventional antibiotic therapies (141,153,154). Prolonged or excessive antibiotic use may exacerbate immune dysfunction by disrupting the microbiome, increasing gut permeability, and altering detoxification pathways (139,144,168). Additionally, antibiotic-induced persister cell formation may contribute to treatment resistance and illness chronicity (162,169). Herbal antimicrobials, however, have shown equal or greater effectiveness in eradicating pathogens compared to conventional treatments (38).

While the CDC supports a single dose of doxycycline for acute Lyme disease prophylaxis, the evidence is unreliable and the study used was flawed in many ways (177,178). Additionally, the 10-14 days of antibiotics the CDC recommends for erythema multiforme (EM) rash (diagnostic of acute Lyme disease) is insufficient to treat the infection based on the life cycle of *Borrelia*, which is the spirochete that causes the disease. The International Lyme and Associated Disease Society (ILADS) advises against this approach and recommends 20 days of doxycycline for tick bites, and 4-6 weeks of antibiotics for EM rashes to prevent chronic Lyme disease. If symptoms persist, exploring other causes before further antibiotic treatment is suggested (179). However, an optimal approach may require additional considerations.

A Holistic Treatment Plan: Dr. Hinchey's 10B Approach – Core Principles for Healing Lyme and Tick-Borne Disease

The collective impact of TBDs has reached endemic levels, imposing physical, emotional, and economic burdens. As a result, comprehensive intervention strategies are imperative for affected individuals and communities.

Dr. Hinchey's 10B Approach provides a comprehensive solution to TBDs, integrating immune modulation, inflammation reduction, and therapeutic interventions to create an inhospitable environment for infections. By simultaneously addressing pathogenic load reduction, restoring physiological function, and implementing dietary, lifestyle, and herbal interventions, this holistic system balances the body's terrain and targets root causes of immune dysfunction (142,38). Central to this approach is the emphasis on optimizing the immune system, responsible for either eradicating the infection or inducing remission.

The 10 Bs:

1. **Background** Check
2. **Band-Aids**
3. **Block** Inflammation
4. **Buffer** the ANS (Autonomic Nervous System)
5. **Balance** the Immune System
6. **Build** the Gut
7. **Break** Down Biofilms
8. **Bolster** Detoxification
9. **Bind** Toxins (Herxheimer)
10. **Blast** Bugs

1. Background Check: Investigate What Fills the Patient's Stress "Bucket," Causing Them to Become Hospitable to TBDs

Addressing multifaceted functional deficiencies is essential to enhance therapeutic responses in patients. Individual constitution, genetics, and epigenetic factors contribute to an inflammatory milieu that supports TBDs.

These include: micronutrient deficiencies (21); dysfunctional digestion (64); food sensitivities; inflammatory food (36); Rx intake; overburdened detox pathways (70); hormone dysregulation (7); mindset (29); mental, emotional, and physical stressors; HPA (Hypothalamic-Pituitary-Adrenal) axis dysregulation (78); sleep and circadian rhythm dysregulation (14); inactivity (83); poor social network and relationships (113); biotoxins and mold; environmental toxins (10,106); and lack of nature (5).

2. Band-Aids: Temporarily Utilize Interventions to Alleviate Severe Symptoms and Enhance Quality of Life During Treatment

The objective is to mitigate inflammation and stress, promote the parasympathetic nervous system for healing, and target underlying causes.

Examples of interventions: adaptogenic herbs like *Rhodiola rosea*, ashwagandha, holy basil, and eleuthero (88); anti-inflammatories (both pharmaceutical and natural agents) (104) like low-dose naltrexone (LDN) (126), omega-3 fatty acids (19), and curcumin (45); nutrient repletion; sleep aids (52); limiting stimulants (97); hyperbaric oxygen therapy (HBOT); pulsed electromagnetic fields (PEMF) therapy; infrared sauna (110,76); craniosacral and massage therapy (114,39); and counseling (87,47).

3. **Block (3-Part):**

1. **Block Galactin-3:** Gal-3, a carbohydrate-binding protein, promotes inflammation by modulating immune responses and releasing pro-inflammatory cytokines. Elevated Gal-3 levels contribute to chronic inflammation, fibrosis, and immune suppression. Modified Citrus Pectin (MCP), a natural Gal-3 inhibitor, disables immune suppression, stimulates natural killer (NK) cell production, and controls inflammation (123).
2. **Block inflammatory cytokines:** The inflammatory cytokine cascade facilitates TBD progression and proliferation by promoting inflammation and immune dysregulation, aiding pathogen survival and dissemination within the host. *Polygonum cuspidatum* (Japanese knotweed) and *Scutellaria baicalensis* (Chinese skullcap) inhibit all inflammatory cytokines involved in Lyme disease (89,68,24,69,17,94,60,129,72,122).
3. **Block inflammatory enzymes that degrade collagen, extracellular matrix (ECM), and endothelial cells:** *Polygonum cuspidatum* root, *Echinacea angustifolia*, *Withania somnifera*, curcumin, *Salvia miltiorrhiza*, *Scutellaria baicalensis* (20,125), and *Withania somnifera* (74,57,127,132,60,23,134).

4. **Buffer: Reduce the Effects of Stress on the Autonomic Nervous System (ANS)**

TBDs cause autonomic dysfunction (22). The ANS regulates involuntary bodily functions. Comprising the sympathetic (SNS) and parasympathetic (PNS) divisions, it maintains homeostasis and responds to stimuli. The SNS activates during stress, while the PNS promotes relaxation and internal healing mechanisms (42).

The ANS is supported with: Vitamins B1, B12, C, D, MSM + silica, salt, pre- and probiotics (27), IV hydration (30), anti-inflammatory foods that nourish the microbiome (95), low glycemic diet (117), mindful eating (2), physical activity (54), sleep hygiene (46), circadian rhythm balance (65,26), acupuncture (67), craniosacral therapy (114), grounding (25), reduced electromagnetic fields (EMF) exposure (112,124), breathwork and meditation (56), biofeedback and heart rate variability (HRV) (135,133), creativity (107), neural reprogramming: EMDR (105), Dynamic Neural Retraining System (DNRS),

Emotionally Focused Therapy (EFT) (136), and community/supportive relationships (48,113).

5. Balance: The Immune System

TBDs hijack the immune system and get it to work for them instead of for the host in both the acute and chronic infection phases, increasing inflammation, pathogen infection, and immune system suppression (6). Balancing TH1 and TH2 immune responses is essential. TH1 responses are essential for combating intracellular pathogens. TH2 responses are involved in antibody production and allergic responses. An imbalance, with excessive TH2 responses and suppressed TH1 responses, leads to chronic infections and persistent symptoms.

To support TH1/TH2 balance: *Withania somnifera* (ashwagandha) (8), *Astragalus spp* (23), *Uncaria tomentosa* (66), and *Echinacea angustifolia* (128).

6. Build the Gut: A Healthy Gut Microbiome Is Essential to Modulate Inflammation and Support Optimal Immune Function

Optimizing GI tract health is crucial as it houses over 70% of the immune system. Improving digestion, supporting nutrient absorption, and maintaining a healthy microbiome are essential for reducing inflammation and combating infection spread (11). Healing and sealing the gut lining is key to prevent the translocation of pathogens, immunogenic food particles, and endotoxins, which can downregulate detox pathways, increase Herxheimer reactions, and contribute to inflammation and immune hyper-reactivity.

Ways to support gut health:

- Eliminate: food sensitivities and allergies; pathogenic bacteria, yeast, and mold; gluten, dairy, sugar, processed, non-organic foods; environmental toxins (and focusing on reducing toxic load); proton pump inhibitors (PPIs); non-steroidal anti-inflammatory drugs (NSAIDs); and excessive antibiotics
- Replace: deficient micronutrients, digestive enzymes, bitters, hydrochloride (HCL)
- Anti-inflammatory and phytonutrient-rich diet
- Heal the gut lining: glutamine, demulcent herbs, zinc
- Modified citrus pectin (MCP)
- Serum-derived bovine immunoglobulin (SBI)
- Balance opportunistic bacteria, prebiotics, probiotics
- Intermittent fasting
- Adequate sleep
- Stress management

7. Break Down: Biofilms

Biofilms shield pathogens in a protective matrix, aiding infection persistence and treatment resistance by creating microbial communities enveloped in extracellular polymeric substances. Crucial in Lyme disease and co-infections, disrupting biofilms makes pathogens vulnerable to treatment, enhancing eradication.

Ways to disrupt biofilms: MCP (Modified Citrus Pectin) (34), proteolytic enzymes (98), botanicals such as berberine (41), curcumin (99), grapefruit seed extract (44), oregano oil (85), garlic (allicin) (81), olive leaf extract (108), and monolaurin (93).

8. Bolster: Detoxification

Proper detoxification, crucial in TBD management, involves optimizing the drainage funnel from bowel movements to cellular detoxification (137). Herbal compounds protect cells, support cellular health, and aid tissue detox. Maintaining intestinal barrier integrity (compromised by pro-inflammatory cytokines and enzymes) prevents toxin reabsorption, which is crucial in mitigating TBD-induced immune alterations and inflammation, thereby reducing systemic toxicity and organ damage (137).

Ways to support detoxification:

- Fix tight junctions: MCP, glutamine, butyrate, tryptophan, zinc, A/D/C, polyphenols (96,109)
- Correct dysbiosis (often defined as an imbalance in the gut microbial community): probiotics, berberine, grapefruit seed extract (GFSE) (44,130)
- Glycine (an amino acid) (91)
- GSH conjugation: N-acetyl cysteine (NAC), selenium, alpha-lipoic acid, cruciferous veggies, curcumin, sulforaphane (79)
- Nrf2 induction: sulforaphane (50)
- Methylation: Methyl folate, Methyl B12, B6, choline (73)
- Sulfation: cysteine, methionine, molybdenum (53)
- Acetylation: Vitamins B1, B5, C (118)
- Glucuronidation: EPA (eicosapentaenoic acid)/DHA (docosahexaenoic acid), limonene (86)
- Decrease B-glucuronidase: calcium d-glucarate, pre- and probiotics, epigallocatechin-3-gallate (EGCG), milk thistle, artichoke, bupleurum root (77)
- Bind endotoxins: chlorella, MCP, bentonite clay, etc. (33,119,131)
- Routes of elimination and self-care

9. Bind: Toxins

The goal of binding toxins is to reduce inflammation and inhibit a Herxheimer reaction from occurring. A Herxheimer reaction is a transient exacerbation of symptoms during antibiotic treatment due to pathogenic die-off, resulting in acute inflammatory changes

and symptoms such as fever, chills, nausea, headaches, muscle pain, tachycardia (a heart rate over 100 beats per minute), hypotension (low blood pressure), hyperventilation, flushing, and myalgia (muscle aches and pain). In TBDs, a high toxic load, reduced detoxification capacity, and increased intestinal permeability contribute to heightened inflammation and exacerbation of symptoms during a Herx reaction.

Products to support relief of a Herxheimer reaction:

- Bind LPS: MCP, SBI, chlorella (34,55,82,92)
- Detox: support tight junctions, coordination of Ph1 and Ph2 liver detox pathways (NAC), micronutrients for detox, elimination, self-care, sauna, Epsom salt baths, etc. (51,59)
- Alkalinization: Alka-Seltzer Gold, chlorella, minerals, salts (49)
- Anti-inflammatories: NAC, Japanese knotweed (JKW), Chinese skullcap (57,115,138)

10. Blast the Bugs: Use Proven Herbal Remedies to Eradicate Pathogens

Effective eradication of infectious organisms, including persister forms and biofilms, is critical in Lyme and TBD treatment (28,38). Studies show numerous herbs have “potent activity against Lyme disease bacteria, especially the dormant persister forms, which are not killed by the current Lyme antibiotics” (38).

Evidence-based herbal remedies include (38,40,43,63,18,120,44):

- *Polygonum cuspidatum* (Japanese knotweed)
- *Artemisia spp* (Sweet Annie)
- *Andrographis paniculata*
- Teasel
- *Houttuynia cordata*
- *Uncaria tomentosa* (Cat’s claw)
- *Scutellaria baicalensis* (Chinese skullcap)
- *Juglans nigra* (Black walnut)
- *Cryptolepis sanguinolenta*
- Garlic
- Olive leaf extract
- Grapefruit seed extract

Conclusion:

Chronic or persistent TBDs present multifaceted challenges stemming from immunological dysregulation and inflammatory responses. Effective resolution of TBDs relies on understanding three key factors: the infection, the terrain, and the treatment. This involves grasping how the infectious organism thrives, assessing the patient's

circumstances that facilitate infection, and understanding the mechanisms of available treatments, including medications, herbs, and nutraceuticals. By adopting the **10B Approach**, practitioners can implement tailored holistic treatments, enhancing outcomes to prevent chronic conditions and prolonged suffering associated with persistent TBDs. This approach provides optimism for managing TBDs effectively and improving patient well-being.

To contact Dr. Myriah Hinchey or set up an appointment, you can visit [Tao Vitality](#).

Join us for the LymeBytes™ Symposium on October 25th & 26th at The Hilton Mystic in Mystic, Connecticut, or attend virtually. This transformative event aims to instill hope and promote healing for those impacted by tick-borne diseases. Connect with leading Lyme physicians, industry experts, and non-profit organizations for quality information tailored for practitioners, patients, and families. Visit www.lymebytes.com for more information and to register for this immersive two-day conference.

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