

Dr. Hinchey's

10B APPROACH

Core Principles for
Healing Lyme
Disease

HEALING
LYME
SUMMIT

June 4 - 10, 2024



Dr. Myriah Hinchey, ND, FMAPS

using the **10B APPROACH**

A Comprehensive Resolution of Tick-Borne Diseases

A HOLISTIC PLAN OF CARE

A NATUROPATHIC WHOLE-BODY APPROACH IS NEEDED TO REDUCE INFLAMMATION AND ACHIEVE REMISSION FROM TICK-BORNE DISEASES.

Promoting Healing and Resolution of TBDs Focuses on:

- correcting immune system dysfunction
- decreasing inflammation
- making the body inhospitable to infections

while...

- shrinking the bacterial/viral load to eradicate the infections
- restoring proper function
- enlisting therapeutic dietary and lifestyle interventions

AN INTEGRATIVE PLAN OF CARE

THE BODY'S IMMUNE SYSTEM IS ULTIMATELY RESPONSIBLE FOR ELIMINATING THE INFECTION OR PUTTING IT INTO REMISSION.

While antibiotics are useful in specific circumstances, no combination or amount will completely eradicate the infection. Antibiotics (prescription or herbal) only shrink an infection to a manageable amount by the immune system.

Excessive Antibiotics can Create Immune Dysfunction by:

- Disrupting the microbiome
- Increasing gut permeability
- Increasing toxic load
- Impairing organs of detoxification
- Altering nutrient intake
- Triggering formation of persister cells

supporting the terrain is key!



**GOAL
#1 FOR
HEALING
TBDS**

supporting

THE TERRAIN

MAKING THE BODY INHOSPITABLE TO TBDS

TBD infections alter the terrain of the body to allow them not only to evade the immune system to survive but to THRIVE! We must support the whole body to prevent this.



Imbalances are interconnected and need to be addressed simultaneously.

They cannot be resolved one at a time in a linear fashion, because each imbalance causes multiple other dysfunctions downstream.

Dr. Hinchev's

10B APPROACH

CORE PRINCIPLES FOR HEALING LYME
AND TICK-BORNE DISEASE

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

1

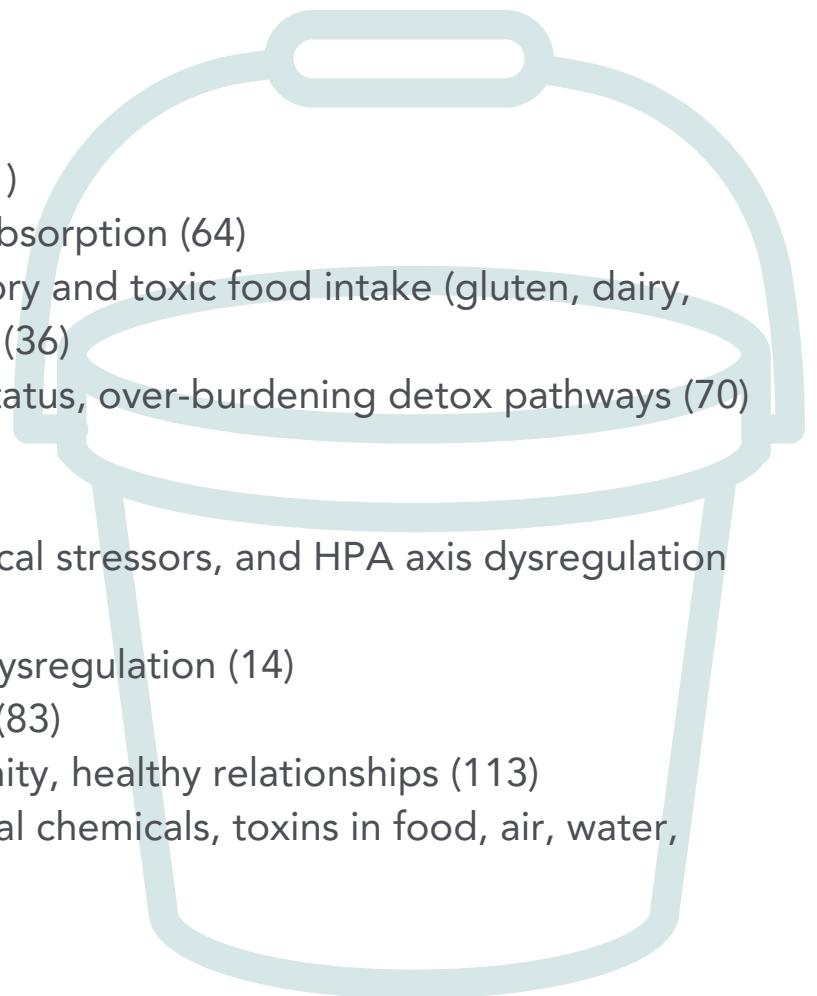
BACKGROUND CHECK

INVESTIGATE ALL THE THINGS THAT FILL THE PATIENT'S STRESS "BUCKET", CAUSING THEM TO BECOME HOSPITABLE TO TICKBORNE INFECTION(S).

A complex network of functional deficiencies must be addressed to prepare each patient for an optimal therapeutic response to tick-borne infections. Individual constitution, genetics, and epigenetic factors all contribute to an inflammatory milieu providing a safe harbor for infections.

These factors can include:

- Micronutrient deficiencies (21)
- Dysfunctional digestion/malabsorption (64)
- Food sensitivities, inflammatory and toxic food intake (gluten, dairy, sugar, processed foods, etc.) (36)
- Rx intake affecting nutrient status, over-burdening detox pathways (70)
- Hormone dysregulation (7)
- Mindset and perceptions (29)
- Mental, emotional, and physical stressors, and HPA axis dysregulation (78)
- Sleep and circadian rhythm dysregulation (14)
- Sedentary lifestyle, inactivity (83)
- Poor social network, community, healthy relationships (113)
- Biotoxins/mold, environmental chemicals, toxins in food, air, water, PFAS (10,106)
- Lack of time in nature (5)



2

BAND-AIDS

TEMPORARILY UTILIZE INTERVENTIONS TO ALLEVIATE SEVERE SYMPTOMS AND ENHANCE QUALITY OF LIFE DURING TREATMENT.

The goal is to reduce inflammation and stress, support the parasympathetic nervous system (rest/digest/healing mode), and address root causes. Examples of interventions include:

- Adaptogenic Herbs: Rhodiola rosea, Ashwagandha, Holy Basil, and Eleuthero (88)
- Anti-inflammatories: Both pharmaceutical and natural agents (104)
 - LDN (Low-Dose Naltrexone): Modulates the immune system and reduces inflammation (126)
 - Phosphatidylserine: Helpful in lowering elevated cortisol levels (12)
 - Magnesium: the "relaxation mineral", supports nervous system function (101)
 - Vitamin C: Required for cortisol production (90)
 - B Vitamins: Essential for energy production and neurotransmitter synthesis (58)
 - Omega-3 Fatty Acids: anti-inflammatory and support brain function (19)
 - L-Theanine: Promotes a calm, relaxed state (84)
 - Curcumin: Has potent anti-inflammatory and antioxidant properties (45)
- Repleting Nutrients: Ensuring optimal levels for physiological function through food and nutraceuticals
- Adequate Sleep/sleep aids: proper sleep hygiene, essential for detoxification & repair, supplementation to promote adequate sleep (52)
- Limiting Stimulants: Such as caffeine and nicotine (97)
- Therapeutic Technologies: HBOT, PEMF, infrared sauna (110, 76)
- Bodywork: Cranial sacral therapy, massage (114, 39)
- Professional Counseling/Therapy: Psychotherapy, Cognitive Behavioral Therapy, Somatic work (87, 47)

3

BLOCK (3-PART)

A) BLOCK GALACTIN-3

B) BLOCK INFLAMMATORY CYTOKINES

C) BLOCK INFLAMMATORY ENZYMES

A) Block Galactin-3 (Gal-3)

Gal-3 is a carbohydrate-binding protein that contributes to inflammation by modulating immune responses and promoting the release of pro-inflammatory cytokines. Though Gal-3 plays an essential role in the body's initial recognition and response to infection, at elevated levels, it fuels chronic inflammation, fibrosis, and immune suppression.

- Natural Inhibitor of Gal-3: Modified Citrus Pectin (123)
 - Polysaccharide soluble fiber derived from the pith of citrus peels.
 - Modified to lower molecular weight and esterification for enhanced GI absorption.
 - Disables immune suppression and stimulates NK cell production, enabling a robust immune response while controlling inflammation.

B) Block Inflammatory Cytokines

The inflammatory cytokine cascade facilitates Lyme disease progression and proliferation by promoting inflammation and immune dysregulation, which aids in pathogen survival and dissemination within the host.

- NF-KB
- IDO
- IL-6
- IFN-a
- IL-8
- MAPKs
- IL-1B
- TNF-a

***Polygonum cuspidatum* (Japanese knotweed)
and *Scutellaria baicalensis* (Chinese Skullcap)
together inhibit all of the inflammatory
cytokines involved in Lyme disease**

(89, 68, 24, 69, 17, 94, 60, 129, 72, 122).

C) Block Inflammatory Enzymes that Degrade Collagen, Extracellular Matrix (ECM), and Endothelial Cells

- Inhibit Aggrecan: *Polygonum cuspidatum* root (20)
- Inhibit Hyaluronidase: *Echinacea angustifolia* (125), *Withania somnifera* (74)
- Inhibit MMPs (collagenases): *Polygonum cuspidatum* root (57), Curcumin (127, 132), *Salvia miltiorrhiza* (60), *Scutellaria baicalensis* (23)
- Protect Endothelial Cells: *Polygonum cuspidatum* root (134)

4

BUFFER

BUFFER THE EFFECTS OF STRESS ON THE AUTONOMIC NERVOUS SYSTEM (ANS)

The Autonomic Nervous System's Role:

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).

Lyme has been documented to cause autonomic dysfunction (22):

- Examples include urinary retention and intestinal pseudo-obstruction.

Improving symptoms of dysautonomia with nutrition and supplementation (30):

- Vitamins B1, B12, C, D
- MSM + silica
- Salt
- Pre- and probiotics
- IV hydration

Ways to Buffer the ANS:

- Dietary interventions: anti-inflammatory foods that support the microbiome and modulate mood dysregulation and CNS function (95), foods to control blood sugar and reduce inflammation with omega-3 fatty acids (117), probiotic supplementation (27), and caffeine avoidance (121).
- Eating Behaviors: mindful eating and healthy relationships with food (2).
- Physical activity: Exercise, movement, Yoga, Tai Chi, etc. (54).
- Sleep Hygiene (46)
- Circadian rhythm balance, getting ample AM sunlight, avoiding PM blue light (65, 26).
- Bodywork: acupuncture (67), craniosacral therapy (114), massage, etc.
- Grounding or earthing (25).
- Digital detox and reduced EMF exposure (112, 124).
- Stress Management: breathing techniques, mindfulness meditation (56), biofeedback and HRV (135, 133), creative practices/art therapy (107).
- Trauma Therapy, Neural Reprogramming: EMDR (105), DNRS, EFT (136).
- Community & and supportive relationships to foster connection (48, 113).

5

BALANCE

BALANCE THE IMMUNE SYSTEM

Immune System Dysfunction is often behind disappointing clinical outcomes in Lyme treatment. 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 (6). This creates an ongoing inflammatory response, increasing invasion of the pathogens and immune system suppression.

Balancing the TH1 and TH2 immune responses is crucial for healing from TBDs:

- TH1 responses are essential for combating intracellular pathogens, including those associated with tickborne illnesses.
- TH2 responses are involved in antibody production and allergic responses. An imbalance, with excessive TH2 responses and suppressed TH1 responses, can lead to chronic infections and persistent symptoms.
- Promoting a balanced TH1/TH2 immune response is essential for effectively clearing infections and restoring health in individuals with tickborne illnesses.

Ways to Balance TH1 and TH2:

- *Withania somnifera* (Ashwagandha) (8)
 - Counteracts the exact modulation of the immune system that tick saliva and protozoa initiate and maintain to keep the infection going.
- *Astragalus spp* (23)
 - Modulates imbalanced relationship between Th1 and Th2 cytokines.

Increase lymphocytes for immune support: *Uncaria tomentosa* (66)

Immune system enhancement:

Echinacea angustifolia (128)

6

BUILD THE GUT

A HEALTHY GUT MICROBIOME IS ESSENTIAL TO MODULATE INFLAMMATION AND SUPPORT OPTIMAL IMMUNE FUNCTION

Given that a significant part of the immune system resides in the GI tract (>70%), optimizing digestion and utilization of nutrients, feeding favorable microorganisms, crowding out pathogenic strains, and building the mucosal lining is imperative to mitigating inflammatory mechanisms that can feed spirochetes and contribute to the dissemination of the infections and ongoing symptoms (11).

Healing and sealing the gut lining is key:

Compromised tight junctions allow for the translocation of pathogens, immunogenic food particles, and endotoxins to recirculate, downregulating detox pathways, increasing the likelihood of herxheimer reactions, and further contributing to inflammation and immune hyperreactivity.

Ways to Support Gut Health:

- Eliminate food sensitivities and food allergies
- Eliminate pathogenic bacteria and yeast/mold
- Avoiding environmental toxins and reducing toxic load
- Avoid specific Rx's: PPIs, NSAIDs, excessive antibiotics
- Balance opportunistic bacteria, prebiotics, replenish probiotics
- Heal the gut lining; Glutamine, demulcent herbs, zinc
- Replace deficient micronutrients
- Digestive Enzymes, bitters, HCl, mindful eating
- Modified Citrus Pectin (MCP)
- Serum Derived Bovine Immunoglobulin (SBI)
- Eliminate gluten, dairy, sugar, toxic processed foods
- Eat organic foods
- Anti-inflammatory and phytonutrient-rich diet
- Intermittent fasting
- Adequate sleep
- Stress management and mindfulness

7

BREAK DOWN BIOFILMS

**BIOFILMS PROTECT PATHOGENS FROM
ANTIMICROBIAL AGENTS AND THE IMMUNE
SYSTEM, ALLOWING INFECTIONS TO PERSIST.**

What are Biofilms?

A biofilm is a community of microorganisms adhering to surfaces and enclosed within a protective matrix of extracellular polymeric substances (EPS).

Biofilms play a crucial role in the persistence and resistance of Lyme disease and co-infections. These microbial communities provide a protective environment for pathogens, shielding them from immune responses and antimicrobial treatments.

Addressing biofilms is an essential part of a tickborne illness treatment plan. Disrupting the pathogen's protective barrier renders them vulnerable to treatment and facilitates their eradication. Therefore, targeting biofilms is imperative for effectively managing Lyme disease and associated co-infections.

Ways to Disrupt Biofilms:

- MCP (Modified Citrus Pectin) (34)
- Proteolytic Enzymes (98)
- Many Botanicals:
 - Berberine (41)
 - Curcumin (99)
 - Grapefruit Seed Extract (44)
 - Oregano oil (85)
 - Garlic (Allicin) (81)
 - Olive Leaf Extract (108)
 - Monolaurin (93)



8

BOLSTER DETOXIFICATION

ENSURING PROPER DETOXIFICATION AT BOTH THE CELLULAR AND ORGAN LEVELS IS PIVOTAL IN THE MANAGEMENT OF TBDS (137)

- For successful detoxification, the drainage funnel must be optimized in reverse order: bowel movements, the colon, liver and bile ducts, the lymphatic system, organs and tissues, and within the cells.
- Proven herbal compounds can protect cells from oxidative stress, optimize cellular health, and contribute to tissue detoxification.
- Maintaining intestinal barrier integrity is essential to prevent the reabsorption of toxins into systemic circulation.
- Lyme makes the body hospitable to ongoing infection by altering the immune system, using pro-inflammatory cytokines and enzymes.
- These cytokines break down tight junctions in the gut and increase permeability leading to food sensitivities, reabsorption of all toxins into systemic circulation, increased oxidative stress, organ damage/dysfunction, increased toxic load, and increased CNS inflammation.

Ways to Support Detoxification:

- Fix tight junctions: MCP, glutamine, butyrate, glutamine, tryptophan, zinc, A/D/C, polyphenols (96, 109)
- Correct dysbiosis: probiotics, berberine, GFSE (44, 130)
- Glycine (91)
- GSH conjugation: 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: B1, B5, Vitamin C (118)
- Glucuronidation: EPA/DHA, limonene from citrus peels (86)
- Decrease B-glucuronidase: calcium-d-glucarate, pre and probiotics, EGCG, Liver-milk thistle, artichoke, bupleurum root (77)
- Bind endotoxins: chlorella, MCP, bentonite clay, etc. (33, 119, 131)
- **Don't forget routes of elimination and self care!**

9

BIND TOXINS

TO INHIBIT A HERXHEIMER REACTION

What is a Herxheimer Reaction?

- A Herxheimer reaction is a temporary worsening of symptoms. It is a transient clinical phenomenon that occurs in patients who experience pathogenic die-off during antibiotic treatment for infections.
- It is caused by the release of cytokines and lipoproteins that enter the bloodstream and cause acute inflammatory changes (dilation of small BVs, dermal edema, perivascular and interstitial polymorphonuclear round cell, leucocytic infiltration).
- Fevers, chills, nausea, vomiting, headaches, tachycardia, hypotension, hyperventilation, flushing, myalgia, exacerbation of all symptoms due to heightened inflammation.
- In the bloodstream (endotoxemia) can cause hypotension, reduced O₂, respiratory failure, severe reactions can lead to organ damage and death.

A High Toxic Load Increases Symptoms in Lyme Disease and Co-infections, Contributing to a Herxheimer Reaction.

When the body has a high toxic load with a reduced capacity for detoxification and elimination, coupled with pathogen die-off and intestinal permeability, toxins are released into systemic circulation. There is an increase in cytokines that damage organs, more reactive oxygen species (ROS), and more CNS / body-wide inflammation, leading to a worsening of symptoms and increased likelihood of 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: Alkaseltzer Gold, chlorella, minerals, salts (49).
- Anti-inflammatories: NAC, JKW, Chinese Skullcap (57,115,138).

10

BLAST THE BUGS

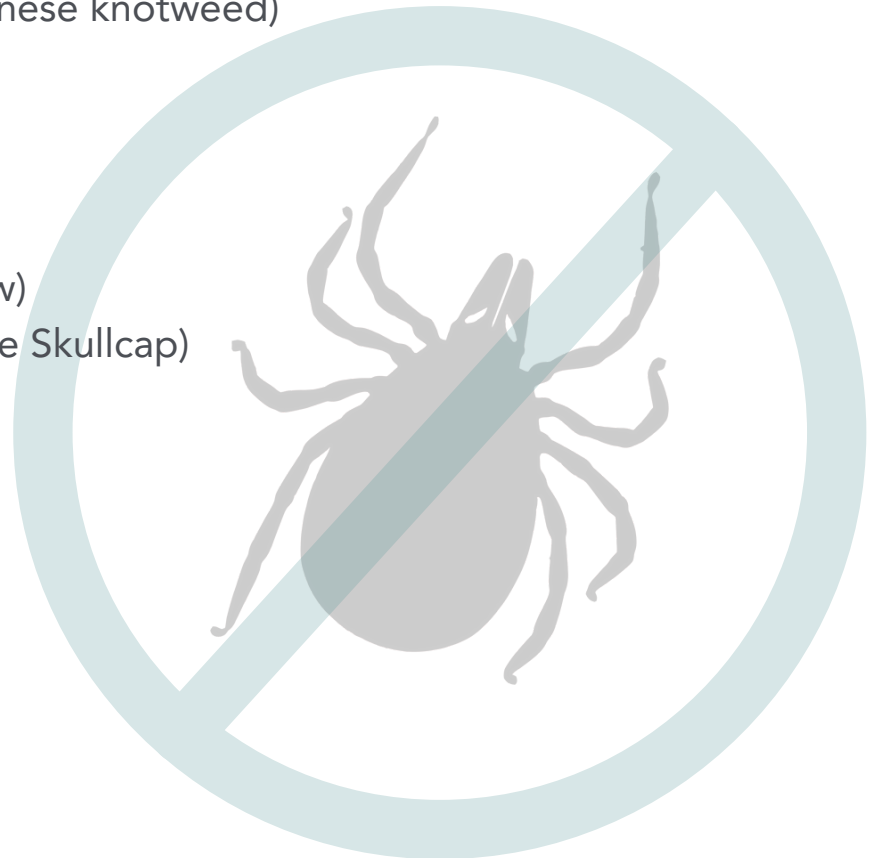
USE PROVEN HERBAL REMEDIES TO ERADICATE *BORRELIA SPP.*

Studies show evidence that numerous herbs have “potent activity against Lyme disease bacteria, especially the dormant persister forms, which are not killed by the current Lyme antibiotics” (38).

Effective eradication of infectious organisms, including persister forms and biofilms, is a critical aspect of Lyme and TBD treatment (28,38).

Evidence-Based Herbal Remedies include: (38,40,43,63,18,120,44)

- *Polygonum cuspidatum* (Japanese knotweed)
- *Artemesia 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





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DR. MYRIAH HINCHEY, ND





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Speaker



Tania Dempsey, MD
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