

GOALS FOR SUCCESSFUL RESOLUTION OF LYME & CO-INFECTIONS

1. Background Check: Investigate things filling the "bucket" making the body hospitable to infection(s):

- micronutrient deficiencies
- digestive dysfunction
- food sensitivities
- inflammatory/toxic foods
- Rx intake and impaired detoxification
- hormone dysregulation
- mental/emotional/physical stressors
- HPA axis dysregulation
- sleep/circadian rhythm dysregulation
- sedentary lifestyle
- lack of community/healthy relationships
- biotoxins (mold), environmental chemicals
- toxins in food, air, & water

2. Band-aids: Use various therapeutic interventions to minimize symptoms and promote PNS function and healing, while simultaneously uncovering and treating the underlying root causes

3. Block Inflammation:

- Block Galactin-3:** G3M
- Block inflammatory cytokine cascade:** *Polygonum cuspidatum* (Japanese knotweed), *Scutellaria baicalensis* (Chinese skullcap), *Cordyceps*, *Houttuynia cordata*, *Salvia miltiorrhiza* (red sage)
- Block inflammatory enzymes that degrade collagen, ECM, & endothelial cells:**
 - Aggrecan inhibitors: *Polygonum cuspidatum* (Japanese knotweed)
 - Hyaluronidase inhibitors: *Echinacea angustifolia*, *Withania somnifera* (ashwagandha)
 - MMPs inhibitors: *Polygonum cuspidatum* (Japanese knotweed), *Scutellaria baicalensis* (Chinese skullcap)
 - Protect Endothelial Cells: *Polygonum cuspidatum* (Japanese knotweed)
- Block Inflammatory food, chemicals, toxins, etc.**

4. Buffer ANS: Improve symptoms of dysautonomia

- vitamins B1, B12, C, D
- MSM + silica
- Salt
- pre & postbiotics
- Dietary interventions
- Physical activity
- Stress Management
- Sleep Hygiene
- Circadian rhythm balance
- IV hydration
- Bodywork
- Grounding
- Digital detox / EMF avoidance
- Trauma Therapies
- Community, supportive relationships

5. Balance Immune system:

- Balance TH1 & TH2:** *Withania somnifera* (Ashwagandha), *Astragalus* spp
- Increase NK cells:** *Uncaria tomentosa* (Cat's Claw)
- Increase Lymphocytes:** *Echinacea angustifolia*

6. Build Gut

- Eliminate food sensitivities / food allergies
- Eliminate pathogenic bacteria, yeast/mold
- Balance opportunistic bacteria, replenish probiotics
- Heal the gut lining; Glutamine, demulcent herbs, zinc
- Replace deficient micronutrients
- Digestive Enzymes
- G3M
- Serum Derived Bovine
- Immunoglobulin (SBI)
- Eliminate gluten, dairy, sugar
- Anti-inflammatory, phytonutrient-rich diet
- Intermittent fasting
- Adequate sleep
- Stress management

7. Break Down Biofilms

- Serrapeptase & Nattokinase: proteolytic enzymes
- G3M

8. Bolster Detoxification

- Fix tight junctions: G3M, glutamine, butyrate, glutamine, tryptophan, zinc, A/D/C, polyphenols
- Correct dysbiosis: probiotics, berberine, GFSE
- Glycine
- GSH conjugation: NAC, selenium, alpha lipoic acid, cruciferous veggies, curcumin, sulforaphane
- Nrf2 induction: sulforaphane
- Methylation: Methyl folate, Methyl B12, B6, choline
- Sulfation: cysteine, methionine, molybdenum
- Acetylation: B1, B5, Vit C
- Glucuronidation: EPA/DHA, limonene from citrus peels
- Decrease B-glucuronidase: calcium-d-glucarate, pre/probiotics, EGCG, Liver-milk thistle, artichoke, bupleurum root
- Binders of endotoxins: chlorella, G3M, bentonite clay, etc.
- Routes of elimination and self-care

9. Bind Toxins (Herx)

- Bind LPS: MCP, SBI, Chlorella, Bentonite Clay, Zeolite Clay, Activated Charcoal, Herbal formulas
- Detox: Tight junctions; Coordination of Ph1 and Ph2 liver (NAC), micronutrients for detox, elimination, self-care (sauna, epsom salt baths)
- Alkalinization: Alkaseltzer Gold, chlorella, minerals, salts
- Anti-inflammatories: NAC, *Polygonum cuspidatum* (Japanese knotweed), *Scutellaria baicalensis* (Chinese Skullcap)

10. Blast Bugs

- *Artemisia* spp (Sweet Annie)
- *Andrographis paniculata*
- Teasel
- *Houttuynia cordata*
- *Uncaria tomentosa* (Cat's claw)
- *Scutellaria baicalensis* (Chinese Skullcap)
- *Juglans nigra* (Black walnut)
- *Cryptolepis sanguinolenta*
- *Polygonum cuspidatum*
- Grapefruit Seed Extract
- Garlic
- Olive leaf extract