Blending Naturopathic and Antibiotic Therapies to Successfully Treat Lyme and Co-Infections

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AARM
Association for the Advancement of Restorative Medicine

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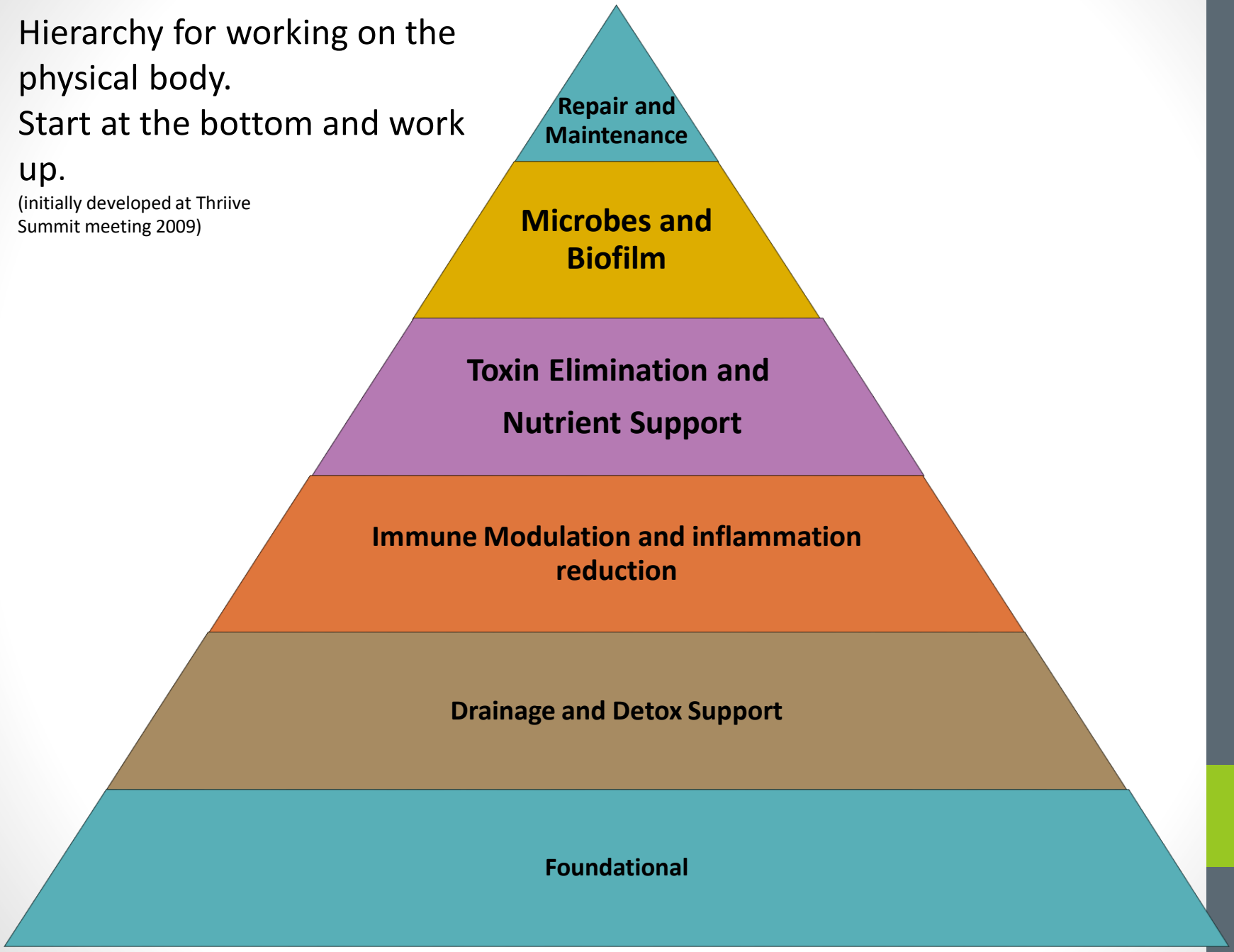
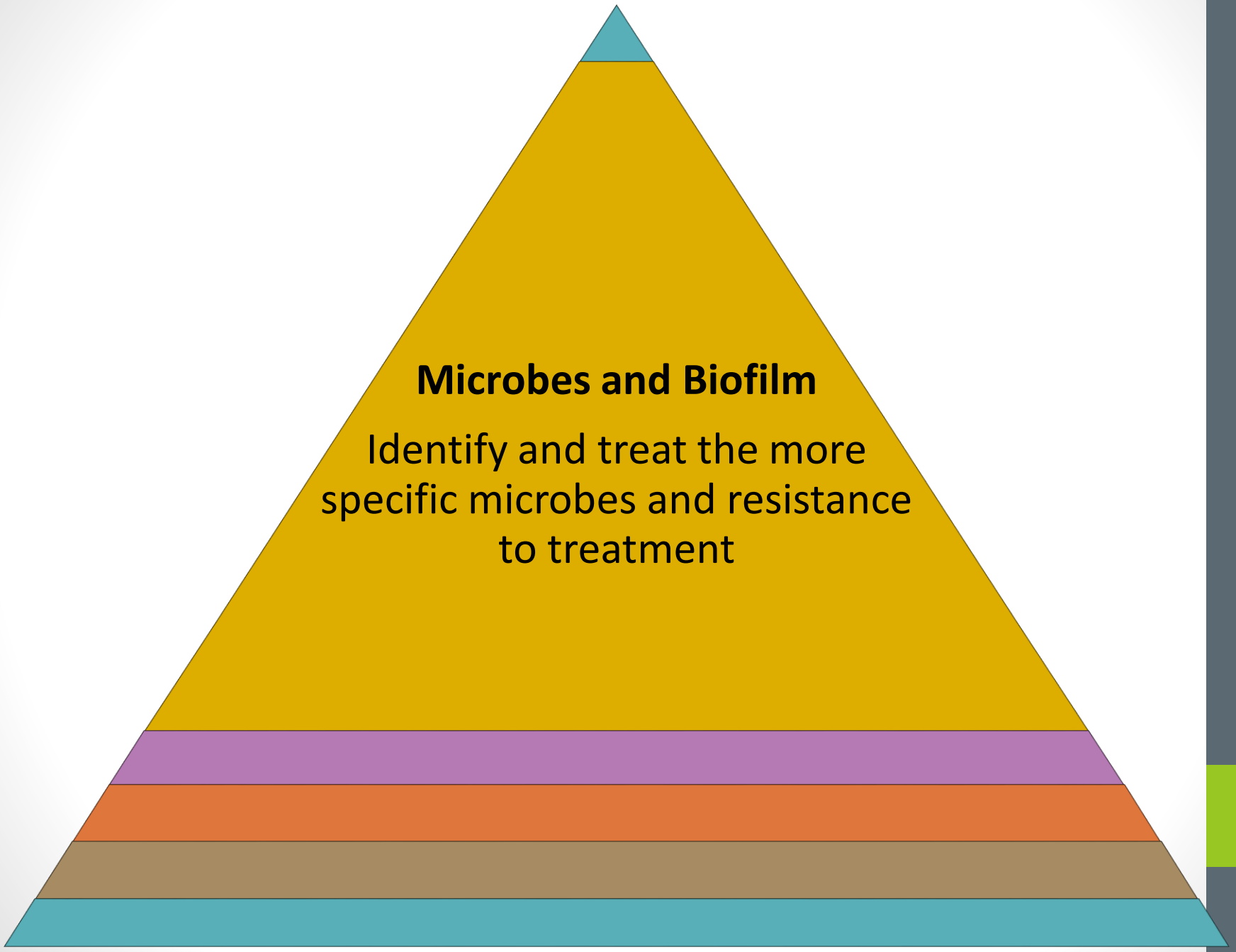
Hierarchy for working on the physical body.
Start at the bottom and work up.

(initially developed at Thriive Summit meeting 2009)




Microbes and Biofilm
Identify and treat the more specific microbes and resistance to treatment

Lyme and Co-Infections- Who are the Main Players???

- Borrelia
- Babesia
- Bartonella
- Mycoplasma
- Viruses: HHV-6, HSV 1 and 2, EBV, CMV
- Parasites
- Yeast/Candida/Mold/Fungus

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Borrelia (Lyme)

- Typically a gradual onset of illness
- 4 week symptom cycles
- Multi-system, migratory, joints often involved, afternoon fevers
- Low morning body temps
- Symptoms tend to peak in the afternoon
- Commonly will “herx” with treatments
- We have observed spikes in symptoms during October and November (at least in the Northwest)
- Bb has many latent phases, but is only vulnerable during active growing phases. These cycles last 4 weeks, so treatment has to be an absolute minimum of 4 weeks

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Different Forms to Consider

- **Cystic**- Under stress, Bb can change from the spiral form into a cyst form. This cyst seems to be able to remain dormant, but when placed into an environment more favorable to its growth, Bb can revert into the spirochete form. The antibiotics commonly used for Lyme do not kill the cystic form of Bb. This sets up the patient for disease resistance.

- **Spirochete** contains a cell wall and converts back to this form when not threatened. More vulnerable to treatment when in this form. Very mobile. Spiral/drill capable shape allows penetration into dense tissue and bone. Capable of intracellular infection. Rapidly converts to CWD and cyst form when threatened.

- **Cell Wall Deficient (L-Form)**- Lack of cell wall makes targeting by immune system and antibiotics more difficult. Capable of intracellular infection. Converts Vitamin D to immunosuppressive hormone known as 1,25-D. Causes autoimmunity. Clumps together in dense colonies—inner layers unreachable by antibiotics and immune system.

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Advanced Topics in Lyme Disease. Dr Joseph Burrascano Jr MD. www.ilads.org/ The Treat Lyme Book. Dr Marty Ross, MD. www.treatlyme.net /The Top Ten Lyme Disease Treatments. Bryan Rosner. www..lymebook.com/top10

Spirochete	Cystic	Cell Wall Deficient (L Form)
Penicillins (amoxicillin, bicillin)	**Plaquenil**	**Macrolides** (zithromax, biaxin)
Cephalosporins (ceftin, cedax, suprax, omnicef, IV rocephin, IV claforan)	**GSE**	**Quinolones** (cipro, levaquin, factive, avelox)
IV vancomycin	**Flagyl** (lots of SE's)	**Rifampin**
	Tindamax	
	Maybe Rifampin	

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Bartonella

- **CNS symptoms out of proportion to physical symptoms**
- Panic attacks
- Insomnia
- Seizure-like activity
- Shaky/nervous
- Easily startled
- GI upset
- Sore soles of feet
- Swollen glands
- Morning fevers
- Constricting vice-like headaches
- Odd stretch marks that don't blanche
- Cycles every 3-4 days. Rapid relapse of symptoms if ending treatment too soon
- NOT JUST FROM CAT SCRATCHES
- Primarily in endothelial lining of blood vessels

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Bartonella antibiotics

- You often need 3 treatments at once to address this sneaky bug or at least consider combination blends
- Septra can address Bartonella and makes Mepron more effective

Treatment combos:

- Doxy + **Rifampin**
- Telithromycin
- Quinolones + tetracyclines (doxy, mino, tigecycline) or macrolides. Give IV or IM magnesium to reduce negative reactions of tendonitis.
- Septra/Bactrim + macrolides
- Usually take 200mg BID Plaquenil in addition
- Cell wall drugs are ineffective alone, but may synergize with fluoroquinolone

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Babesia (mutation of malaria)

- Usually more abrupt onset of initial illness
- Day and night sweats
- Fatigue
- All over Headache
- Air hunger
- Cough
- Feels sick or toxic
- knife-like pain between eyes
- Cycles every 3-4 days
- Babesia amplifies Lyme symptoms 10-fold often
- Odd labs: hemolytic anemia, thrombocytopenia

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Babesia antibiotics

Treatments:

- **Mepron** 750mg (1-2 tsp BID) + zith 250 BID or other macrolide (possibly add Septra DS BID)
- **Malarone** 100/250 4 qd * 3d, then 1 qd thereafter with or without a macrolide
- Cleocin (**clindamycin**) +/- quinine
- Lariam q 5-7 days
- Coartem (4 tabs po BID * 3 days) +/- daraprim 25mg 2 tabs QD with folic acid 1mg QD
- It is common to use herbs in addition to this, even with the more conventional LLMD's:
  - **artemesinin**
  - **Enula**
  - **Cryptolepsis**

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Mycoplasma

- Similar in presentation to Lyme, but with FATIGUE
- Often see elevated IgG titers ongoing
- Treat with:
    - **tetracyclines** (doxy, mino)
    - **macrolides** (zithromax, biaxin)
    - **quinolones** (cipro, levaquin, factive, avelox)

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Pulse Therapy

- It takes 36 hours to kill Bb with Abs
- Takes days to weeks for injured Bb to recover
- Give strong doses of bactericidal antibiotic 2-4 days in a row each week, with no antibiotics on the other days
- Allows you to give stronger meds in higher doses with less negative impact
- Can be used with orals or IV's
- Tends to work better
- Flagyl and "azoles" need minimum 14 days of continuous use for maximum effectiveness. 14 days on, 14 days off is a common protocol.
- Zithromax has a long half-life so not really one to pulse with

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Choosing the right herbal or antibiotic approach…

- Acute onset of bite or symptoms: use antibiotics
- Otherwise you have to meet your patient where they are
- Antibiotics are more targeted, but can flare yeast. Often more than one is needed and they can be quite toxic to the liver and detox pathways.
- Herbs are more broad and microbes are less likely to adapt. High doses may be needed and if someone is phenol or oxalate sensitive, this can be limiting.

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Top Herbs for Lyme

- **Andrographis**- also helpful for Strep. More for short term dosing. Hepatoprotective and anti-bacterial.
- **Ceanothus (Red Root)-** supportive with any protocol to the lymph and helps treatment tolerance. astringent and expectorant, helping with sore throats, flus, gastrointestinal problems, and reducing stagnation in the lymphatic system.
- **Japanese Knotweed-** a great one to start with
- **Artemesia-** used in pulse dosing 2-5 days a week or 3 weeks on, 1 week off.
- **Sarsasparilla-** promotes hormonal balance
- **Cat's Claw-** boosts immune response to Lyme. Watch out for a big Herx at first!!!! (work up slowly)
- **Cumanda-** especially for joint manifestations
- **Stephania-** support skin, joints and also neurological symptoms

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Top Herbs for Babesia

- **Artemesia/Artemesinin-** pulsed seems best. Big doses may be needed up to 200mg twice daily or more. Injectable preparations of artesunate dosed 1-2 times a week have been great for both neurological manifestations and newer research on anti-cancer benefits also. Liposomal preparations are effective for sensitive patients. Rectal suppositories are also available.
- **Enula**- Works well with Mepron. Well tolerated and pretty mild
- **Cryptolepsis-** One of my favorites! Start low and work up dose as tolerated. Great for neurological manifestations, night sweats and the "buzzing"
- **Lomatium-** well researched anti-viral that also has a nice synergy in all blends.

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Top Herbs for Bartonella

- **ALWAYS USE COMBINATIONS**
- Goal of treatment is to reduce the cytokine cascade and to protect the endothelial lining
- **Houttuynia-** One of my first choices to start with. Work up doses as tolerated
- **Transfer Factors** seem excellent to help get patients off antibiotics
- **Sida acuta**- potent systemic anti-bacterial
- **Chinese Skullcap**- to reduce NF-kappa B
- **Japanese Knotweed-** contains the antioxidant resveratrol, which can lower cholesterol and regulate blood pressure
- **Berberines** to inhibit EGF and broad-spectrum anti-bacterial. Also effective to stabilize blood sugar and fight Strep and gut bacteria.
- **Gingko** to support brain circulation and protect endothelium
- **Quercetin** to reduce the cytokine cascade
- **Ceanothus** for lymph and spleen

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Liposomal preparations

- Multiple studies showing better clinical efficacy and absorption
- Helps especially with neurological concerns and decreases microbial resistance
- Many patients note clear difference in response when using liposomal preparations blended with phosphatidyl choline

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Propolis

- Natural anti-viral, anti-fungal, anti-bacterial
- Immune stimulant
- Great to clean the air and sinuses
- Obtained from beehives
- Well tolerated
- Anti-inflammatory and helps skin and tissue heal

Available forms:

- Nasal sprays
- Capsules
- tinctures

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Teasel (Dipsacus)

- Instead of killing the bacteria itself, it actually changes the environment in the body to encourage the body's own capacity to kill off Lyme bacteria
- Herx reactions occur often 7-10 days into treatment
- Great for joint manifestations
- stomach aid
- analgesic for pain relief
- anti-inflamatory
- stimulant for the nervous system
- Effective for chronic inflammation of the muscles, one of the major symptoms caused by the bacteria infection of Lyme Disease.
- Seems to pull the lyme bacteria out of the muscles and into the blood stream so that the immune system can do its work.

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Smilax/Sarsasparilla

- Sarsaparilla contains saponins, which cause bursting of the fungal complexes by the action of the soap-like saponin on the fungal complex. Essentially, they break yeast apart.
- Saponins reduce surface cell wall tension, so herbs used in combination with sarsaparilla are better delivered across the cell membrane.
- blood cleanser
- immunomodulator
- Anti-bacterial
- Anti-parasitic
- anti-inflammatory
- hepatoprotective
- Neuroprotective
- Analgesic and antioxidant
- fatigue fighter

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More on sarsasparilla

- Lyme endotoxin binding
- Lessens Herxheimer reactions
- Improvement in mental and psychological symptoms
- Modulates immune responses
- Neuroprotective (crosses blood brain barrier)
- Reduces skin breakdown
- Increases libido
- Asthma, hay fever, rhinitis
- Helpful for reversal of cognitive impairment
- Benefit with autoimmune dysregulation
- Protects from anti-androgenic substances in Lyme (i.e. gossypol)

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Lomatium root

- Antibacterial
- Anticoagulant
- Antifungal
- anti-inflammatory
- Anti-viral for DNA and RNA viruses
- expectorant
- Immune stimulant
- Affinity for the lungs and upper respiratory tract
- Helps to clear deep viruses (EBV, MMR, CMV)
- Watch for a rash with some preparations (7-9 days into tx)

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Black Walnut/Juglans Nigra

- Anti-parasitic
- Anti-fungal
- helps with skin conditions
- Good for herpes, cold sores, warts…
- Anti-inflammatory for the intestines
- Reduces sweating
- Digestive aid
- Well tolerated

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Cryptolepsis

- **One of my favorites for Babesia**- effective and well tolerated in low doses
- African shrub
- **Cryptolepsisis active against:**
  Staphylococcus aureus, malaria, *Shigella dysenteriae*, *Escherichia coli*, *Neisseria gonorrhoeae*, *Candida Albicans, Camphylobacter*, both gram-positive and gram-negative bacteria.

- Helps to treat fevers, bloody diarrhea, and malaria/Babesia

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Cat's Claw (Uncaria tomentosa)

- One of the herbs in use the longest for Lyme
- Immune stimulant, so watch out for a big herx
- powerful anti-inflammatory and antioxidant effects that support DNA repair, joint health, immune function, and normal cell division
- Available as capsules and tinctures typically
- Start slow and work up dose as tolerated
- Good for joint pain and stiffness

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Andrographis paniculata

- crosses blood brain barrier
- protects heart muscle
- anti-inflammatory
- Calming
- potent modulating effect on mast cell and neutrophil activity: turns off inappropriate mast-cell allergic reactions in tissue
- enhances liver function
- significant protective effects against inflammation-mediated neurodegeneration of brain, spinal chord and CSF
- evidence of effectiveness against Babesia, malaria and viruses

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Sida Acuta

- Protects red blood cell integrity
- Found to be effective against mycoplasma
- Potent systemic anti-bacterial
- Effective against resistant Staph infections

Research Journal of Pharmacology

Year: 2009 | Volume: 3 | Issue: 2 | Page No.: 22-25

Evaluation of the Antibacterial Activity of Extracts of Sida acuta Against Clinical Isolates of Staphylococcus aureus Isolated from Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome Patients

I.R. Iroha , E.S. Amadi , A.C. Nwuzo and F.N. Afiukwa

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Berberines

- Effective against bacteria and mycoplasma
- inhibit EGF (endothelial growth factor)
- broad-spectrum anti-bacterial
- stabilize blood sugar
- fight Strep
- Excellent to balance gut bacteria
- Great for acute URI's

Wu, Y.-M., et al. "in vitro antibacterial activities of berberine against the five mycoplasmal species." Journal of Hengyang Medical College 1994-01. Accessed online at en.cnki.com.cn/Article_en/CJFDTOTAL-HYYY401.004.htm

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Olive Leaf

- Anti-viral
- Anti-fungal
- promotes increased energy
- Contains oleuropein, the polyphenol that can help lower bad cholesterol and blood pressure, prevent cancer, protect against oxidative damage, and help guard against cognitive decline
- Neuroprotection

Omar SH. Oleuropein in olive and its pharmacological effects. Sci Pharm. 2010;78(2):133-54.

Wahle KW, Caruso D, Ochoa JJ, Quiles JL. Olive oil and modulation of cell signaling in disease prevention. Lipids.2004 Dec;39(12):1223-31.

Anter, J., Z. Fernandez-Bedmar, M. Villatoro-Pulido, et al. "A pilot study on the DNA-protective, cytotoxic, and apoptosis-inducing properties of olive-leaf extracts." Mutation Research 723, no 2 (2011): 165-70.

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Monolaurin

- Anti-viral with broad activity
- Derived from coconut oil, but contains a component also found in breast milk that has immune promoting benefits
- Anti-fungal
- Anti-Lyme
- Particularly useful for EBV and chronic fatigue
- Reduces toxicity of Staph bacteria
- Often a first step in my treatment protocols
- Also great for acute URI's or viruses

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Japanese Knotweed

- Contains large amounts of resveratrol, which can lower cholesterol and regulate blood pressure
- Anti-inflammatory and anti-microbial
- ability to prevent and treat cognitive disorders
- improves heart health
- May lower risk of cancer
- reduces gastrointestinal distress
- lower blood pressure
- maintain proper insulin levels
- Used early in many Lyme protocols
- Crosses blood brain barrier:
- protects against microbial endotoxins

Kang.O.H., H.J. Jang, H.S. Chae, et al. "Anti-Inflammatory Mechanisms of Resveratrol in Activated HMC-1 cells: Pivotal roles of NF-kappa B and MAPK." Pharmacological Research 59, no. 5 (2009): 330-37.

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Red Root (*Ceanothus americanus*)

- Astringent
- Expectorant
- Helpful with sore throats and flus
- Supportive for gastrointestinal problems
- reducing stagnation in the lymphatic system
- Breaks down debris in the lymph
- In conjunction with other herbs, we find this helps all other Lyme treatments have better overall tolerance

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Neem

- This is an ayurvedic herb with an affinity for the sinuses and digestive tract
- Healing to wounds and skin in topical preparations
- Anti-viral, anti-fungal, anti-parasitic
- Well tolerated
- Anti-inflammatory
- Anti-oxidant
- Anti-malarial
- Immune modulating

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Artemesia annua

- Looking for the **artemesinin** extract
- Useful especially for malaria and Babesia and viruses
- Bigger doses pulsed 2-3 days a week or every 2 weeks seem best
- Injections using a preparation called artesunate IV or IM 1-2 times a week have been effective for cognitive and CNS symptom relief, as well as showing anti-cancer benefit
- Liposomal preparations are effective and well tolerated at low doses
- Rectal suppositories are also available and well tolerated

"Sensitivity of human herpesvirus 6 and other human herpesviruses to the broad-spectrum antiinfective drug artesunate." Jens Milbradt, Sabrina Auerochs, Klaus Korn, Manfred Marschall. Journal of Clinical Virology 46 (2009) 24–28

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Stephania

- Potent anti-inflammatory
- Induces IL-1 beta, IL-alpha, TNF-a, IL-6, IL-8 (especially in CNS and joints)
- Reduces NF-kappa B and IL-6 during neuroborreliosis
- Modulates HLA-DR expression (Lyme arthritis connected to CD3 generated HLA-DR alleles)
- Protects endothelium from endotoxin damage
- Reduces vascular permeability
- Bell's palsy
- Free radical scavenger
- Inhibits toxic glutamate levels in brain
- Asthma and heart disease
- Retinopathy (modulates formation of new blood vessels and improvement of vision)
- Anti-Malaria (and Babesia)
- Inhibits cancer cell proliferation
- Anti-fibrotic/anti-scar formation
- Blocks abnormal histamine release/stabilizes mast cells

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Colloidal Silver

- Silver ions can attach to bacteria cell membranes directly and have a direct effect on cellular respiration
- It is all about particle size and ppm
- Do NOT make your own preparations
- Anti-bacterial
- Anti-viral
- Anti-inflammatory
- Great for colitis and active irritated digestive concerns
- Great for tonsils and throat area and sinuses
- Used oral, topical and IV

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Other treatments to consider

- Ozone
- UBI
- LDI Low Dose Immunotherapy
- Homeopathy
- Low Dose Naltrexone

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LDA/LDI

- **LDA is low dose antigen therapy** used to calm and stabilize the immune system in response to allergic and auto-immune reactions triggered by foods, environmental inhalants and chemicals.

- Re-trains the T-reg lymphocytes to promote immune tolerance

- Repeated as injections or sublingual drops every 7-8 weeks

- **LDI** is a similar **low dose immunotherapy** used in a similar way to **promote immune tolerance** and a healthier overall response to organisms like Lyme, Bartonella, Babesia, Viruses, gut pathogens, parasites and even your own body secretions.

- **My clinic finds this a very helpful tool to reduce the overall body burden!!!**
- More information available on these therapies at:

  LDA: www.aaemonline.org

  (American Academy of Environmental Medicine)

  LDI: http://www.mat-suim.com (Dr Ty Vincent)

Also think viruses after initial treatments plateau…

- **Chinese Skullcap**- starting in low doses and working up
- **Vit A** pulsed 100-400K daily for 2-7 days
- **Vit D**- large dose bursts and ongoing daily dosing up to 10-20K
- **Olive Leaf**
- **Colloidal Silver**
- **Lysine** to prevent viral replication
- **Valtrex or Acyclovir** after dosing something more broad
- **Famvir** for resistant viruses or neurological symptoms
- **Stephania root**
- **Monolaurin-** one of my all time favorites!!!

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Routes of Administration

- Capsules
- Rectal Suppositories
- IV or IM injections
- Tinctures
- Liposomal Preparations
- Topical creams

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Biofilm Enzymes

<u>Especially useful if you are not getting ahead of infection:</u>

- **Enzymes with DPPIV**

- **Serrapeptase (especially for yeast)**

- **Combinations with xylanase, enzymes and EDTA**

- **Lumbrokinase (Boluoke)**

- **Nattokinase**

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Address Sinuses

- **Rule out MARCoNS** with a nasal swab test (Diagnostic Laboratory Medicine 781-275-0855)
- **Quercetin** is great for inflammation and pressure
- **Herbal blends with ozone** are very effective nasally
- **BEG** nasal spray (if it is MARCoNS) from a compounding pharmacy (Bacitracin, EDTA, Gentamycin)
- **Essential oil blends** on a q-tip or diffuser
- **Neural therapy** (with or without ozone)
- **Neti Pot**
- **Address biofilms**: xylanase, lumbrokinase, Serrapeptase

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Resources used throughout my lecture:

- www.beneficialbotanicals.com
- “Herbal Antibiotics” by Stephen Harodd Buhner
- “Healing Lyme – Natural Healing and Prevention of Lyme Borreliosis and its Co-Infections” Stephen Buhner Raven Press 2005

Contacts

- My website: www.holistichealingarts.org
- Upcoming protocol trainings and classes on autonomic response testing: www.klinghardtacademy.com
- Suggested training for those interested in autism- Medical Academy of Pediatric Special Needs: www.medmaps.org
- Suggested training for those interested in LDI and LDA- American Academy of Environmental Medicine: www.aaemonline.org

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