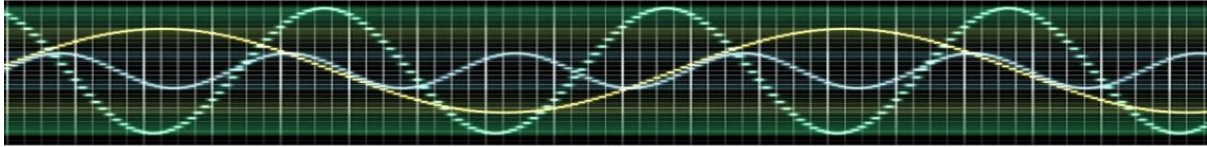




Redland Reflexology

BODY OPTIMISER - SOUND WAVE TECHNOLOGY



Diminishing Function Risk			Optimal and Balanced			Increasing Inflammation Risk		
1	2	3	4	5	6	7	8	9
Critical	Severe	Moderate	Mild	Normal	Mild	Moderate	Severe	Critical

LYME DISEASE

Some Associated References re GROK response (check for imbalances)

You can use the search function to search the two spreadsheets of results for other items listed in the GROK response to check for imbalances.

See – RR Body Chemistry Results/Physical Functionality/ Physical Functionality 5/ Hormones: Mood/Sex/Sleep/Stress/Hormones

See – RR Body Chemistry Results/Physical Functionality/ Toxicities 3/ Bacterial Diseases/ Borrelia (other 1-20), Borrelia burgdorferi and Lyme

See – RR Body Chemistry Results/Physical Functionality/ Physical Functionality 8/ Thyroid Functionality

See – RR Body Chemistry Results/ Nutritional Analysis 1 / Amino Acids/ Tryptophan

See – RR Body Organ Results/ Organs Neck/Thyroid gland & Thyroid Cartilage

See – RR Body Organ Results/ Organs Thyroid Cross Section

GROK Query: JAN 2026

What imbalances within the human body should we look for to identify Lyme disease?

GROK Query Response: JAN 2026

Lyme disease, caused by the bacterium *Borrelia burgdorferi*, can disrupt multiple systems in the body, leading to various physiological imbalances that may serve as indicators during diagnosis. While primary identification relies on clinical symptoms (like the characteristic erythema migrans rash, fever, fatigue, and joint pain), exposure history, and serological tests for antibodies, associated imbalances can provide supporting evidence, especially in chronic or disseminated cases. These imbalances often stem from the infection's inflammatory effects, immune dysregulation, and direct impact on organs. Below, I'll outline key imbalances to monitor, based on established medical insights, including how they manifest and potential diagnostic approaches.

LIMITATIONS: Redland Reflexology, the RR Physio Analyser and the RR Body Analyser Optimiser are not able to detect cancer or diagnose diseases or medical conditions. Like other similar systems, we cannot guarantee that the system is 100% accurate; however, scan sessions may highlight frequency imbalances in the body that could be related to certain disorders. If you have symptoms that concern you, it is important to consult your doctor or healthcare provider.

Hormonal Imbalances

Lyme disease frequently affects the endocrine system, leading to disruptions in hormone production and regulation. These can mimic or exacerbate Lyme symptoms, making them useful red flags.

- **Thyroid dysfunction:** Inflammation from Lyme elevates cytokines that interfere with thyroid signaling, often reducing thyroid-stimulating hormone (TSH) levels, impairing conversion of inactive T4 to active T3, and increasing reverse T3 (which blocks T3). This can lead to functional hypothyroidism or trigger autoimmune conditions like Hashimoto's thyroiditis via molecular mimicry, where bacterial proteins resemble thyroid antigens.

projectlyme.org

Symptoms include extreme fatigue, weight gain or loss, brain fog, mood issues (anxiety, depression), hair loss, cold intolerance, muscle weakness, infertility, and irregular menstrual cycles.

projectlyme.org

To identify: Test TSH (ideally below 2.0), free T3, free T4, reverse T3, and antibodies like thyroid peroxidase (TPO) and thyroglobulin (TG).

drtoddmaderis.com

Adrenal gland dysregulation (HPA axis dysfunction): Chronic stress from the infection initially spikes cortisol, DHEA, and aldosterone in a "fight or flight" response, but prolonged inflammation leads to adrenal fatigue with low cortisol levels. This impairs immune function, energy production, and stress resilience.

globallymealliance.org +1

Symptoms overlap with Lyme, such as chronic fatigue, brain fog, joint/muscle pain, insomnia, irritability, anxiety, poor digestion, and sensitivity to light/sound.

projectlyme.org

To identify: Use a 4-point salivary cortisol test to assess diurnal patterns; low morning cortisol or flat curves are common.

drtoddmaderis.com

Sex hormone imbalances: Reduced testosterone in men (leading to lethargy, anemia, depression, and weakened immunity) and low estrogen/progesterone in women (causing PMS-like flares, infertility, and mood swings). These arise from hypothalamic-pituitary disruption and can worsen during menstrual cycles due to inflammation.

drtoddmaderis.com +1

To identify: Urine or blood tests for bioavailable testosterone, estradiol, and progesterone; cyclic symptom flares may prompt testing.

Immune and Inflammatory Imbalances

The infection triggers a persistent immune response, causing chronic inflammation that can be a hallmark in undiagnosed cases.

LIMITATIONS: Redland Reflexology, the RR Physio Analyser and the RR Body Analyser Optimiser are not able to detect cancer or diagnose diseases or medical conditions. Like other similar systems, we cannot guarantee that the system is 100% accurate; however, scan sessions may highlight frequency imbalances in the body that could be related to certain disorders. If you have symptoms that concern you, it is important to consult your doctor or healthcare provider.

- Cytokine and chemokine elevation: Proinflammatory cytokines (e.g., IL-6, IL-8, IL-12, IL-18, interferon-gamma) and chemokines (e.g., CXCL12, CXCL13) rise, leading to a "cytokine storm" that correlates with disease severity. This contributes to fatigue, malaise, cognitive issues, and neuropsychiatric symptoms like irritability or depression.
pmc.ncbi.nlm.nih.gov
Molecular mimicry can also produce anti-neuronal antibodies, fostering autoimmunity.
pmc.ncbi.nlm.nih.gov
To identify: Cerebrospinal fluid (CSF) analysis for elevated IL-6 or CXCL13 (useful for neuroborreliosis); blood tests for C-reactive protein (CRP) or erythrocyte sedimentation rate (ESR) may show general inflammation.
 - Altered tryptophan metabolism: Inflammation activates indoleamine 2,3-dioxygenase (IDO), shifting tryptophan toward neurotoxic kynurenine metabolites (e.g., quinolinic acid), causing excitotoxicity, oxidative stress, and homocysteine changes. This links to mood disorders, cognitive deficits, and progressive encephalopathy.
pmc.ncbi.nlm.nih.gov
To identify: Metabolic panels for tryptophan/kynurenine ratios or homocysteine levels, though these are more research-oriented.
 - Failure in immune shift: Persistent Th1-dominant response (instead of shifting to Th2) perpetuates inflammation.
pmc.ncbi.nlm.nih.gov
- Neurological and Neurochemical Imbalances**
- Lyme can cross the blood-brain barrier, causing brain inflammation and disruptions.
- Neuroinflammation and excitotoxicity: Spirochetes damage nerve cells, disrupt chemical balances (e.g., via quinolinic acid as an NMDA agonist), and trigger local immune cells (astrocytes, microglia) to release toxins, affecting areas like the hippocampus.
holtorfmed.com
Symptoms: Memory loss, brain fog, headaches, numbness, facial palsy, and psychiatric issues.
sciencedirect.com
To identify: MRI for white matter hyperintensities or inflammation; nerve conduction studies or skin biopsies for small-fiber neuropathy.
columbia-lyme.org
- Gut and Microbiome Imbalances**
- Since ~75% of the immune system resides in the gut, Lyme's inflammatory effects here are significant.
- Leaky gut syndrome (intestinal permeability): Chronic inflammation breaks tight junctions in the gut lining, allowing toxins, bacteria, and undigested food to enter the bloodstream, exacerbating systemic inflammation and food sensitivities.
holtorfmed.com
Symptoms: Digestive issues, mood disorders, skin conditions, and worsened

LIMITATIONS: Redland Reflexology, the RR Physio Analyser and the RR Body Analyser Optimiser are not able to detect cancer or diagnose diseases or medical conditions. Like other similar systems, we cannot guarantee that the system is 100% accurate; however, scan sessions may highlight frequency imbalances in the body that could be related to certain disorders. If you have symptoms that concern you, it is important to consult your doctor or healthcare provider.

Lyme flares from foods like gluten or dairy. To identify: Stool tests for microbiome diversity, zonulin levels (marker of permeability), or food sensitivity panels.

Other Potential Imbalances

- Cardiac electrical disruptions: Interference with heart impulses can cause arrhythmias or heart block, linked to inflammation in cardiac tissue. holtorfmed.com +1 To identify: ECG for irregular rhythms.
- Musculoskeletal inflammation: Elevated risk of arthritis and joint swelling from immune response. sciencedirect.com

If these imbalances are suspected alongside Lyme-compatible symptoms, consult a Lyme-literate physician for comprehensive testing. Early antibiotic treatment is key, but addressing imbalances (e.g., via hormone replacement or anti-inflammatory support) can aid recovery.

drtoddmaderis.com +1

Note that not all patients exhibit every imbalance, and overlaps with conditions like fibromyalgia or chronic fatigue syndrome are common.

nm.org

LIMITATIONS: Redland Reflexology, the RR Physio Analyser and the RR Body Analyser Optimiser are not able to detect cancer or diagnose diseases or medical conditions. Like other similar systems, we cannot guarantee that the system is 100% accurate; however, scan sessions may highlight frequency imbalances in the body that could be related to certain disorders. If you have symptoms that concern you, it is important to consult your doctor or healthcare provider.