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Treatment Approaches for Post-Lyme and Post-Covid

Two triggers, one multisystemic disease – and a practical herbal path through it



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dr. riedel praxisteam

NutraMedix Deutschland
Autorisierter NutraMedix Fachhändler

Where I come from

A small practice in Brandenburg, a large population of very complex patients



Private practice for chronic infectious diseases · Luckau, Germany · www.riedel-luckau.de

20+ years

treating chronic Lyme disease, coinfections and – since 2020 – Post-Covid conditions

CSP+ based

my own herbal protocols, built on the Cowden Support Program, mainly with NutraMedix products

Integrative toolbox

chelation, oxyvenation, bioresonance, mitochondrial support, acupuncture – used around the herbal core

Teaching

regular trainings for therapists and patients; NutraMedix Germany partner

Today in three steps

Understand the disease – find the dysfunctions – treat the whole system

1



UNDERSTAND

Why Post-Lyme and Post-Covid behave like one multisystemic disease

2



DIAGNOSE

A diagnostic matrix that turns a 'mystery patient' into a treatment map

3



TREAT

Herbal protocols with NutraMedix products – and what I add around them

Closing with a real case from my practice – and time for your questions.

PART 1

Understand

Post-Lyme and Post-Covid: two triggers – one final common pathway

Two triggers – one final common pathway

What is different is the entry. What is the same is where the patient ends up.

POST-LYME

- Bacterial: Borrelia + coinfections (Bartonella, Babesia, Mycoplasma, Chlamydia …)
- Persister forms: round bodies, biofilms
- Slow onset, often years after the tick bite
- Seronegative in ~50 % of late-stage cases
- HLA-DR2 / DR4 predisposition

SHARED PATHWAY

- Immune dysregulation & autoimmunity
- Silent inflammation, oxidative & nitrosative stress
- Mitochondrial dysfunction – no energy
- Autonomic & endocrine imbalance
- Neuroinflammation, brain fog, depression

→ same symptoms: fatigue, PEM, pain, cognitive and sleep problems

POST-COVID

- Viral: SARS-CoV-2 – plus reactivation of EBV, CMV, HHV-6 (CAEBV)
- Persistence of spike protein in immune cells and tissue
- Fast onset, weeks after the infection
- Very often MCAS, POTS and autoimmunity (GPCR antibodies)
- Frequently a 'sleeping' Lyme infection is re-activated

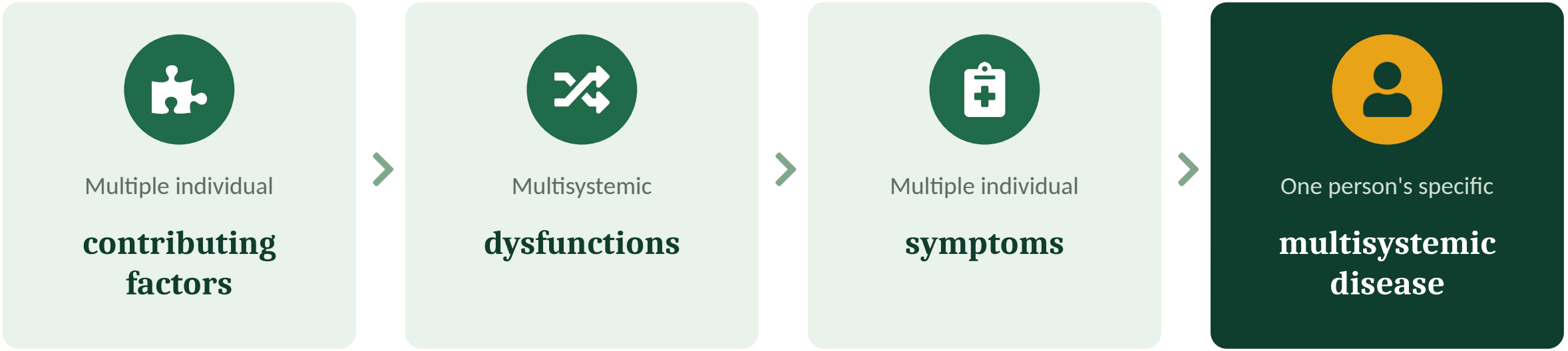
What we were taught – and what we see

The 'Lyme myths' hold for acute infections. They fail for chronic multisystemic disease.

THE LYME MYTH	THE REALITY IN THE PRACTICE
It is easy to diagnose (antibody test)	IgG negative in ~50 % of chronic Lyme; Post-Covid has no single marker at all
It is easy to treat (3–4 weeks of antibiotics / 'wait and rest')	Persister forms and secondary cascades need long, complex treatment
It causes a few well-defined late manifestations	Multiple, fluctuating, unspecific symptoms – a multisystem disease
Chronic symptoms are psychosomatic	Somato-psychic reactions are far more common – and they have biochemical correlates (IDO, receptor autoantibodies)
The science is settled	We still know very little – and guideline bodies disagree (IDSA vs. ILADS)

A multifactorial, multisystemic disease

The chain I explain to every patient – because it also explains the treatment



The consequence for treatment: there is no single target. We are not treating 'Borrelia' or 'the spike protein' – we are treating a person whose regulatory systems have lost their balance. Pathogen reduction is only one part of the treatment – and it comes last.

The contributing factors

'An infection rarely comes alone': the disease is the sum of all factors and their interactions

Genetic predisposition

HLA-DR2/DR4 (up to 22× risk of treatment-resistant Lyme), HLA-DR1 & seronegativity, detox-enzyme polymorphisms

Coinfections & reactivations

Bartonella, Babesia, Mycoplasma, Chlamydia, Yersinia; EBV, CMV, HHV-6, Coxsackie; molds, parasites

Immune weakness

primary or secondary immune deficiency, TH2 shift, low CD57+ NK cells

Heavy metals & toxins

enzyme blockades, mitochondrial damage, pro-inflammatory, biofilm induction

Reduced detox capacity

phase-II enzyme defects (GST, NAT2, SOD) → accumulation of radical intermediates

Nutrient deficiencies

vitamin D, B12, omega-3, minerals – the substrate of every repair process

Gut dysbiosis & leaky gut

histamine producers, mucosal inflammation, food intolerances

Autonomic & environmental stress

sympathetic dominance (low HRV), allergies, EMF/geopathic stress, chronic psychosocial stress

The dysregulatory cascades

Eight body systems that lose their balance – and what we see clinically

Immune system

autoimmunity, immune deficiency, MCAS, atopy

Inflammation regulation

silent inflammation, oxidative & nitrosative stress, neuroinflammation

Mitochondria

lack of energy, CFS/ME, PEM, organ dysfunction

Nervous system

from brain fog and sleep impairment to neuropathy and major depression

Endocrine system

adrenal, thyroid and gonadal dysfunction

Gastrointestinal system

colitis, food intolerances, leaky gut, irritable bowel

Cardiovascular system

POTS, arrhythmia, clotting disorders, orthostatic dysregulation

Musculoskeletal system

fibromyalgia, arthritis, muscle weakness and wasting

Cascade 1 – the immune system

Suppressed and over-activated at the same time

Low CD57+ NK cells

Often < 100/µl in chronic Lyme, especially with nervous-system involvement. A prognostic marker during and after treatment.

TH2 shift

IFN-γ ↓, IL-4 ↑: the pattern of chronic infection, allergy and autoimmunity. The host fights with the wrong weapons.

Pathogen-triggered autoimmunity

Neurotransmitter-receptor (GPCR) autoantibodies in CFS and Post-Covid; ganglioside antibodies in neuropathy; ANA, thyroid antibodies.

Mast cell activation (MCAS)

Histamine-driven inflammation: itching, flushing, food reactions, brain fog. Very frequent after Covid.

THERAPEUTIC CONSEQUENCE

- Immune deficiency without autoimmunity → stimulate (ImmuneMedix)
- Proven autoimmunity → modulate, never stimulate (VitalMedix, Samento)
- MCAS → stabilise mast cells first (Nutra-Hist), otherwise every antimicrobial causes a flare
- Enzymes (Serrapeptase, Bromelain, Nattokinase) to clear immune complexes and biofilm

Cascade 2 – silent inflammation and the brain

Why 'depression' in these patients is often biochemistry, not psychology

SIX LAB PARAMETERS OF MULTISYSTEMIC INFLAMMATION

Histamine	mast-cell inflammation, histamine intolerance
TNF-α	start of the NF-κB cascade (TNF-α → IL-1 → IL-6 → CRP)
IP-10	biomarker of IFN-γ / TH1 activation
MDA-LDL	oxidised LDL – oxidative stress
Nitrotyrosine	the most stable marker of nitrosative stress
BDNF	surrogate of neuroinflammation

THE IDO PATHWAY

1. Inflammation (IFN-γ, TNF-α and other interleucines) activates IDO
2. IDO shifts tryptophan away from serotonin …
3. … towards neurotoxic kynurenines
4. **→ depression, anxiety, brain fog, sleep disorder**

Anti-inflammatory treatment can therefore have an antidepressant effect. Tryptophan/5-HTP only makes sense with normal IDO activity – otherwise we feed the kynurenine pathway.

Cascade 3 – the mitochondria, and the other five systems

Left: why the energy fails. Right: how the remaining cascades present in the consultation room

Secondary mitochondrial dysfunction

- Mitochondria are ancient bacteria inside our cells – and react to the same damage
- Very sensitive to oxidative and nitrosative stress
- Damaged by intracellular pathogens, heavy metals – and by drugs: antibiotics (!) and statins (!)
- Measured as intracellular ATP, GDF-15 or the Bioenergetic Health Index (BHI)
- Clinically: fatigue, post-exertional malaise, organ dysfunction

THE OTHER FIVE CASCADES – IN BRIEF

Nervous system

neuroinflammation, brain fog, sleep impairment, neuropathy, depression (IDO pathway)

Endocrine system

flat cortisol profile (adrenal), thyroid – often autoimmune –, gonadal hormones

Gastrointestinal system

dysbiosis, leaky gut, histamine producers, food intolerances

Cardiovascular system

POTS, orthostatic dysregulation, micro-clotting, arrhythmia

Musculoskeletal system

fibromyalgia-type pain, arthritis, muscle weakness and wasting

All five are driven by the same three engines – immune dysregulation, inflammation, mitochondrial failure – and they improve when those are treated.

PART 2

Diagnose

From a 'mystery patient' to a treatment map – in one blood draw

How I work – the loop

The same eight steps for every patient, and the loop never really closes

01

Listen to the patient

02

Create a diagnostic schedule

03

Explain the findings

04

Create a treatment plan (oral, parenteral, device-based)

05

Explain the plan

06

Treat according to the plan

07

Re-evaluate regularly

08

Adjust diagnostics and treatment

The most important step is the first one. These patients have not been listened to for years.

The diagnostic toolbox

One domain per cascade – so that every finding points to a treatment target

Infections

Antibodies incl. blot, LTT / ELISpot (Borrelia, coinfections, viruses), spike protein in immune cells

Immune system

Cellular immune status, CD57+, TH1/TH2 balance, GPCR & other autoantibodies

Inflammation

hs-CRP, TNF-α, IL-1/6/8, IP-10, histamine; BDNF, IDO, NSE (neuro-inflammation); oxidative & nitrosative stress

Mitochondria

ATP intracellular, GDF-15, BHI, lactate/pyruvate ratio

Hormones

Cortisol day profile, catecholamines, sex hormones, melatonin profile, thyroid incl. antibodies

Nutrient status

Vitamin D, B12, omega-3 index, whole-blood minerals

Toxins

Heavy metals (after chelation provocation), environmental toxins

Others

Autonomic nervous system (HRV), vascular system, microbiome & gut mucosa

The diagnostic matrix – five questions

And how much of the toolbox I really use

1. **Infections / Co-Infections: active / inactive?**
2. **Immune system dysregulations: deficiency / imbalance / autoimmunity?**
3. **Silent inflammation: systemic / histaminergic / neuro-inflammation?**
4. **Mitochondrial, neurological and circulatory dysfunctions?**
5. **Other: heavy metals, hormones, gut, genetics?**

ALWAYS

Antibody serology incl. blot · LTT Borrelia & LTT viruses and bacteria · TNF-α & hs-CRP · CD57+ cells · ATP intracellular

MOSTLY

Oxidative & nitrosative stress · IP-10 · BDNF · histamine (MCAS) · TH1/TH2 shift · heavy metals · HRV · nutrient status · autoimmunity by clinic: GPCR-, ganglioside-, rheumatic-, thyroid antibodies · D-Dimer

OFTEN

IDO pathway · hormones · DAO (histamine intolerance) · stool diagnostics (flora, leaky gut, mucosal immunity)

OCCASIONALLY

HLA-DR · detox genetics · spike protein in immune cells and exosomes

Rule: with a matching history, matching symptoms and one or more positive results, the working diagnosis stands until someone proves a better explanation.

PART 3

Treat

Three steps, one herbal core – the NutraMedix protocols I use every day

Why phytotherapy – and why NutraMedix?

Evolution has spent millions of years developing antimicrobial molecules. We just have to use them.

WHAT PLANTS DO THAT SINGLE MOLECULES CANNOT

- Hundreds of substances per plant → several effects at once (Samento: antimicrobial + immune-modulating + anti-inflammatory)
- Active against spirochetes, round bodies AND biofilm – in vitro often superior to antibiotics
- Samento + Banderol and Stevia rebaudiana extract were the most effective combinations tested (Sapi lab)
- Combine freely → one protocol can cover the whole multisystem disease
- Part of traditional diets for centuries → very few side effects, no mitochondrial toxicity

BUHNER vs. COWDEN – WHY I CHOSE STANDARDISATION

Buhner

non-standardised, many sources, low cost – but no evidence possible, high counselling effort, patient must become 'a little botanist'

Cowden / NutraMedix

standardised extracts from one manufacturer – existing in-vitro evidence, low counselling effort, reproducible results

The Cowden Support Program (CSP+) is my comprehensive reference protocol.



The treatment sequence – three steps

Calm first, regulate second, antimicrobials last – and tell the patient at the first visit: at least 12 months

1 CALM AND NOURISH

from day 1 – and continued throughout

Calm the mast cells

Nutra-Hist first · low-histamine diet · if needed H1-blockers / mast-cell stabilizer

Calm the nervous system

LDN, LDA – started only once the mast cells are calmer · Lorazepam / Alprazolam · sleep, pacing

Nutrition

multinutrient, omega-3, vitamin D3/K2, magnesium, B-vitamins, · gut & probiotics

2 REGULATE THE SYSTEMS

from week 2–4 – as the findings dictate

Immune regulation

ImmuneMedix · Samento / VitalMedix

Circulation, hormones & energy

Nattokinase, Serrapeptase · Adrenal · ubiquinol, carnitine, NAD+, spermidine

Detox & drainage

Burbur-Pinella · Dandelion · Sparga · enzymes · chelation if metals are proven

3 ANTIMICROBIAL SUPPORT

once steps 1 + 2 are tolerated – titrated drop by drop

Herbs by scenario

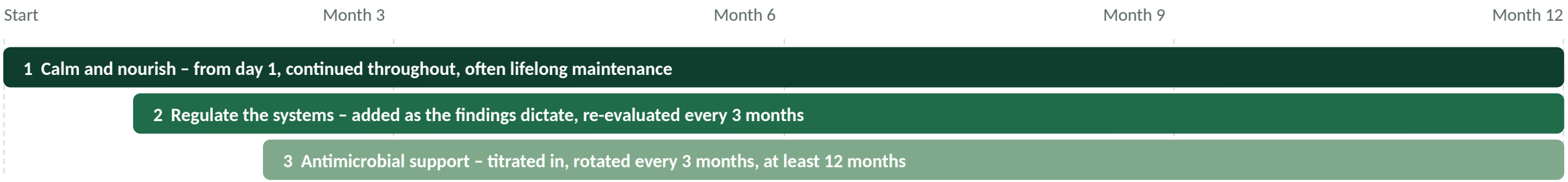
Nutra-BRL or Samento · Baikal Skullcap · Houttuynia · Japanese Knotweed · Takuna

Rotation

product change every 3 months – expect a new Herxheimer phase at every change

Rescue alongside

Burbur-Pinella, Dandelion – daily and as Herxheimer rescue



Step 1 – Calm and nourish: prepare the ground

Nothing else works until the mast cells and the nervous system are calmer – this is where the sickest patients are won or lost

Calm the mast cells

Overactive mast cells explain the sensory overload – and why every new remedy is 'not tolerated'

- **NUTRA-HIST** – always first, titrated like every other product
- low-histamine, anti-inflammatory diet
- if not enough: **H1-blockers** with dual functions (**ketotifen**, **rupatadine**), **H2-blockers** (**Famotidine**), stabilizer (**cromoglycin)** or **montelucast** (leucotriene antagonist)
- very sensitive patients: pure substances compounded without excipients · let the alcohol of the tinctures evaporate

Calm the nervous system

The autonomic nervous system co-controls the mast cells – start here too early and they flare first

- **LDN** (low-dose naltrexone): 0.25–0.5 mg, weekly steps, target 4.5 mg · very sensitive: start 0.1 mg · sleep problems → morning dose
- **LDA** (low-dose aripiprazole): 0.1–0.2 mg, weekly steps, target 2–2.5 mg · very sensitive: start 0.05 mg · drowsiness → evening dose
- **nicotine patches** as an option · pacing, sleep hygiene, HRV-guided stress regulation
- **Lorazepam / Alprazolam** (for patients with extreme sensory overload)

Nutrition

The substrate of every repair process – and the first thing these patients have lost

- nutrient base: vitamin **D3/K2**, **omega-3**, magnesium, B-vitamins, **multinutrient supplements**
- gut: probiotics, fibre, anti-inflammatory diet
- POTS: fluids and salt, small meals
- **No antimicrobials yet** – we are preparing the ground

The order matters: mast cells → nervous system → everything else. Started too early, every further step produces a worsening instead of an improvement – and you lose the patient.

The treatment sequence – where we are

STEP 2 OF 3

Step 1 is in place and tolerated – now, as the findings dictate: regulate the systems

✓

CALM AND NOURISH

from day 1 – and continued throughout

Calm the mast cells

Nutra-Hist first · low-histamine diet · if needed H1-blockers / mast-cell stabilizer

Calm the nervous system

LDN, LDA – started only once the mast cells are calmer · Lorazepam / Alprazolam · sleep, pacing

Nutrition

multinutrient, omega-3, vitamin D3/K2, magnesium, B-vitamins, · gut & probiotics

2

REGULATE THE SYSTEMS

from week 2–4 – as the findings dictate

Immune regulation

ImmuneMedix · Samento / VitalMedix

Circulation, hormones & energy

Nattokinase, Serrapeptase · Adrenal · ubiquinol, carnitine, NAD+, spermidine

Detox & drainage

Burbur-Pinella · Dandelion · Sparga · enzymes · chelation if metals are proven

3

ANTIMICROBIAL SUPPORT

once steps 1 + 2 are tolerated – titrated drop by drop

Herbs by scenario

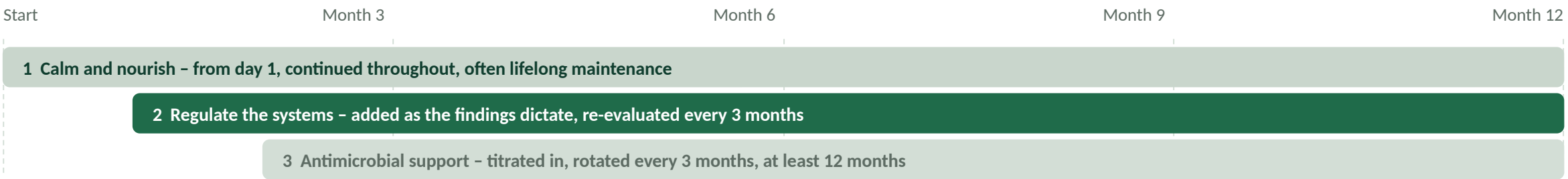
Nutra-BRL or Samento · Baikal Skullcap · Houttuynia · Japanese Knotweed · Takuna

Rotation

product change every 3 months – expect a new Herxheimer phase at every change

Rescue alongside

Burbur-Pinella, Dandelion – daily and as Herxheimer rescue



Step 2 – Regulate the systems

Immune, hormones, energy, detox – the findings from the diagnostic matrix decide what each patient needs

Immune

Immune deficiency, no autoimmunity

STIMULATE

IMMUNEMEDIX

Proven autoimmunity (GPCR, ANA, thyroid)

MODULATE

SAMENTO / VITALMEDIX

Mast cell activation

STABILISE – CONTINUED FROM STEP 1

NUTRA-HIST

Hormones

Adrenal exhaustion (flat cortisol profile)

RESTORE THE RHYTHM

ADRENAL

Gonadal support – women

BALANCE

HORMONAL BALANCE

Gonadal support – men

BALANCE

NATURAL BOOST

Energy

Circulation first – cerebral blood flow is reduced in most CFS patients

PERFUSE

Nattokinase · Serrapeptase · POTS: mestinon, ivabradine

Then the mitochondria

FUEL

ubiquinol · carnitine · NAD+ · spermidine · infusions

Oxygen

OXYGENATE

oxyvenation · oxygen concentrator at home

Detox & drainage

Drainage – every day

DRAIN

BURBUR-PINELLA · DANDELION · SPARGA

Biofilm, fibrin, immune complexes

DISSOLVE

SERRAPEPTASE · BROMELAIN · NATTOKINASE

Heavy metals proven after provocation

REMOVE THE CO-FACTOR

Chelation

Within the energy column the order is the same as in the whole protocol: ***circulation before mitochondria – what does not arrive cannot work.***

The treatment sequence – where we are

STEP 3 OF 3

Steps 1 and 2 are tolerated – now, and only now: the antimicrobial support

✓

CALM AND NOURISH

from day 1 – and continued throughout

Calm the mast cells

Nutra-Hist first · low-histamine diet · if needed H1-blockers / mast-cell stabilizer

Calm the nervous system

LDN, LDA – started only once the mast cells are calmer · Lorazepam / Alprazolam · sleep, pacing

Nutrition

multinutrient, omega-3, vitamin D3/K2, magnesium, B-vitamins, · gut & probiotics

✓

REGULATE THE SYSTEMS

from week 2–4 – as the findings dictate

Immune regulation

ImmuneMedix · Samento / VitalMedix

Circulation, hormones & energy

Nattokinase, Serrapeptase · Adrenal · ubiquinol, carnitine, NAD+, spermidine

Detox & drainage

Burbur-Pinella · Dandelion · Sparga · enzymes · chelation if metals are proven

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ANTIMICROBIAL SUPPORT

once steps 1 + 2 are tolerated – titrated drop by drop

Herbs by scenario

Nutra-BRL or Samento · Baikal Skullcap · Houttuynia · Japanese Knotweed · Takuna

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Step 3 – the antimicrobial toolbox: three scenarios

Only now, once steps 1 and 2 are tolerated – the diagnostic matrix tells me which of the three I am dealing with

'Pure' chronic Lyme disease

Borrelia active (LTT+) · low or moderate viral load · no autoimmunity



NUTRA-BRL · SERRAPEPTASE · BURBUR-PINELLA · TAKUNA

Comprehensive: Cowden Support Program (CSP+)

Post-Covid condition / chronic active EBV

Spike persistence, high viral load, MCAS, GPCR-autoimmunity



SAMENTO · BAIKAL SKULLCAP · HOUTTUYNIA · DANDELION

With proven autoimmunity: high-dose enzyme trio (Serrapeptase, Nattokinase, Bromelain)

Lyme + Post-Covid (the most frequent picture)

Covid re-activated a silent Lyme infection



NUTRA-BRL · JAPANESE KNOTWEED · BAIKAL SKULLCAP · HOUTTUYNIA · DANDELION

With proven autoimmunity: high-dose enzyme trio

The treatment sequence – the whole picture

ALL THREE STEPS

You have seen all three steps – remember the order, and remember the number: twelve months

CALM AND NOURISH

from day 1 – and continued throughout

Calm the mast cells

Nutra-Hist first · low-histamine diet · if needed H1-blockers / mast cell stabilizer

Calm the nervous system

LDN, LDA – started only once the mast cells are calmer · Lorazepam / Alprazolam · sleep, pacing

Nutrition

multinutrient, omega-3, vitamin D3/K2, magnesium, B-vitamins, · gut & probiotics

REGULATE THE SYSTEMS

from week 2–4 – as the findings dictate

Immune regulation

ImmuneMedix · Samento / VitalMedix

Circulation, hormones & energy

Nattokinase, Serrapeptase · Adrenal · ubiquinol, carnitine, NAD+, spermidine

Detox & drainage

Burbur-Pinella · Dandelion · Sparga · enzymes · chelation if metals are proven

ANTIMICROBIAL SUPPORT

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Herbs by scenario

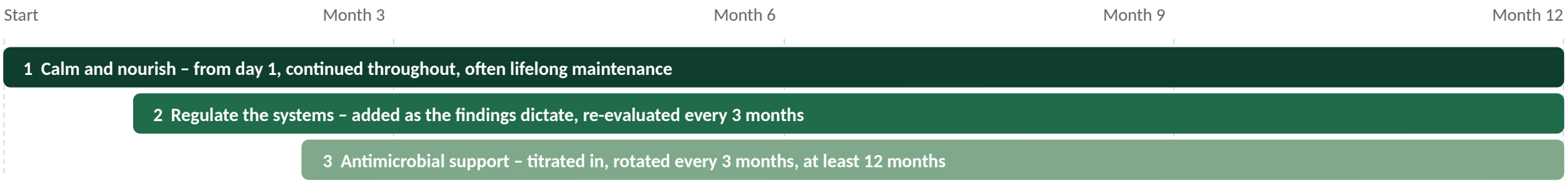
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product change every 3 months – expect a new Herxheimer phase at every change

Rescue alongside

Burbur-Pinella, Dandelion – daily and as Herxheimer rescue



Start slow, go slow – dosing, Herxheimer, safety

The art is not choosing the herb. The art is the dose.

MY DOSING RULES

- Every pathogen-active product is titrated in – start with 1–2 drops, increase every 2–3 days
- Never cling to standard doses: dose individually, sometimes less is more
- Steps 1 and 2 BEFORE any antimicrobial: mast cells, nervous system, drainage and enzymes
- MCAS patients: Nutra-Hist first – LDN / LDA only once the mast cells are calmer
- Change of products every 3 months – expect a new Herxheimer phase at every change
- Children: weight-adapted dosing works without problems

Herxheimer reaction – the emergency plan

Burbur-Pinella 20 drops every 30 minutes until symptoms subside · pause or reduce the antimicrobial · increase water intake · if severe: infusion support (vitamin C, procaine-base)

Restrictions and side effects

Not in pregnancy / lactation (no data) · caution in recovering alcoholics (alcohol extracts – one adult dose ≈ less than ¼ glass of apple juice) · allergies very rare · diarrhoea → reduce dose, probiotics · for better tolerance (MCAS) → let the alcohol evaporate · otherwise no serious short- or long-term side effects known

Beyond the bottle – what I add around the herbal core

Not everyone needs these – but for the sickest patients they make the herbal protocol possible

Chelation therapy

heavy metals proven after provocation – removes a major mitochondrial and biofilm co-factor

Oxyvenation

intravenous oxygen – anti-inflammatory, improves microcirculation and energy

Infusion therapy

mitochondrial, anti-inflammatory, high-dose vitamin C, procaine-base; antimicrobial infusions where needed

Bioresonance

supportive – autonomic regulation, drainage, pathogen frequencies

Dysautonomia & circulation

POTS: Mestinon, ivabradine (heart rate down, blood pressure untouched) · circulation: nattokinase, ginkgo, low-dose aspirin · oxygen concentrator for the housebound

Pain & nervous system

acupuncture, CBD/MSM infusions, HRV-guided stress regulation

The herbal core stays the same. These methods lower the load – so that the herbs can work, and the patient can tolerate them.

Five things to take home

One disease, two triggers

Post-Lyme and Post-Covid share the same cascades – treat the cascades, not just the pathogen.

Diagnose the dysfunctions

At least five 'always' tests: serology + blot, LTT, TNF-α/hs-CRP, CD57+, ATP. They decide the plan.

Three steps, one herbal core

Calm – regulate – antimicrobial: every step has a NutraMedix core, from Nutra-Hist to Nutra-BRL.

Three antimicrobial protocols

Nutra-BRL based for Lyme · Samento/Baikal/Houttuynia for Post-Covid · combined for both.

Start slow, go slow – for 12+ months

Mast cells and nervous system first, systems second, antimicrobials last – titrated, rotated every 3 months, Burbur-Pinella as rescue.

Thank you very much for your attention!

Phytotherapy works. Questions are welcome – now, or at the panel discussion this afternoon.



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Putting it all together – a case from my practice

28-year-old woman, severe CFS after Covid – and an old tick bite

Medical history

- Severe CFS with post-exertional malaise, starting weeks after a Covid infection
- Tick bite many years ago – known positive IgG antibodies, never treated
- Sleep impairment, anxiety, brain fog
- Skin itching, general food sensitivity
- Ankle and muscle pain
- Several doctors: 'psychosomatic – see a psychiatrist'

Key findings

ELEVATED

TNF-α · nitrotyrosine · histamine · GPCR autoantibodies · ANA · spike protein in immune cells, BDNF (neuroinflammation), D-Dimer

DEPLETED

intracellular ATP, CD57+

BORRELIA

IgG positive · LTT negative → inactive, but part of the history

VIRUSES

high viral load incl. EBV and CMV

Her treatment plan – three steps, start slow, go slow

Post-Covid + Post-Lyme + CAEBV with CFS, MCAS, silent inflammation, mitochondriopathy and autoimmunity

1 · CALM AND NOURISH

from day 1 – continued throughout

- Mast cells: **NUTRA-HIST**, low-histamine diet, **Ketotifen**
- Nervous system: **LDN** titrated from 0.1 mg · later nicotine patches
- Nutrient base: **multinutrient**, **omega-3,** D3 + K2
- Sleep, pacing

2 · REGULATE

from week 3 – as the findings dictate

- Immunmodulation: **SAMENTO**
- Adrenal: **ADRENAL**
- Circulation & POTS: Mestinon · **NATTOKINASE**
- Mitochondria: ubiquinol, curcumin, (quercetin) · CoQ10, NAD+, **spermidine** – orally or as infusions
- Drainage: **BURBUR-PINELLA**
- Autoimmunity: enzymes high-dose – **SERRAPEPTASE, BROMELAIN, NATTOKINASE**
- Oxyvenation, bioresonance, acupuncture · chelation if metals are proven

3 · ANTIMICROBIAL

from week 6–8, titrated

- SAMENTO (not Nutra-BRL – Borrelia inactive, autoimmunity present, gut issues)
- JAPANESE KNOTWEED
- BAIKAL SKULLCAP
- HOUTTUYNIA
- DANDELION + BURBUR-PINELLA
- rotate every 3 months

Re-evaluation every 3 months: symptoms, TNF-α, histamine, ATP, viral LTTs – then rotate the antimicrobial block.