A PRACTICAL APPROACH TO THE TREATMENT OF CHRONIC VIRAL INFECTIONS IN LYME DISEASE

ILADS, October 2014

Presented by Neil Nathan MD

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Neil Nathan MD

- Board Certified by the American Board of Family Medicine 1979-present
- Founding Diplomate of American Board of Integrative and Holistic Medicine
- Radio Host (with co-host Jacob Teitelbaum MD) of "The Cutting Edge of Health and Wellness Today"
- Author of "Healing is Possible"; "On Hope & Healing"
- Educator, Researcher, Clinician in Active Practice

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DISCLOSURES

I have nothing to disclose.

I have no financial affiliations with any laboratory, pharmaceutical or supplement manufacturer or product mentioned in this presentation.

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CASE STUDY

19 yo wm first seen May, 2012 by referral noting "right now I have mono and I'm trying to get over it and get my energy and concentration back so I can get through college."

Originally diagnosed 6 months prior with mono but had been tired throughout High School. When first seen, EBV titers were positive, 25-OH vit D level 28.1, DHEA 357 (nl 40-491) Neg Lyme Ab; CD 57: 47

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CASE STUDY

The day he left for college he had strep throat, and was "knocked out" that week; he forced himself to get to classes but by late October realized he was really tired and by Xmas break was "wasted". He did poorly his first quarter at school noting not only fatigue but difficulty with focus and concentration, "brain fog" and was placed on academic probation. When first seen he was home on medical leave.

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CASE PRESENTION

Initial symptoms on presentation: Fatigue (VAF "2-4")
Cognitive impairment, Achy muscles (not joints),
Mild headache, not depressed or anxious

He had some history of mold exposure and tick bites with no Bull's eye rash.

We measured CPN, Myco, HHV6 and CMV titers
checked mold plates, increased vitamin D intake to 6000 IU/d, started Plasmyc Transfer Factor & Valtrex

CASE PRESENTATION

SO, THIS IS A SIMPLE CASE OF MONO, WHICH IS PERSISTING, RIGHT?

OF COURSE NOT, BECAUSE OTHERWISE, WHY WOULD I BE PRESENTING THIS?

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CASE PRESENTATION

LABS:

Original EBV titers: IgM 2.0, EBV AbVCA IgG >8.0

EBV Nuclear Antigen Ab, IgG > 8.0 (EA neg)

HHV6 IgG 1:160 CMV titers negative

Mycoplasma pneumonia IgG >5.0

Chlamydia pneumonia IgA 1:128 IgG 1:512

Mold plates positive

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CASE PRESENTATION

Igenix Lyme IgM WB: +18, 30, 34, IND 31 & 83-93

WBC 3,700 Platelets 135,000

CDSA: +1 Candida albicans/dubliensis

+3 Pseudomonas

NG Lactobacillus species

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CASE PRESENTATION

He got worse when he started Valtrex and worse when he started Plasmyc TF as well, but improved when he was given Zithromax for a recurrence of strep throat

We DC'd Valtrex and cut Plasmyc TF to q 3days. At this point, Lyme testing was not yet available, so I assumed this might be CPN, Myco and gently started Zithromax 250mg qd then Minocin 50mg qd with probiotics and gradually increased Abx dosages.

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CASE PRESENTATION

By late July, 2012, he was a bit better on Zithromax "less mental fatigue" but testing strongly suggested both Lyme and mold as additional components so we added Omnicef, 300mg bid (slowly), AL complex, ToxEase ii bid, and Cholestyramine ¼ scoop daily

By early August the muscle pain had resolved, he was able to play volleyball and reported "40%" better now on 3 gtt AL comlex and 1 scoop CSM.

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CASE PRESENTATION

At this point we added LDN, LENS, Tindamax 250mg bid and methylation protocol. He had no response to LDN, did better on LENS, but noted onset of night sweats and rash on his chest. Every 2 weeks he "dips down" in function for 3 days. A bart challenge test negative; felt "horrible with A bab test. We added A-bab drops, Artesunate 50mg twice weekly Cumanda 5gtt/d and MMS 1-2 gtt/d

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CASE PRESENTATION

- By January, 2013, he had no additional improvement.
- We switched Plasmyc TF for LymPlus TF, added
- NT factors, Mepron 750mg bid. Offered PICC line but
- he wanted to wait to see how these changes would work.
- After 1 month he had the PICC line placed and
- started Rocephin 2gm 4days on/3 off and within 1 mo
- noted sleeping less, moving better, energy better, and
- night sweats were gone, cognition improved.

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CASE PRESENTATION

- At this point he had worked up to 15 gtt A-bab bid
- and added Nystatin, 500,000u qid.
- By April he was better yet, off mepron, coumanda
- and A-bab, but repeat CDSA showed persistence of
- Candida. Abx: Rocephin IV, Zithromax 500mg/d
- Tindamax 500mg bid 2 weeks on/off
- By August, VAF "6-7", cognition better, continued
- steady improvement; mycotoxin testing negative.

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CASE PRESENTATION

By October, 2013, energy "80%" better, cognition "60%" better, he was off antibiotics for 3 weeks.

We resumed LENS treatment; nagalase ordered; and off antibiotics by December "when I use my brain I'm more tired and still not well. An Advanced Lab Lyme test 16 weeks negative; nagalase 1.50 and we started GcMAF 5ng a week and worked up slowly.

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CASE PRESENTATION

By February, 2014, on 12ng GcMAF, he was much better to point he was taking on-line college level courses; taking long walks

By the end of May, 2014, "my brain is fine"---he got A's on his college courses, still needed to nap at times and endurance not normal; tried to increase GcMAF to 25ng but got worse…backed down to 10ng. "There's light in my eyes now---starting back to college in Fall.

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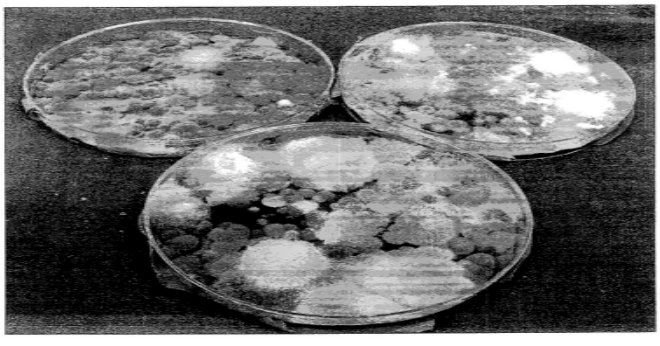
Cladosporum	TNTC
Geotrichium	4
Epicoccum sp	5
Total for the Room:	TNTC



QUALIFICATIONS TO THIS REPORT:

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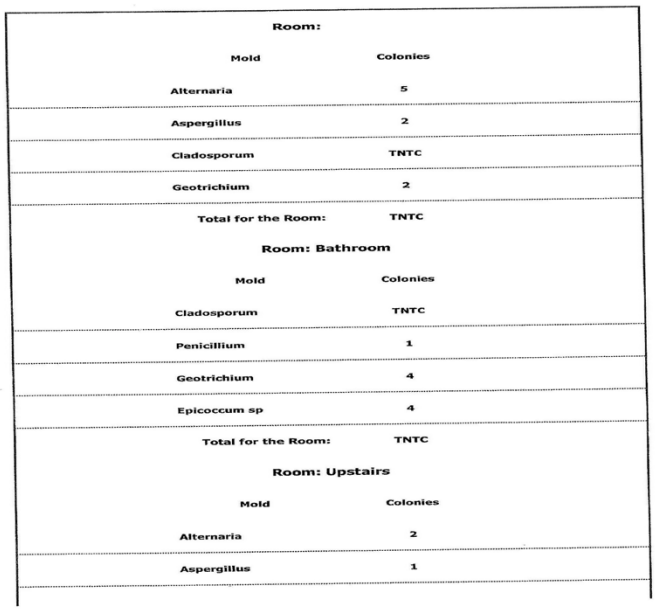

Room:

Mold	Colonies
Alternaria	5
Aspergillus	2
Cladosporum	TNTC
Geotrichium	2
Total for the Room:	TNTC

Room: Bathroom

Mold	Colonies
Cladosporum	TNTC
Penicillium	1
Geotrichium	4
Epicoccum sp	4
Total for the Room:	TNTC

Room: Upstairs

Mold	Colonies
Alternaria	2
Aspergillus	1

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Real Time Laboratories, Inc.
4100 Fairway Ct, Ste 600
Carrollton, TX 75010

08/30/2013 12:00

CLIA #: 45D1051736 **TaxID #: 45-0669342**
Phone: (972) 243-7754 **Fax: (972) 243-7759**
Website: realtimelab.com **Email: info@realtimelab.com**

MYCOTOXIN PANEL REPORT FORM

Patient:

Patient Date of Birth: **Accession No:** 130743

Date of Service: 8/21/2013 **Patient ID No:**

Date of Report: 8/30/2013 **Collected:** 8/19/2013

Ordering Physician: Dr. Neil Nathan **Specimen:** Urine

Procedure:
TYPE: Aflatoxin (Procedure by ELISA).
TYPE: Ochratoxin (Procedure by ELISA).
TYPE: Trichothecenes (Procedure by ELISA).

Test Results:

Code	Test	Specimen	Value	Result	Negative if less than	Equivocal if between	Positive if greater or equal
E8501	Ochratoxin	Urine	0 ppb	Negative	1.8 ppb	1.8-2.0 ppb	2.0 ppb
E8502	Aflatoxin	Urine	0 ppb	Negative	0.8 ppb	0.8-1.0 ppb	1.0 ppb
E8503	Tricothecene	Urine	0.05 ppb	Negative	0.18 ppb	0.18-0.2 ppb	0.2 ppb

Tests such as this should be used only in conjunction with other medically established diagnostic elements (e.g., symptoms, history, clinical impressions, results from other tests, etc). Physicians should use all the information available to them to diagnose and determine appropriate treatment for their patients.

Director's Initials: JSS

Disclaimer: This test was developed and its performance characteristics determined by RealTime Lab. It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) as qualified to perform high complexity clinical laboratory testing.

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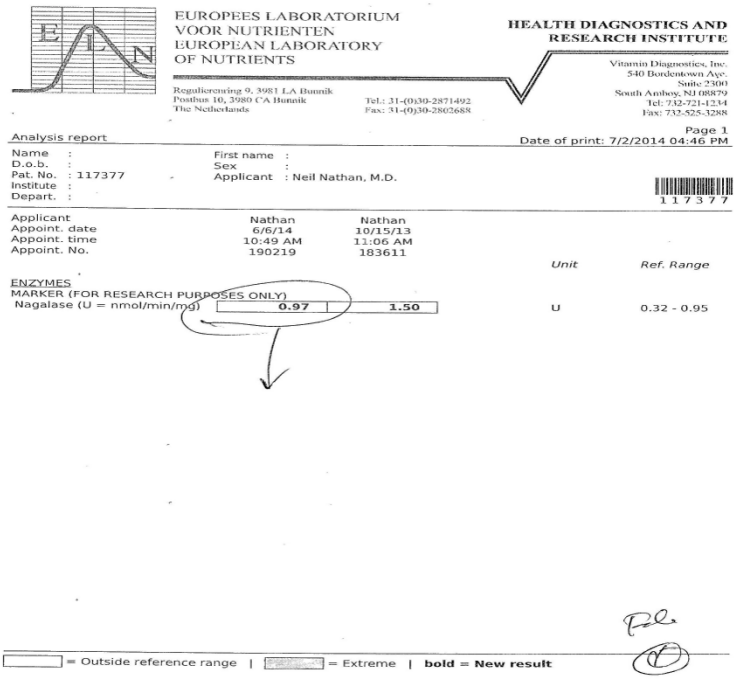

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Fax: 732-525-3288

Analysis report

Page 1
Date of print: 7/2/2014 04:46 PM

Name :
D.o.b. :
Pat. No. : 117377
Institute :
Depart. :
First name :
Sex :
Applicant : Neil Nathan, M.D.

117377

	Nathan	Nathan		
Applicant				
Appoint. date	6/6/14	10/15/13		
Appoint. time	10:49 AM	11:06 AM		
Appoint. No.	190219	183611		
			Unit	*Ref. Range*
ENZYMES				
MARKER (FOR RESEARCH PURPOSES ONLY)				
Nagalase (U = nmol/min/mg)	**0.97**	**1.50**	U	0.32 - 0.95

= Outside reference range | = Extreme | **bold = New result**

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VIRAL INFECTIONS

- Herpes family
- Enteroviruses
- Parvovirus 19
- Persistence of attenuated measles?
- Retroviruses
- Coxsackie

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Recurrent viral infection

Herpes Family Members

Herpes Simplex Virus-1	HSV-1	Oral herpes
Herpes Simplex Virus-2	HSV-2	Genital herpes
Varicella-Zoster Virus	VZV	Chicken pox, shingles
Epstein-Barr Virus	EBV	Mononucleosis
Cytomegalovirus	CMV	"mono-like" flu
Human Herpes Virus-6	HHV-6	Roseola, MS, fatigue
Human Herpes Virus-7	HHV-7	Pityriasis rosea
Human Herpes Virus-8	HHV-8	Kaposi's sarcoma

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VIRAL TREATMENT #1

- MEDICATIONS:

  ACYCLOVIR 200mg 5x/d

  VALTREX 500mg-1gm bid

  FAMVIR 500mg bid (less immune suppressive)

  VALCYTE 500mg-1gm bid

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VIRAL TREATMENTS #2

- TRANSFER FACTORS
- GcMAF
- FSM (Frequency Specific Microcurrent)
- ARTESUNATE (Cheney Protocol)
- IMN-V and V-II (Beyond Balance)
- A-V tincture (Byron White)

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VIRAL TREATMENTS #3

- MONOLAURIN
- INTERFERONS (alpha, beta, gamma) LOW DOSE
- VITAMIN C ------ INTRAVENOUS
- RITUXIN (low dose?)
- HOMEOPATHICS (Gelsimium, Baptisia, Cactus)
- IMMUNOVIR (Isoprinosine)
- OLIVE LEAF EXTRACT
- GRAPEFRUIT SEED EXTRACT

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TRANSFER FACTORS

- Small peptides, which like antibodies, bind to antigens. Transfer factors bind to antigens on the surface of infected cells (rather than on freely floating pathogens in blood and lymph, like antibodies do)
- Augments cell-mediated (Th1) response
- Perhaps identical to proline-rich peptides' (colostrinin) immunomodulating effects

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TRANSFER FACTORS 2

- Like antibodies, transfer factors bind to specific antigens; in this case those antigens are located on the surface of infected body cells. By sticking to these cell-surface antigens, transfer factors presumably ***flag*** the infected cells for destruction by Cytotoxic T-cells.
- In essence, transfer factors are the smaller siblings of antibodies, which facilitate the destruction of infected cells via ***cell-mediated immunity*** rather than antibody-medicated immunity.

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Recurrent viral infection

- Results of Transfer-Factor (TF) Treatment:

Group receiving TF with HHV-6 Activity (n=28)

	Symptom score	NK Function (LU)
Baseline	76	8
After 6 mo TF	41	54
P value	<.0001	<.0001
Sx score range: 0-128		Normal NK 20-250

Data presented by Dr. Joseph Brewer

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TRANSFER FACTOR SPECIFICS

MY FAVORITE TF'S:

- PLASMYC TF
- LYM-PLUS TF

Go slowly; start at one daily---if pts react, stop until reaction subsides and try one every 3 days or weekly; slowly increase as tolerated to 2/d for 18 months or more

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NAGALASE #1

- Pathogenic significance of alpha-N-acetylgalactosaminidase activity found in the hemagglutinin of influenza virus
- Yamamoto, N. Urade, M.
- *Microbes Infect.* 2005, Apr;7(4)674-81

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NAGALASE #2

- Serum vitamin D3-binding protein (Gc protein) is the precursor for the principal macrophage activating factor (MAF)
- Nagalase deglycosylates Gc protein, which then cannot be converted to MAF, leading to immunosuppression.

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NAGALASE #3

- The induction of nagalase activity by viruses may represent a central adaptive mechanism used by viruses and other persistent bacteria to "blind" the immune system to its presence.

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GcMAF: Therapeutic Potential

- In modest prospective studies by Kenny De Meirleir MD, PhD and Paul Cheney MD, PhD---- GcMAF has demonstrated excellent success in treating patients with Chronic Fatigue Syndrome
- Treating with 5-100ng of GcMAF for 15 to 40 weeks to see results, monitoring nagalase levels.

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TESTING TO BE CONSIDERED IN TREATMENT WITH GcMAF

- VDR GENOTYPES: Bsm
- BB (tend to have low calcitriol <30) and may need higher doses of GcMAF
- Bb and bb respond well but as nagalase falls calcitriol may increase to 90-100 and may get Vitamin D toxic.
- Fok (ff does not respond as well)

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TESTING TO BE CONSIDERED IN TREATMENT WITH GcMAF

- Vitamin D 1, 25 and 25-OH
- Calcium levels
- Calcitriol
- Nagalase (from Health Diagnostics)
- CD 57 (Dr. Bradstreet's work in autism)

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THERAPEUTIC FORMS OF GcMAF TO CONSIDER

- INJECTABLE GcMAF (may also be used sublingually) IM or SubQ
- ORAL GcMAF:
  - GOleic: subQ, sublingual, nasal spray
  - MAF 314 (Dr. Ruggerio's formulation)
  - MAF 878 (Dr. Enlander's formulation)
- HOMEOPATHIC: Dr. Klinghardt's formulation

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THE USE OF IV VITAMIN C

- "Pharmacologic ascorbic acid concentrations selectively kill cancer cells: action as a pro-drug to deliver hydrogen peroxide to tissues" by Chen, Q, Levine, Mark, et al, Proc Natl Acad Sci, August 4-8, 2008
- *Vitamin C, Infectious Diseases and Toxins: Curing the Incurable* by Thomas E. Levy, MD, JD, Phil, PA, Xlibris Corporation, 2002
- Previous work by Linus Pauling, Irwin Stone and Frederick Kenner

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OTHER ANTI-VIRAL OPTIONS

- Immunovir: 500mg caps bid (M-F) first week, then tid the next week (M-F) then off for one week and repeat.
- Monolaurin: Dose varies from 300mg caps bid to ii bid to 3000mg/tsp tincture tid. Esp. HSV 1 & 2 and CMV
- Olive leaf extract: 500mg caps i-ii bid ac Esp. for EBV, HHV6, CMV, HSV 1, 2, & 3
- Grapefruit Seed Extract (GSE): 5-15 gtt in water or juice 1-3 x daily; may gargle or use as rinse otic/nasal diluted

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HERBAL ANTIVIRALS #1
by Stephen Buhner

- Chinese Skullcap (*Scutellaria baicalensis*) Root Tincture ¼-1/2 tsp tid; Powdered 1 tsp tid; broad-spectrum antiviral specific for reducing brain inflammation. Inhibits CYP 3A4 cytochromes.
- Houttuynia (*Houttuynia cordata*) Tincture ¼-1/2 tsp tid Broad-spectrum antiviral and also active against Bartonella and Mycoplasma.

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HERBAL ANTIVIRALS #2

- Isatis (*Isatis tinctoria*) Tincture: 30 gtt 3-4x daily
  Broad-spectrum antiviral, esp root for chronic conditions
- Lomatium (*Lomatium dissectum*) 10-30 gtt 3-4x daily
- Synergists: Licorice, Ginger & Elder
- Immune Modulators: Astragalus, Cordyceps, Rhodiola, Garlic, Mushrooms (shiitake & maitake)

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HERBAL ANTIVIRALS #3

- Other herbals: Red Root (*Ceanothus*) and Boneset (*Eupatorium*)
- Transfer Factor Multi-Immune: Combination of transfer factor blend, colostrum, ECGC, astragalus, beta glucans, shiitake, maitake and other nutrients to augment and improve immune function. 2 capsules once or twice daily demonstrated significantly improvement in Natural Killer Cell function.

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CHENEY PROTOCOL #1

- Diet: Avoid simple sugars, dairy, wheat, tropical fruit Consider "Dr. Gundry's Diet Evolution"
- Sleep: Good sleep hygiene; may add tiny doses of Klonopin or Doxepin if needed
- ROS reduction: Hydroxy B-12, Magnesium, Inosine (500mg tabs, ii bid…may need to chew and spit, check uric acid levels) DHEA 3-6mg/d

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CHENEY PROTOCOL #2

- Artesunate: 50mg cap one Mon, Wed, Fri and slowly work up to one daily for 6 or 7 days. Check CBC, LFTs after 5 weeks, take one week off and repeat.
- GcMAF: Measure nagalase and follow levels. Consider measuring VDR SNPs from Genome Explorations Inc, noting VDR bb/FF or VDR Bsm/Taq -/- and Fok +/+ may respond better to GcMAF
- Cell signaling factors: Topical bison extracts from heart, liver, kidney, pancreas and brain

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The Cell Danger Response Model

- "Metablic features of the cell danger response"

  Robert Naviaux MD, PhD in *Mitochondrion (2013)*http://dx.doi.org/10.1016/j.mito.2013.08.006 *"By decreasing the SAM/SAH ratio, the CDR further consolidates an intracellular environment that is unfavorable for pathogen replication."*

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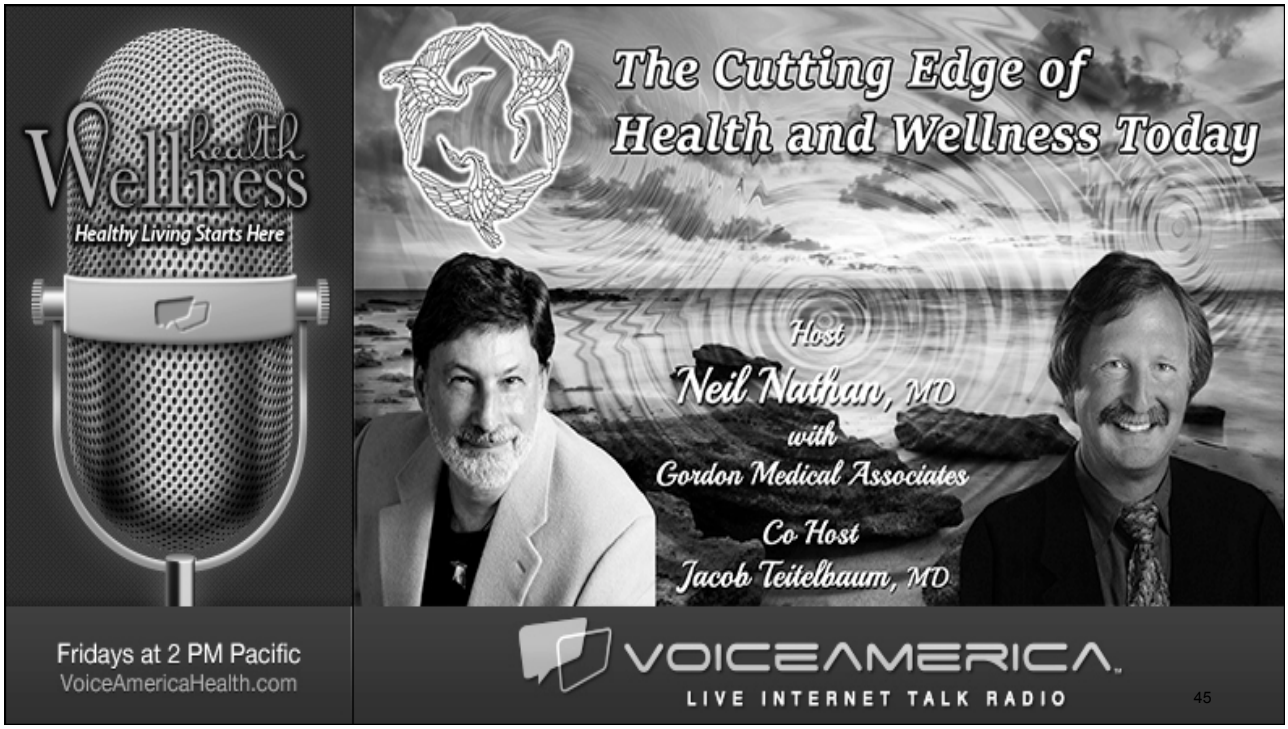

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HEALING IS POSSIBLE:

New Hope for Chronic Fatigue, Fibromyalgia, Persistent Pain and Other Chronic Illnesses

- A Shameless, Self-Serving Promotion for my new book
- A functional medicine primer for both patients and physicians

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