Casual Friday Series

Pulling the Plug on Pain – DM Edition

BIOGENETIX.COM

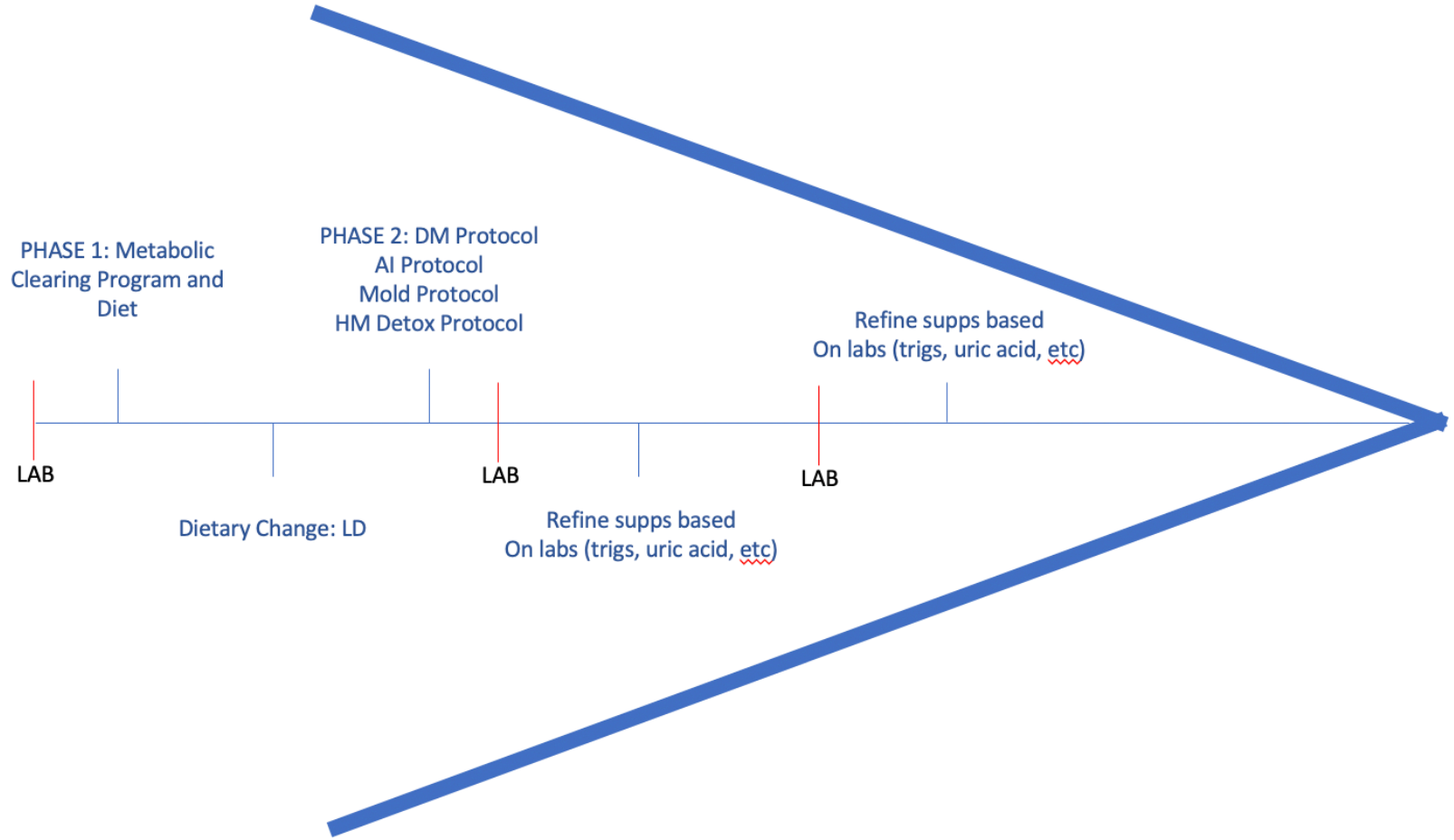
Disclaimer

- *Information in this presentation is not intended to diagnose, treat, reverse, cure, or prevent any disease. While this presentation is based on medical literature, findings, and text, The following statements have not been evaluated by the FDA.*
- *The information provided in this presentation is for your consideration only as a practicing health care provider. Ultimately you are responsible for exercising professional judgment in the care of your own patients.*

(Lifestyle + Genetics) x Time = Chronic Health Condition

(Lifestyle + Genetics) x Time = Chronic Health IMPROVEMENT

Supplement and Diet Protocols



Retest a lab at least every 60 days.

85% of patients will improve with basic structures and healthy eating.

% of problem analysis: this is what the cleanse is for.

General → Fine Tune

PATTERNS

Anemias
Blood Sugar Dysregulation
Infections/Stressors
Biotoxin
Net Detoxification
Thyroid Disorders
Acid/Base
Hormone Sequestering
Genetic SNPs
Inflammatory Regulation
Auto Immune Responses
Trophic Needs
Sympathetic/Para
Hormone Dysregulation
Toxicity
Organ Dysfunction

PROTOCOL

Blood Sugar Dysregulation

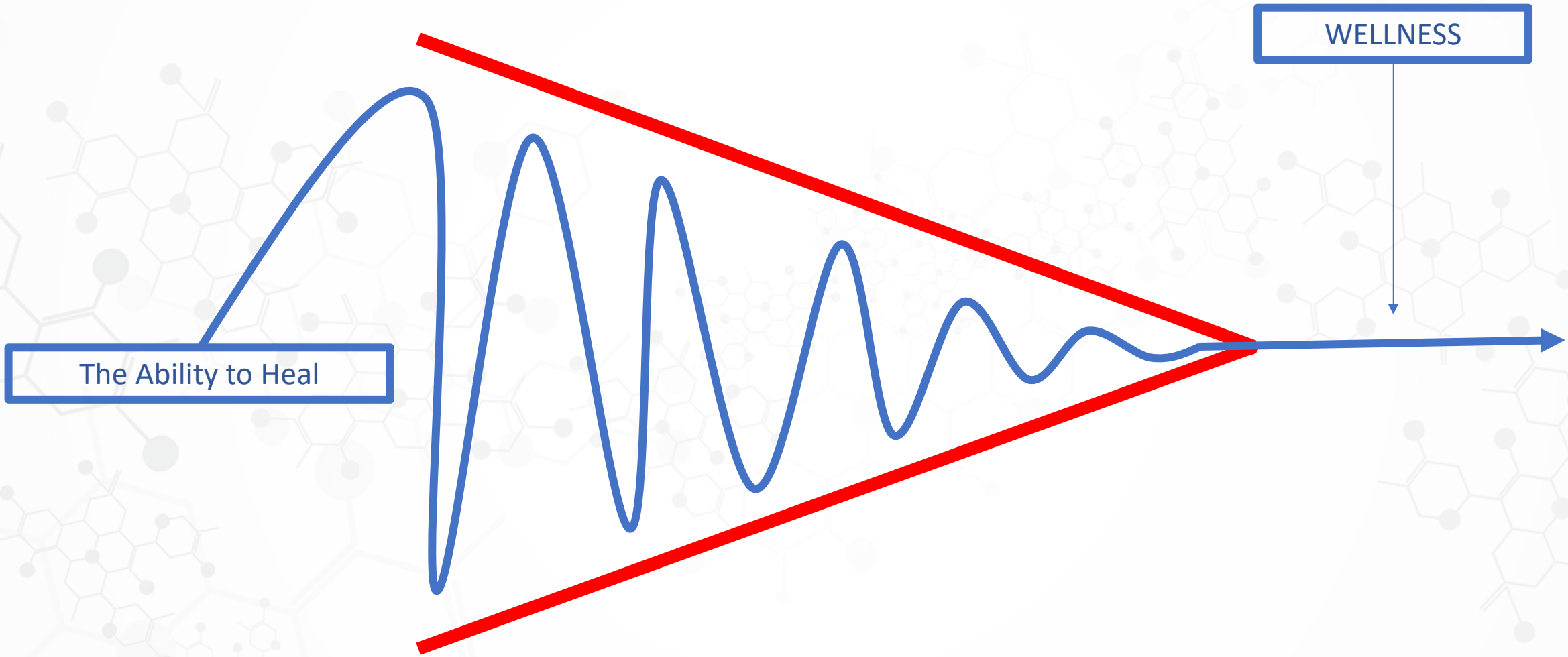
Net Detoxification

Hormone Sequestering

Inflammatory Regulation

Trophic Needs
Sympathetic/Para
Hormone Dysregulation

Building Protocols



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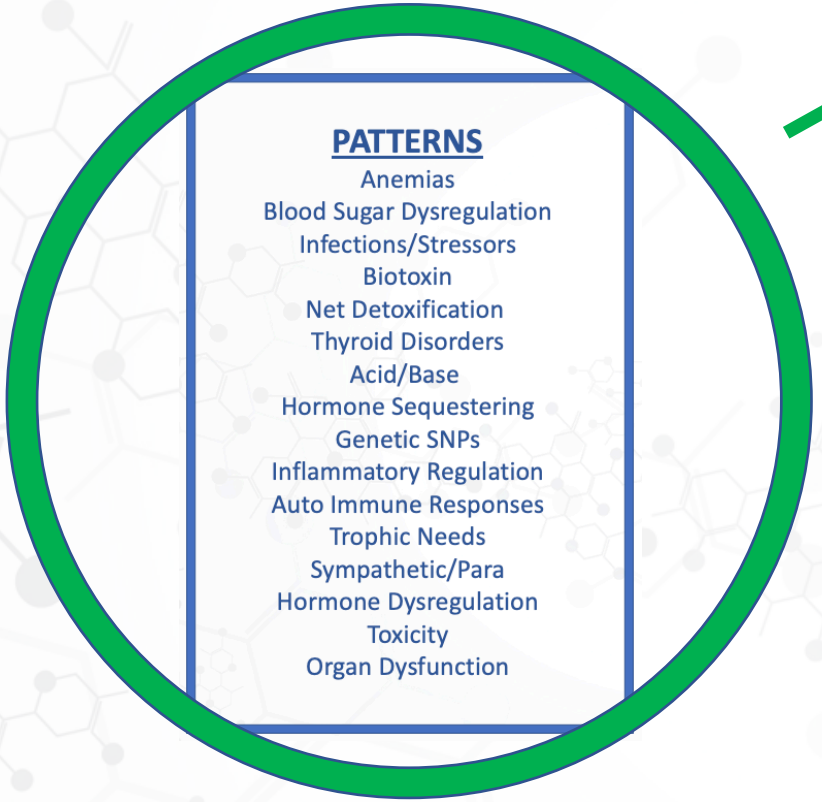
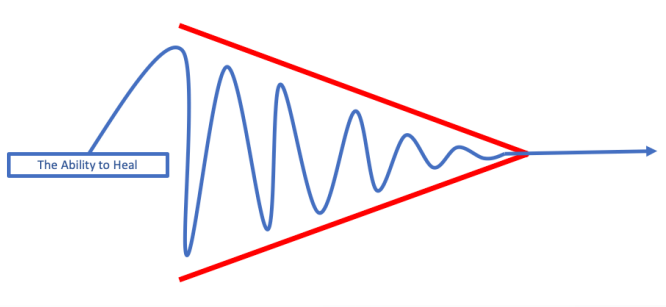


Zeb's Offer: Order 21-Day Metabolic Clearing Program

Applied Blood Chemistry – FREE

- Through the end of October
- 12 Hour Course
- Learn to ID the patterns
- Get exposed to Functional Analysis
- MSRP $799
- CE-not available in this format

Pain Classification:
Neuropathic Pain

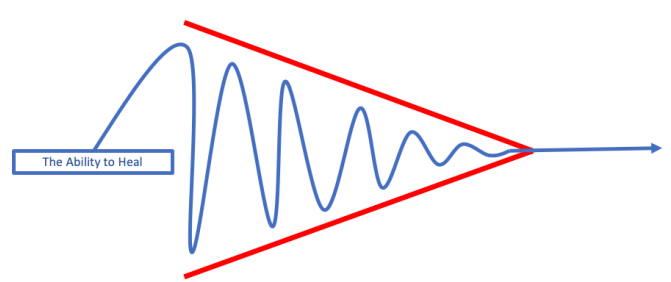


Neuropathic Pain “Switch” Identified

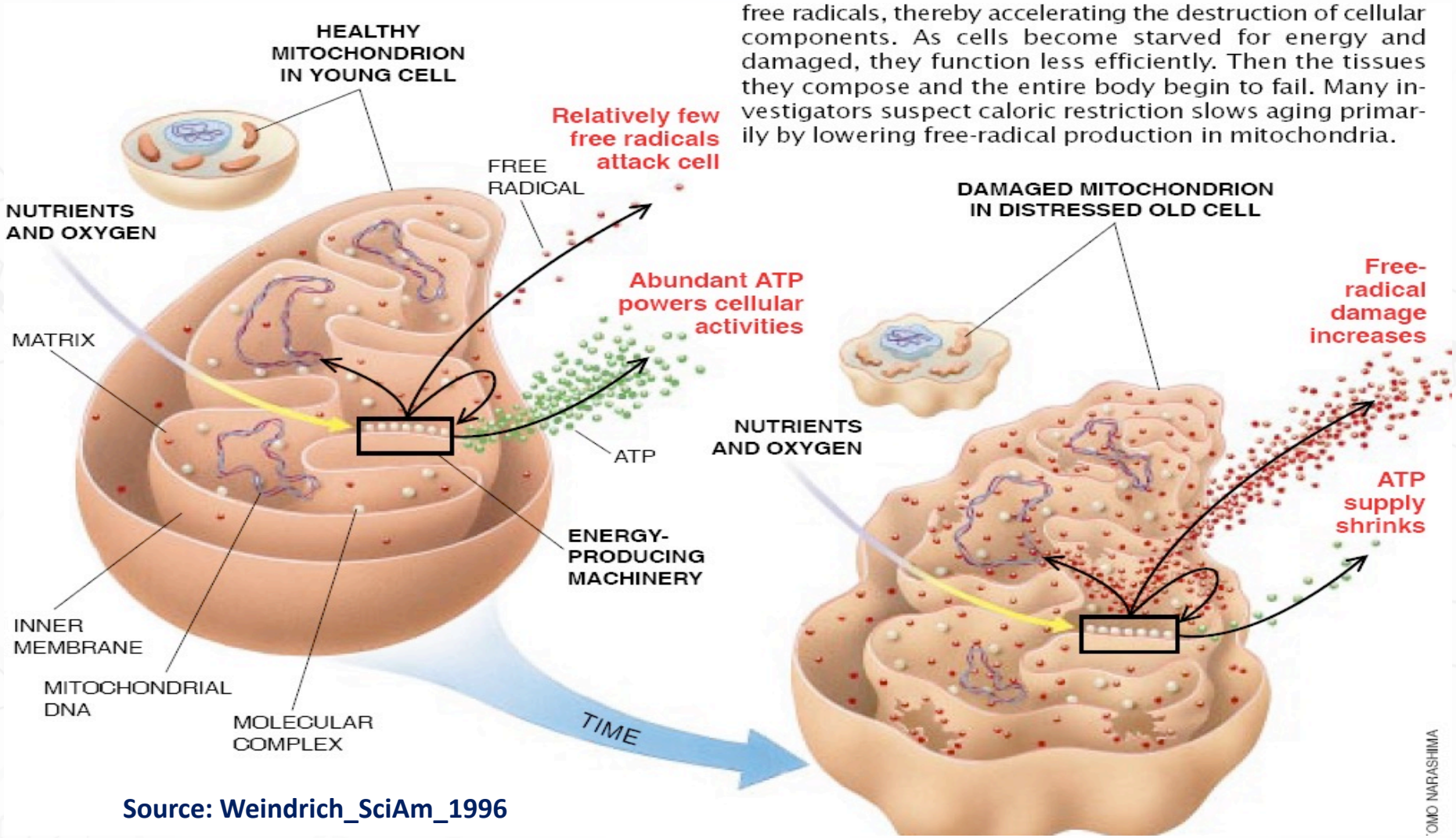
Endogenous adenosine A3 receptor activation selectively alleviates persistent pain states

Joshua W. Little Amanda Ford Ashley M. Symons-Liguori Zhoumou Chen Kali Janes Timothy Doyle Jennifer Xie Livio Luongo Dillip K. Tosh Sabatino Maione Kirsty Bannister Anthony H. Dickenson Todd W. Vanderah Frank Porreca Kenneth A. Jacobson Daniela Salvemini

Further examination revealed that A3AR activation reduced spinal cord pain processing by decreasing the excitability of spinal wide dynamic range neurons and producing supraspinal inhibition of spinal nociception through activation of serotonergic and noradrenergic bulbospinal circuits.



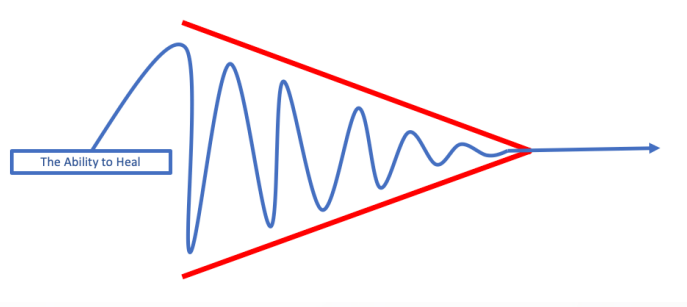
free radicals, thereby accelerating the destruction of cellular components. As cells become starved for energy and damaged, they function less efficiently. Then the tissues they compose and the entire body begin to fail. Many investigators suspect caloric restriction slows aging primarily by lowering free-radical production in mitochondria.



Source: Weindrich_SciAm_1996

Destroying Pain *Without* Addiction

Diabetic Neuropathy Case Work-Up



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The Spectrum of Diabetic Neuropathies

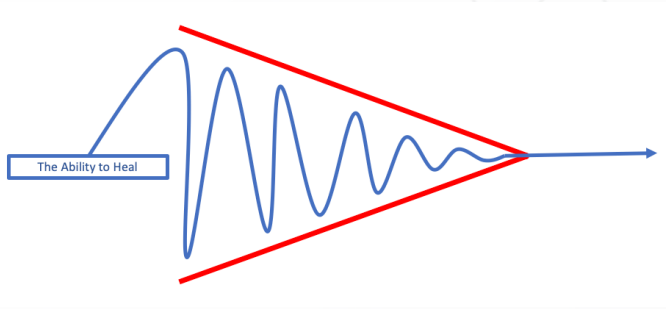
Jennifer A. Tracy, MD and P. James B. Dyck, MD

axonal polyneuropathy. Current American Diabetes Association (ADA) guidelines, recently revised in 2003, require a fasting plasma glucose from 100 mg/dL to 125 mg/dL, for a diagnosis of impaired fasting glucose, and a 2-hour glucose level from 140 mg/dL to 199 mg/dL (after a 75 gram oral glucose load) for the diagnosis of IGT (27). It is estimated that approximately 33% of adults in the United States over 60 years old have either diabetes mellitus or impaired fasting glucose (diagnosed or undiagnosed) (28). This value was based on the earlier ADA criteria of impaired fasting glucose as a level between 110 mg/dL and 126 mg/dL, so the expectation is a higher overall incidence and prevalence with the new criteria. This

From this same article:

Diabetic Peripheral Neuropathy

- Diabetic Autonomic Neuropathy (DAN)



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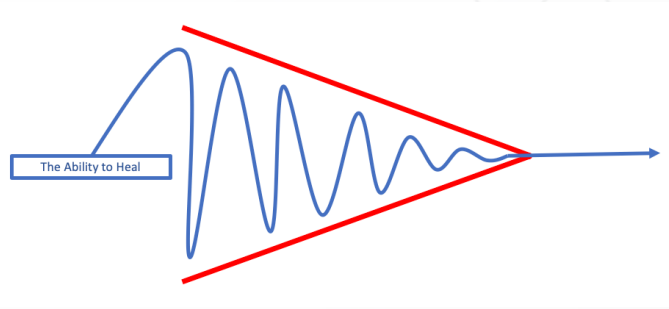

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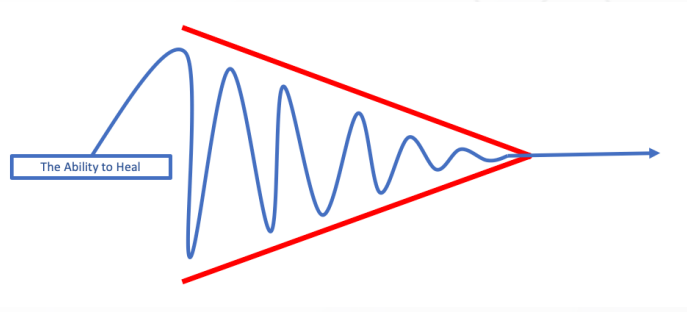

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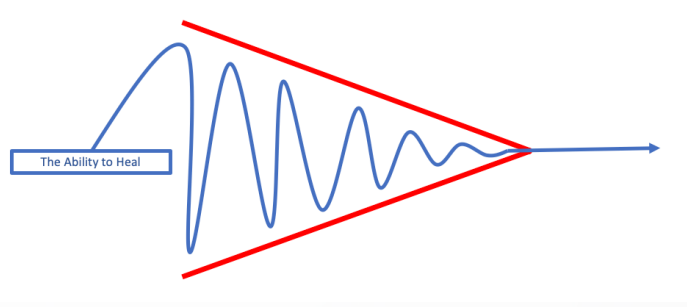

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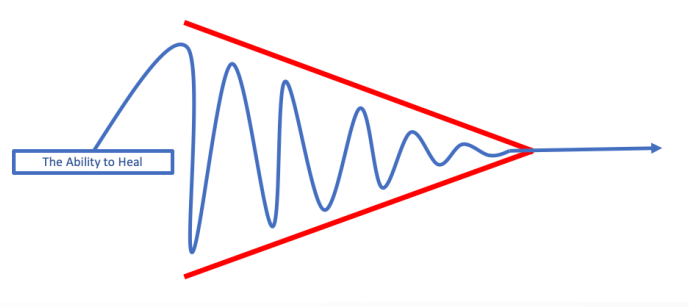

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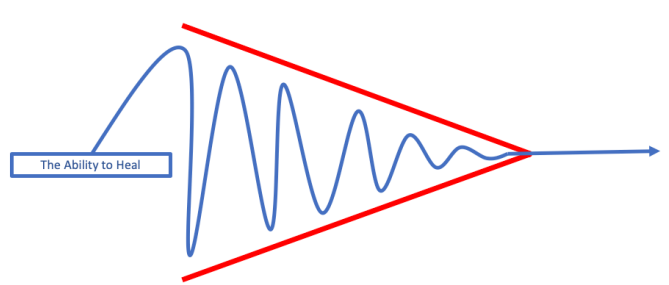

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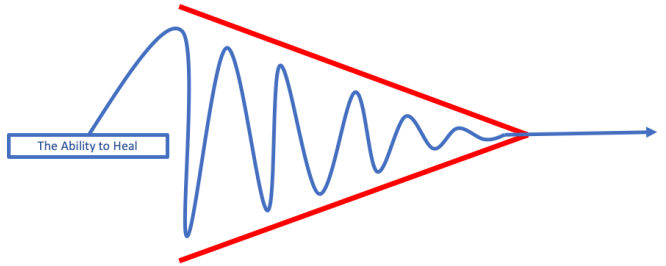
- Neuropathies inducing orthopedic concerns: shoulder, carpal tunnel, thoracic, lumbosacral, etc.



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The Spectrum of Diabetic Neuropathies

Jennifer A. Tracy, MD and P. James B. Dyck, MD

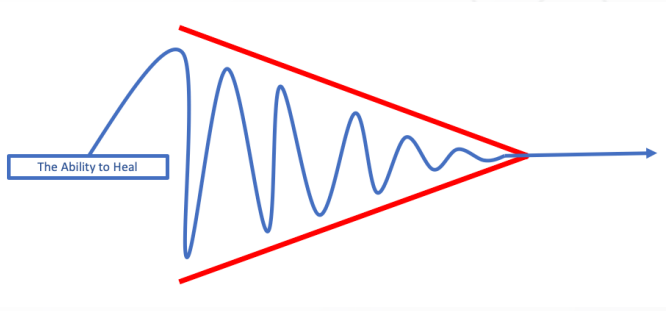
The spectrum of diabetes mellitus-associated neuropathies is large, and our knowledge of these entities continues to evolve. There can be nerve damage from metabolic injury, compressive injury, ischemic injury, and from altered immunity, and these varied pathologies can present in many different ways. Identifying the pathogenesis of these entities is valuable, as there are clear differences in treatment strategies, which may range from lifestyle modification and strict glucose control to immunosuppressant medications, and can make significant impact in the quality of life of patients suffering from diabetes mellitus. In order to do this effectively, the caring physician needs to be able to make the correct diagnosis first, before starting the appropriate therapy.

67-year-old male.

Recently retired electrician.

5’10” – 263 lbs.

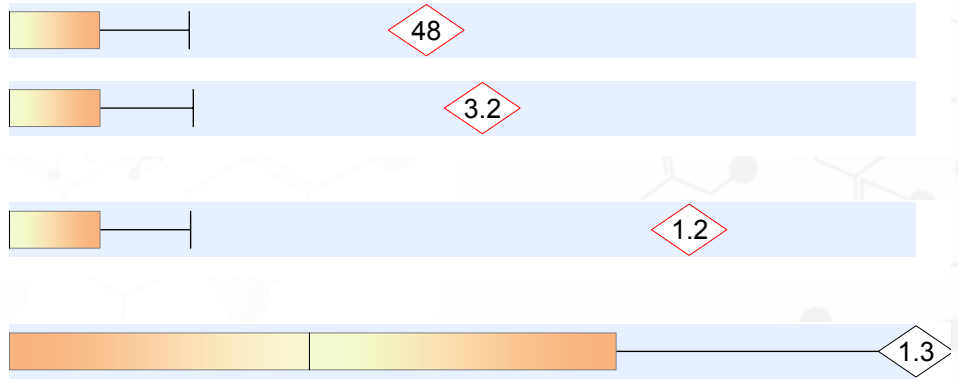
Dx/symp: DM2, ED, Neuropathy in hands and feet, visual disturbances, arthritis assoc. joint pain, frequent urination, weight gain, fatigue.



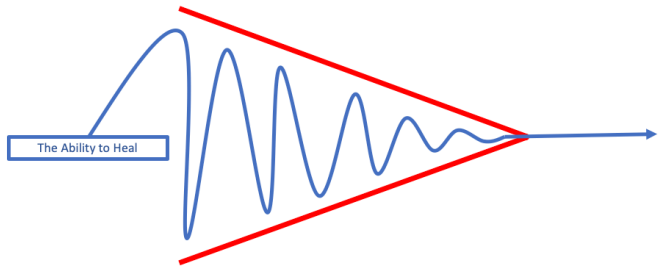
Identify the reflection…

Indicators of Detoxification

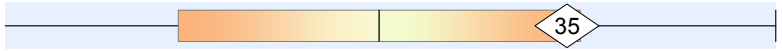
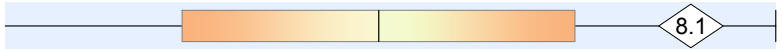
Glutathione							
58	Pyroglutamic ❋	10	-	33	H	48	
59	2-Hydroxybutyric ❋	0.03	-	1.8	H	3.2	
Ammonia Excess							
60	Orotic	0.06	-	0.54	H	1.2	
Aspartame, salicylates, or GI bacteria							
61	2-Hydroxyhippuric		≤	1.3		1.3	



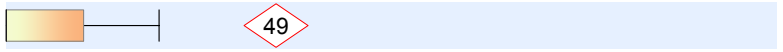
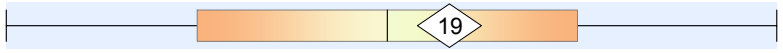
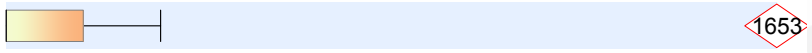
❋ ***A high value for this marker may indicate a Glutathione deficiency.***



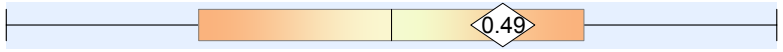
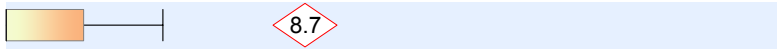
Glycolytic Cycle Metabolites

22	Lactic		≤	48		35	
23	Pyruvic		≤	9.1		8.1	

Mitochondrial Markers - Krebs Cycle Metabolites

24	Succinic		≤	9.3		7.2	
25	Fumaric		≤	0.94	H	1.7	
26	Malic	0.06	-	1.8	H	3.2	
27	2-Oxoglutaric		≤	35	H	49	
28	Aconitic	6.8	-	28		19	
29	Citric		≤	507	H	1 653	

Mitochondrial Markers - Amino Acid Metabolites

30	3-Methylglutaric		≤	0.76		0.49	
31	3-Hydroxyglutaric		≤	6.2	H	8.7	
32	3-Methylglutaconic		≤	4.5		2.1	

TESTS	RESULT	FLAG	UNITS	REFERENCE INTERVAL	LAB
CMP14+LP+TP+TSH+5AC+CBC/D/P...					
Chemistries					01
Glucose	**273**	**High**	mg/dL	65-99	01
Hemoglobin A1c	**10.2**	**High**	%	4.8-5.6	01
Please Note:					01
Prediabetes: 5.7 - 6.4 Diabetes: >6.4 Glycemic control for adults with diabetes: <7.0					
Uric Acid	6.9		mg/dL	3.7-8.6	01
Ferritin, Serum	**447**	**High**	ng/mL	30-400	01
					01
Lipids					01
Cholesterol, Total	**258**	**High**	mg/dL	100-199	01
Triglycerides	**196**	**High**	mg/dL	0-149	01
HDL Cholesterol	60		mg/dL	>39	01
VLDL Cholesterol Cal	36		mg/dL	5-40	
LDL Chol Calc (NIH)	**162**	**High**	mg/dL	0-99	
T. Chol/HDL Ratio	4.3		ratio	0.0-5.0	
Please Note:					01

CBC, Platelet Ct, and Diff					01
WBC	6.6		x10E3/uL	3.4-10.8	01
RBC	4.28		x10E6/uL	4.14-5.80	01
Hemoglobin	**12.6**	**Low**	g/dL	13.0-17.7	01
Hematocrit	**37.3**	**Low**	%	37.5-51.0	01
MCV	87		fL	79-97	01
MCH	29.4		pg	26.6-33.0	01
MCHC	33.8		g/dL	31.5-35.7	01
RDW	13.3		%	11.6-15.4	01
Platelets	230		x10E3/uL	150-450	01
Neutrophils	47		%	Not Estab.	01
Lymphs	41		%	Not Estab.	01
Monocytes	9		%	Not Estab.	01
Eos	2		%	Not Estab.	01
Basos	1		%	Not Estab.	01
Neutrophils (Absolute)	3.1		x10E3/uL	1.4-7.0	01
Lymphs (Absolute)	2.7		x10E3/uL	0.7-3.1	01
Monocytes(Absolute)	0.6		x10E3/uL	0.1-0.9	01
Eos (Absolute)	0.1		x10E3/uL	0.0-0.4	01
Baso (Absolute)	0.0		x10E3/uL	0.0-0.2	01
Immature Granulocytes	0		%	Not Estab.	01
Immature Grans (Abs)	0.0		x10E3/uL	0.0-0.1	01

Insulin Antibodies	**29**	**High**	uU/mL		02

This test is also known as insulin autoantibody or IAA.

This test was developed and its performance characteristics determined by LabCorp. It has not been cleared or approved by the Food and Drug Administration.
Reference Range:
<5.0 Negative
> or = 5.0 Positive

GlycoMark(R)(1,5 AG)	**5.0**	**Low**	ug/mL		02

GlycoMark(TM) is intended for use with managing glycemic control in diabetic patients. A low result corresponds to high glucose peaks.
1, 5-AG blood levels can be affected by clinical conditions or medications. Please refer to the directory of services or labcorp website test menu for detailed list of limitations.
Reference Range:
Adults Males: 10.7 - 32.0
Glycemic control goal for diabetic patients: >10

C-Peptide, Serum	2.5		ng/mL	1.1-4.4	01

C-Peptide reference interval is for fasting patients.

Insulin	15.5		uIU/mL	2.6-24.9	01

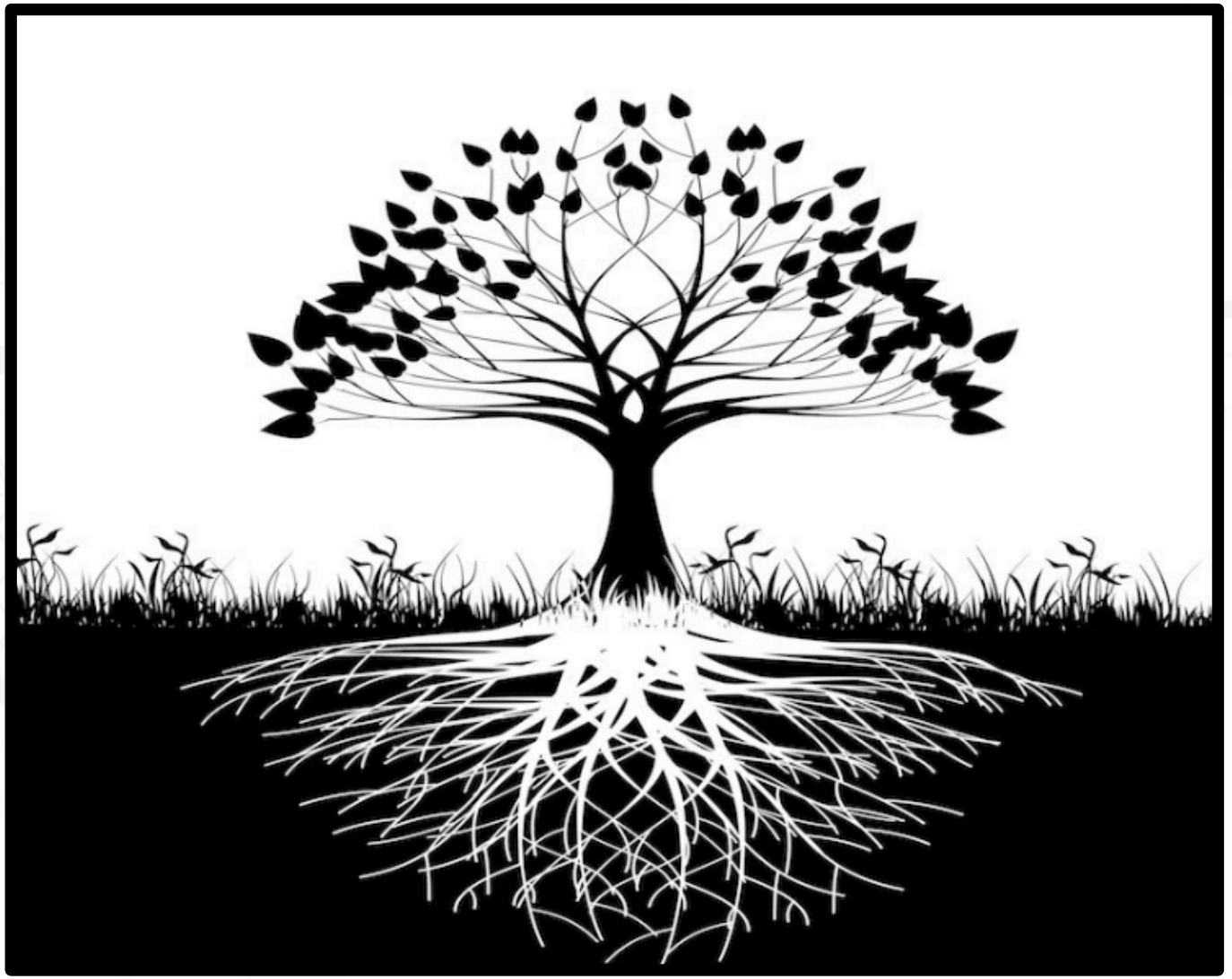
3X Avg.Risk 23.4 11.0

C-Reactive Protein, Cardiac	**4.32**	**High**	mg/L	0.00-3.00	01

Relative Risk for Future Cardiovascular Event
Low <1.00
Average 1.00 - 3.00
High >3.00

Homocyst(e)ine	13.4		umol/L	0.0-17.2	01

Please note reference interval change

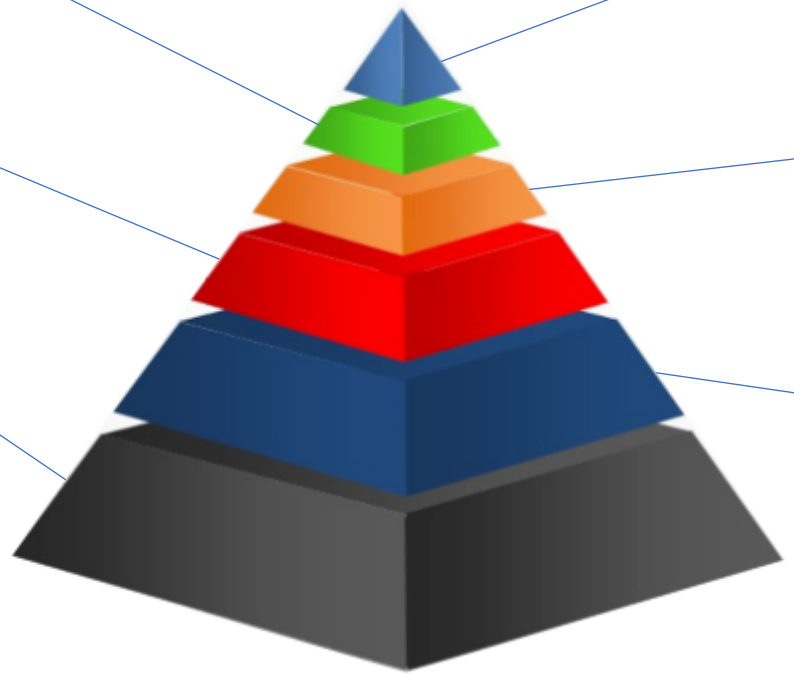


Destroying Pain *Without* Addiction

Stress Response

ROS Clean Up

Anti-inflammatory Diet



Glucagon’s Off Switch

Support Insulin Receptor Site Sensitivity

Building blocks for ATP Production

Diabetic Neuropathy (example)

Biogenetix: 833-525-0001

zeb@biogenetix.com

kim@biogenetix.com