

# **MVX Plus**

## **Metabolic Vulnerability Index**

**For Healthcare Providers**

MVX is the Soil Upon Which Chronic Disease and Mortality Grows.

Dr. Darren Schmidt, D.C.

# Part 1

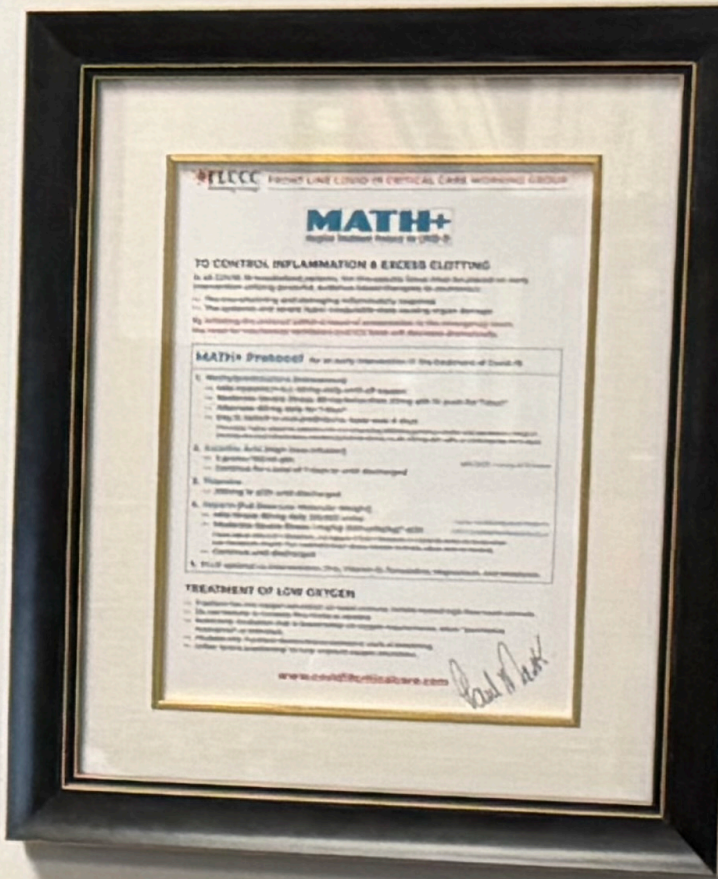
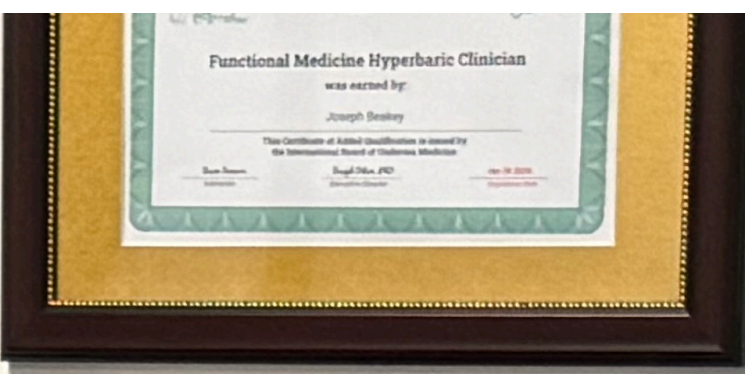
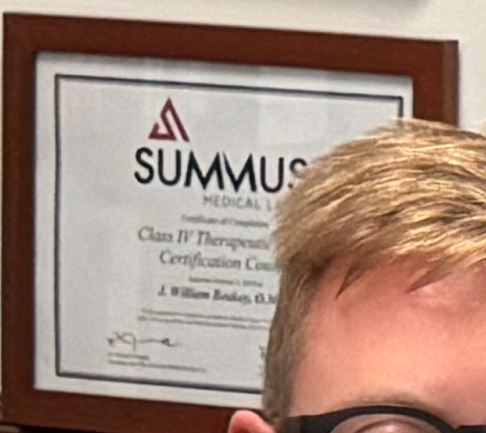
**Intro, What It Is, Why You Should Run It.**

MVX Plus- A Simple and Inexpensive Blood Test That Can Measure, Guide, and Track the 6 Most Important Factors of Your Health - Saving You From Unneeded Medicines, Distractions, Scams, Confusions, and Wasted Effort in Improving Your Health.

MVX Plus is the Beginning of the End of Drug Based Medicine for Chronic Disease.

All other standard medical tests are merely measuring pathology, symptoms, and risk factors.

Dr. Darren Schmidt, D.C.



# Dr. Schmidt Intro and Biases

- My purpose in life is to bankrupt drug companies by getting lots of sick people well.
- At my clinic, we use new and old clinical discoveries to solve complex chronic illness using only diet and supplements.
- Financial interests: I sell..
  - 7 online courses, 3 ebooks, 1 book on Amazon/Kindle for patients
  - 1 online course for doctors
  - Public speaker for multiple supplement companies and doctor's groups.
  - I own The Nutritional Healing Center of Ann Arbor. The largest single non-insurance nutrition clinic in the country.

# What is MVX Plus?

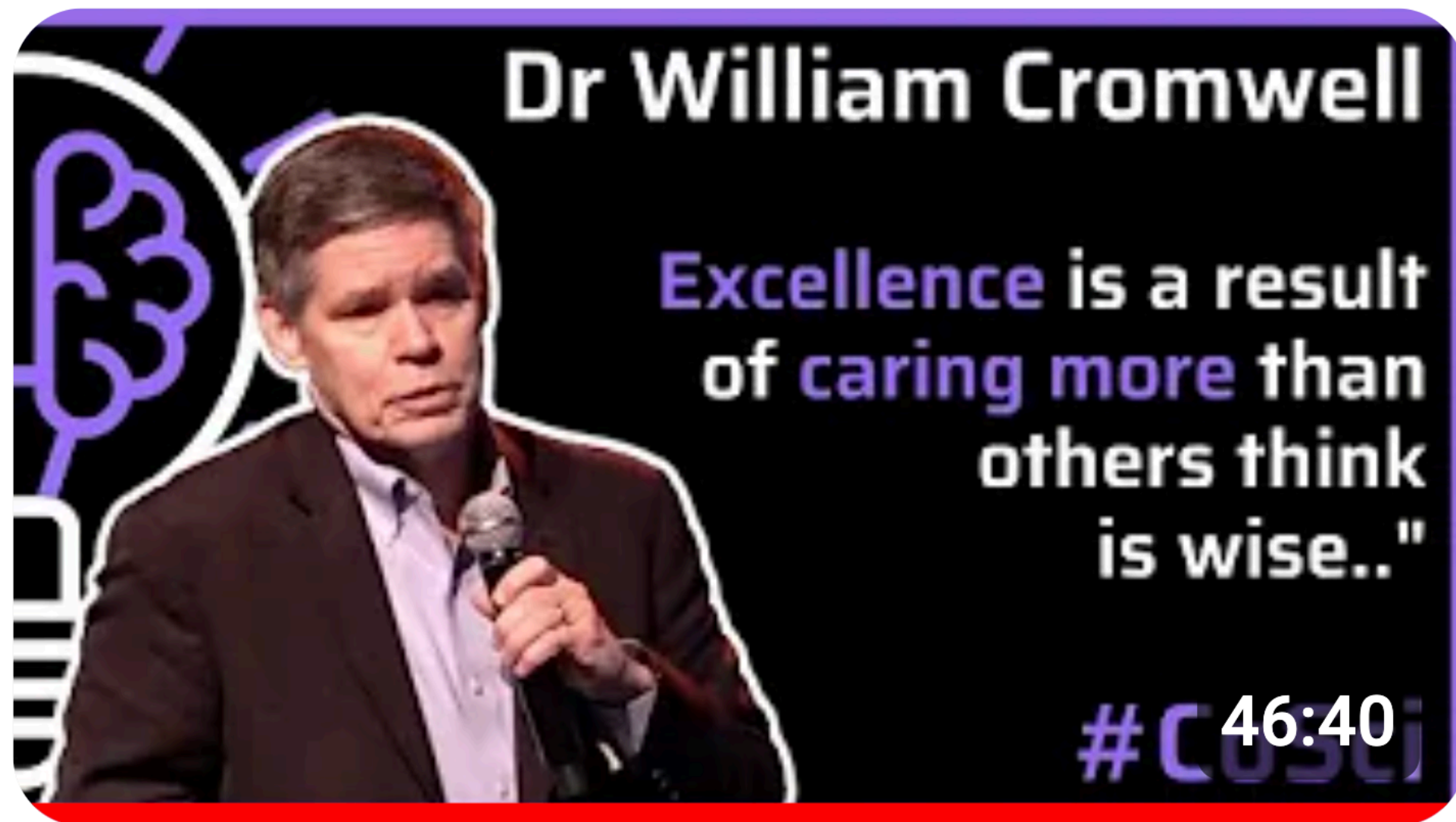
**It is the basis of your job**

- Predicts longevity better than VO<sub>2</sub> Max, fitness, gender, age, heart disease diagnosis, kidney disease diagnosis, smoking, race, hypertension, BMI, cholesterol, ApoB, LDL, grip strength, telomere length, and others.
- It measures health, not disease. It measures physiology.
- It points you in the right direction for health improvement.
- After measuring 6 factors, it gives you a score between 1 to 100. The lower the better.
- It has been tested on 303,907 patients over many years in high risk and low risk groups.
- The groups: (CATHGEN (n=5,888), Intermountain Heart (n=3883), MESA (n=6,814), PREVEND (n=8,115), CARDIA (n=5,115), UK Biobank (274,092))

# What is MVX Plus?

- Invented in 2018 by Dr. Otvos and team. Owned by Labcorp. Patented Oct. 29, 2024. Released to the public Jan. 6, 2025.
- The team tested about 30 blood factors and discovered 6 that predict longevity better than any others.
- These 6 combined measure malnutrition and inflammation which are labeled as the Malnutrition Inflammation Complex Syndrome (MICS).
- I like to call it Toxicity-Infection/Inflammation-Malnutrition Syndrome. TIMS.
- This condition had several names in the past: cachexia, sarcopenia, protein-energy wasting, frailty, lactic acidosis, candy acidosis, metabolic acidosis, toxicity, inflammation, demineralization, aging.
- **\*\*It's all mitochondrial dysfunction primarily from toxins, infections, malnutrition, and inflammation.\*\***

# The Original Video on Youtube



Is MVX the New Frontier in  
Predicting All Cause Mortality? – ...



- Professional Co-op #123601 \$35.
- 6 Blood factors measured by NMR only.
  
- GlycA
- Small HDL Particle Number
- Citrate
- Valine
- Leucine
- Isoleucine



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# Multimarkers of metabolic malnutrition and inflammation and their association with mortality risk in cardiac catheterisation patients: a prospective, longitudinal, observational, cohort study

MVX Feb 2023:

[https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568\(23\)00001-6/fulltext](https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568(23)00001-6/fulltext)

MVX Feb 2024:

<https://www.sciencedirect.com/science/article/abs/pii/S2213177923003153?via%3Dihub>

MVX compared to Frailty: <https://pubmed.ncbi.nlm.nih.gov/38533960/>

# Conclusion of the MVX Plus paper

## Implications of all the available evidence

Our results suggest that survival might be more dependent on previously unrecognised causal factors distinct from those responsible for development of the diseases or vulnerabilities considered to be the causes of death. If supported by future research, treating the underlying metabolic dysfunctions of the overlapping syndromes of cachexia, sarcopenia, malnutrition, and frailty with anti-inflammatory, nutritional, or alternative therapies might provide greater survival benefit than targeting conventional disease risk factors.

# **Q: What Causes Chronic Illness?**

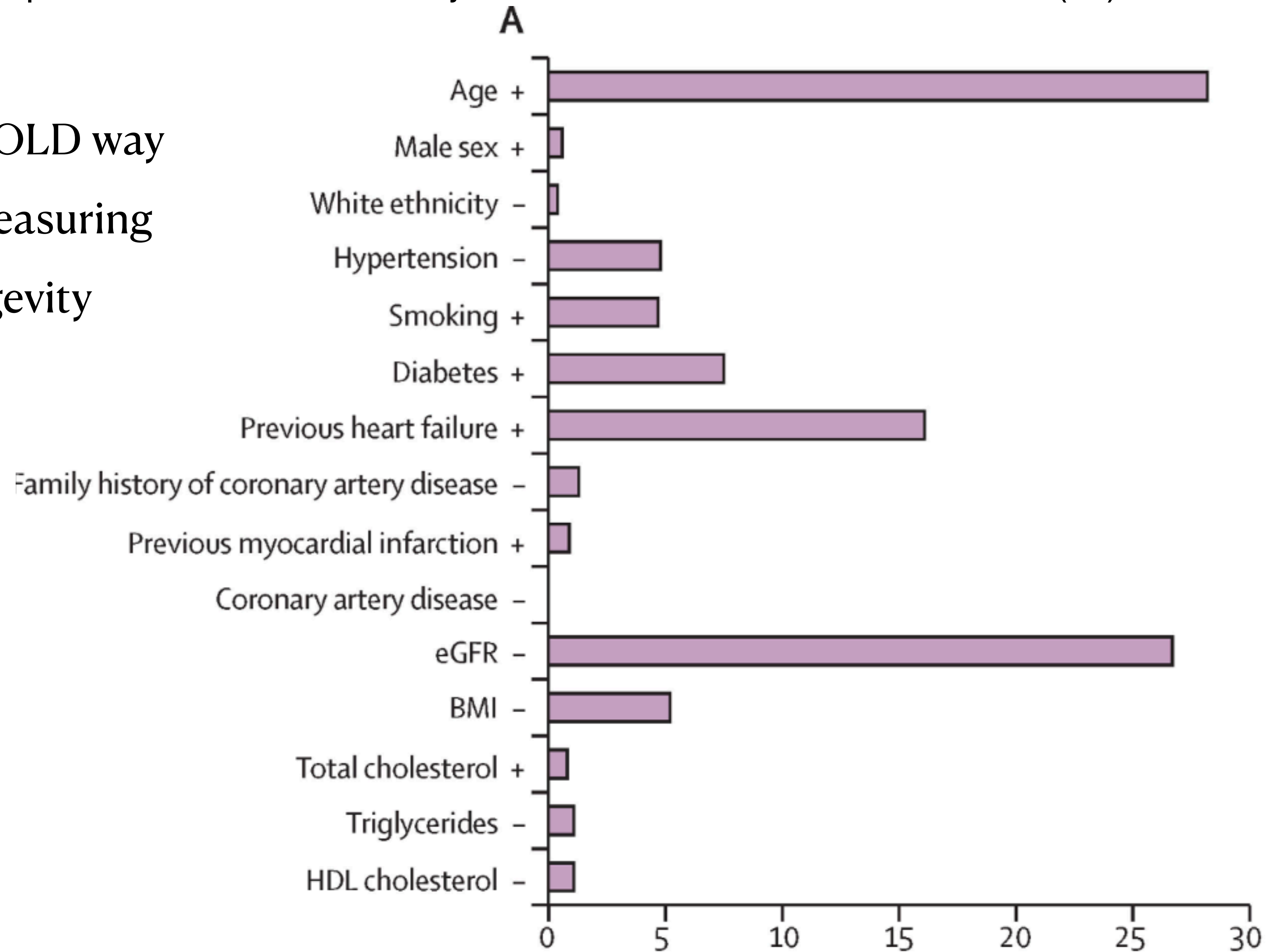
**A: INFECTIONS/INFLAMMATION, TOXINS, MALNUTRITION**

- Heart Disease
- Cancer
- Autism
- Dementia
- Autoimmune Disease
- All of the above are caused by Infections/ Inflammation, Toxins, Malnutrition  
Leading to Mitochondrial Dysfunction.

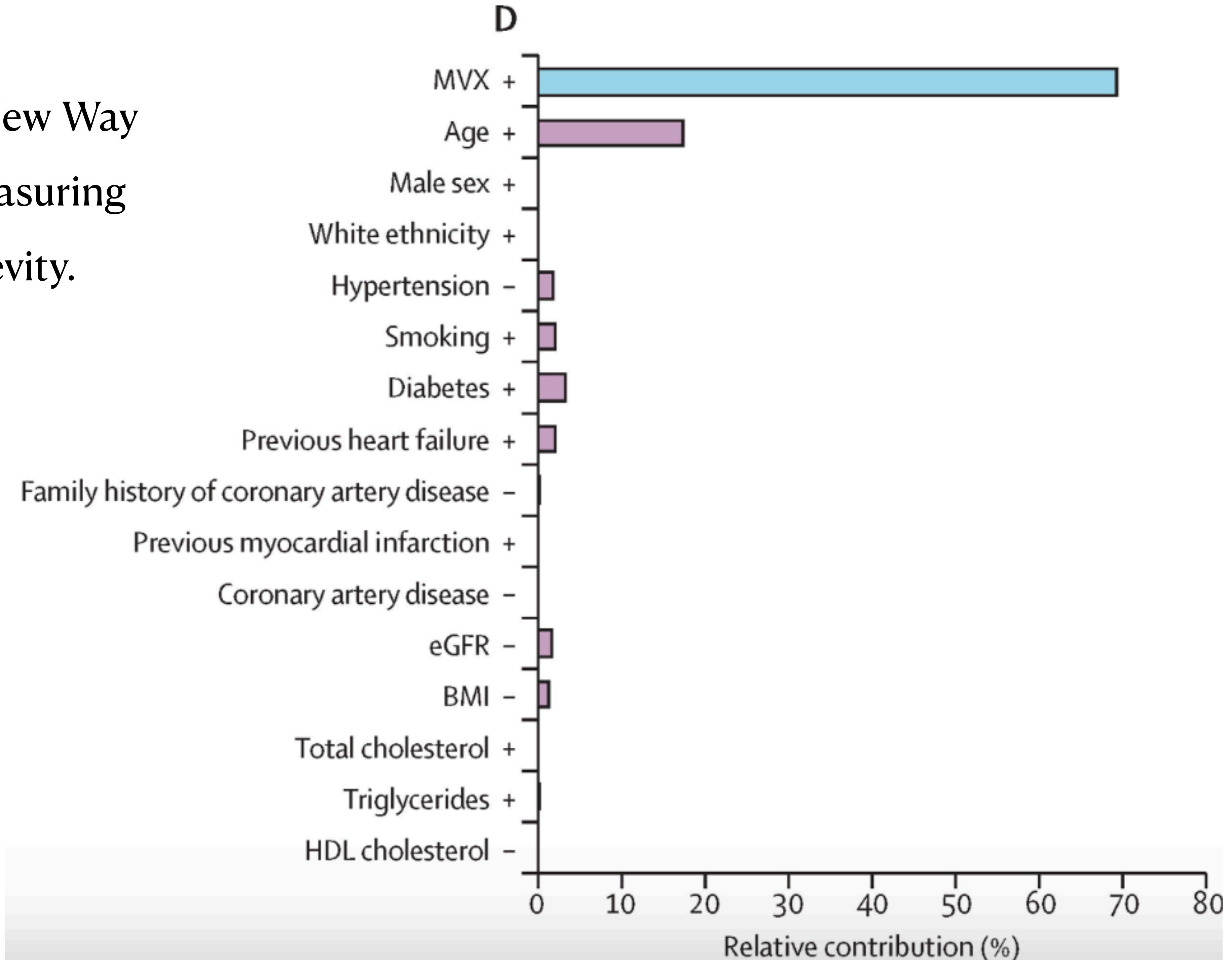
# Why You Need To Run MVX Plus

- Legally, MVX shows your therapies work to a judge or jury (not tested yet).
- Clinically, It forces you to become a better and better clinician.
- Clinically, It gives your clients targets and accountability.
- For Marketing, it shows potential new clients that you get good results.
- Personally, it proves to yourself that you are fulfilling your purpose.
- Nationally, it steers everyone to the holistic route away from drugs.
- Politically, it weakens the powers-that-be. No drugs fix MVX.
- Professionally, it makes you the opinion leader because you have proof your therapies work.
- For Insurance purposes, it is the new standard annual physical exam blood test.

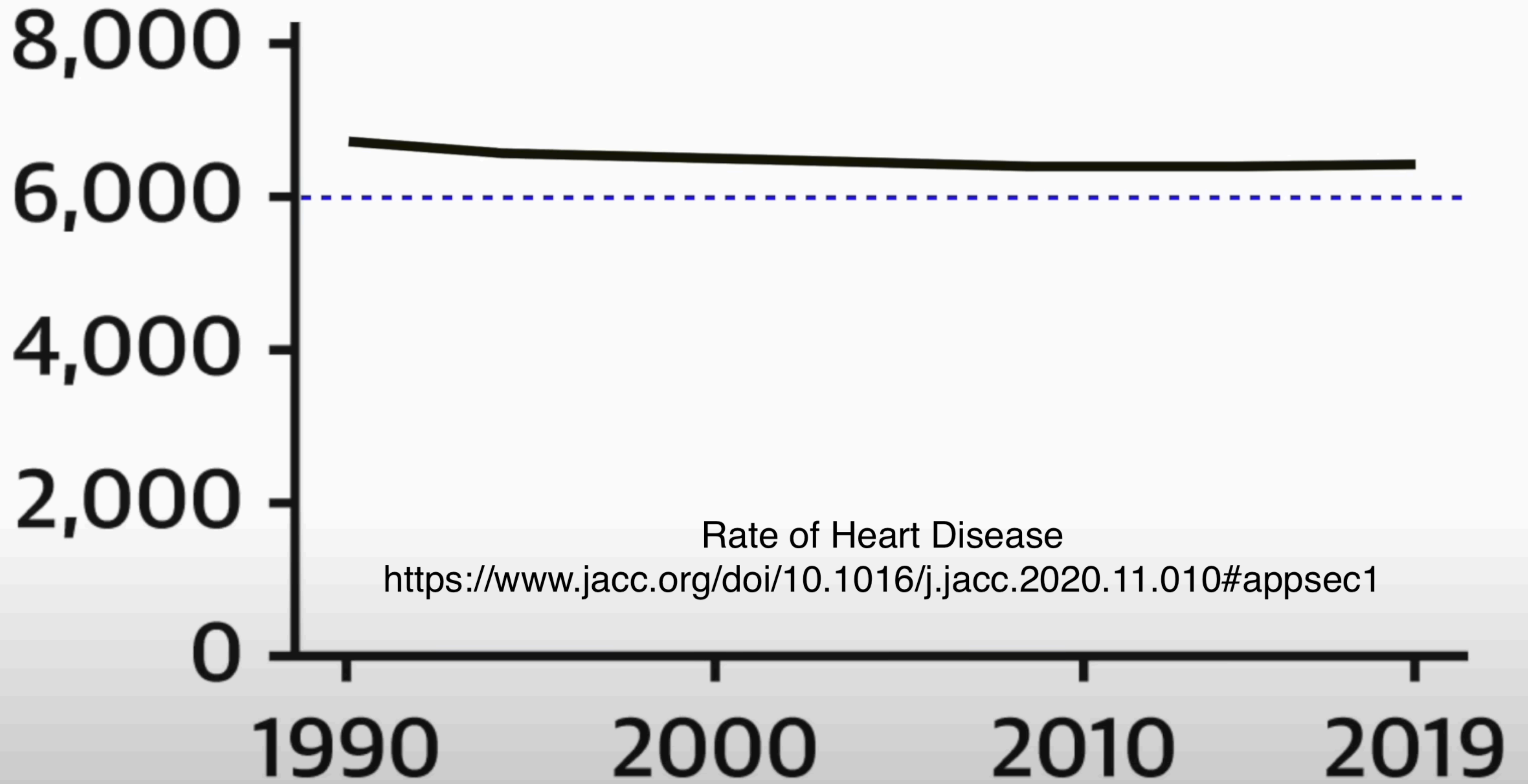
The OLD way  
of Measuring  
Longevity



# The New Way of Measuring Longevity.

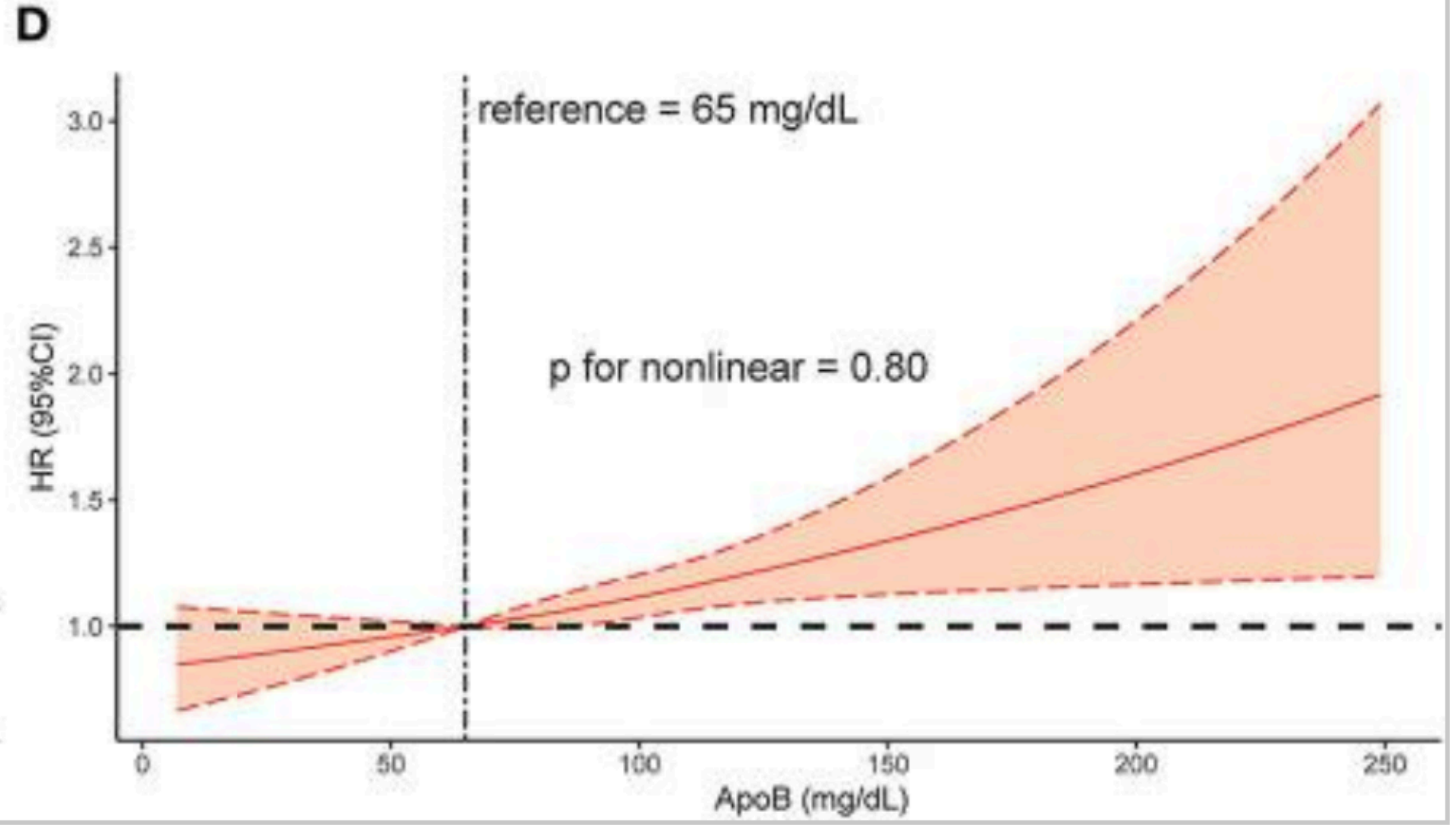
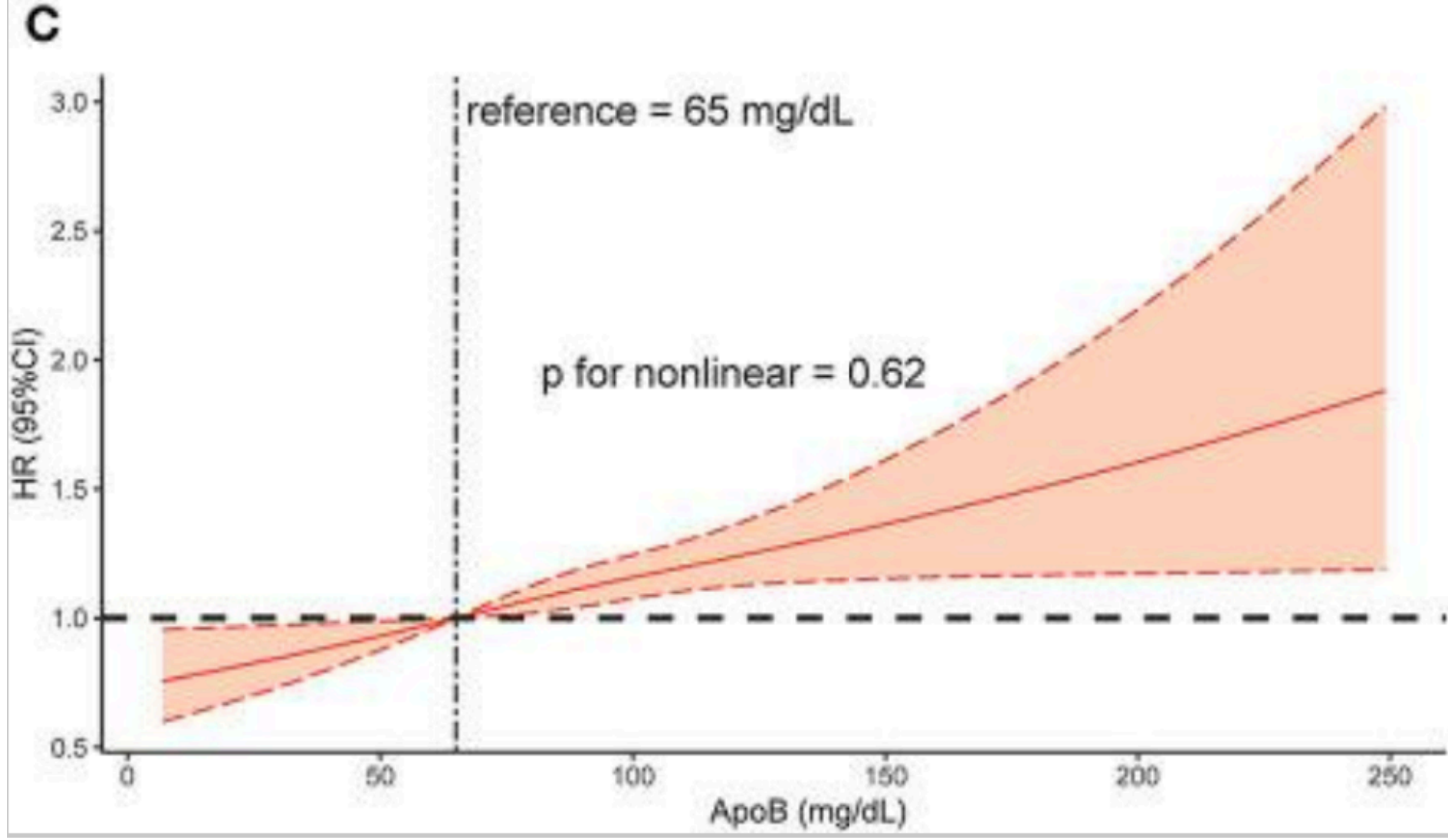
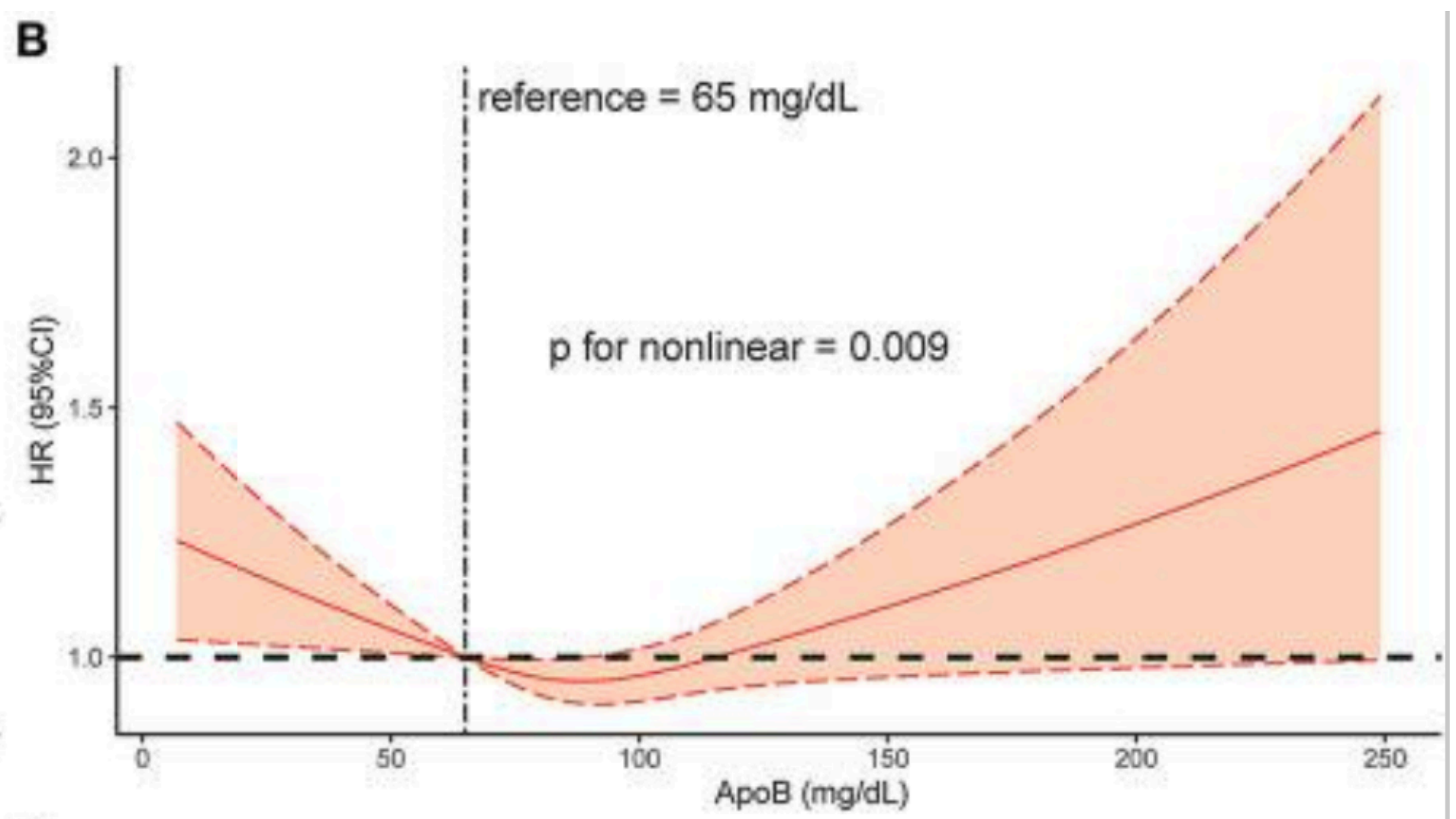
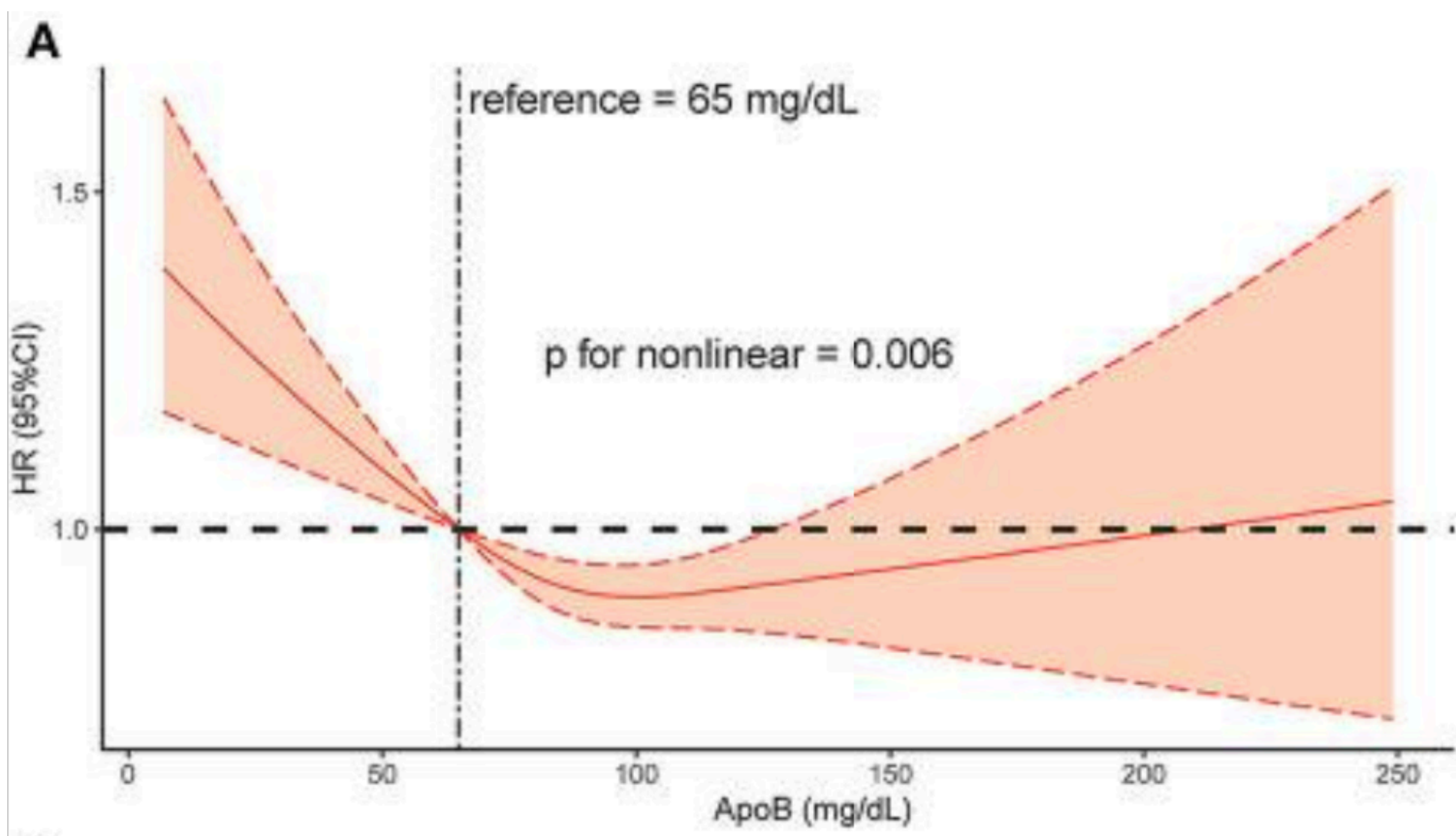


Age-standardized rate  
(per 100,000 people)



Rate of Heart Disease

<https://www.jacc.org/doi/10.1016/j.jacc.2020.11.010#appsec1>



# All the Reasons Why LDL Goes UP

- Infections
- Ketosis
- Fasting
- Athleticism
- Junk food diet
- High carb diet
- Meat based diet
- Losing weight on low carb
- Endurance exercise
- Hypothyroidism
- Familial Hypercholesterolemia
- Hormones = low pregnenolone,
- Meds: steroids, some BP meds, HIV meds.
- LDL carries Triglycerides
- LDL carries LPS

# How to order MVX Plus

- How to officially get the test wholesale as a doctor:
- [www.professionalco-op.com](http://www.professionalco-op.com). MVX Plus #123601. \$35 + \$7 blood draw fee
- Labcorp description: <https://www.labcorp.com/tests/123590/metabolic-vulnerability-index-mvx-by-nmr>
- How anyone can order through my office:
- [thenhcaa.com](http://thenhcaa.com) upper right corner click on “mvx test”
- <https://thenutritionalhealingcenter.com/mvx-test-unlock-insight-into-your-health/>
- \$89

# How to get the MVX Plus Blood Draw

- 10-12 hours fasting.
- The blood draw is at your local Labcorp. Find locations on their website. [Labcorp.com](http://Labcorp.com)
- Test your mvx once a month or once a quarter to track progress.
- The lab requisition expires 6 months from the order. Print it out and bring it with you to Labcorp.
- It's ok to order 3 or more requisitions at once and use them before the 6 months expiration.

# **Part 2**

## **How To Read It**

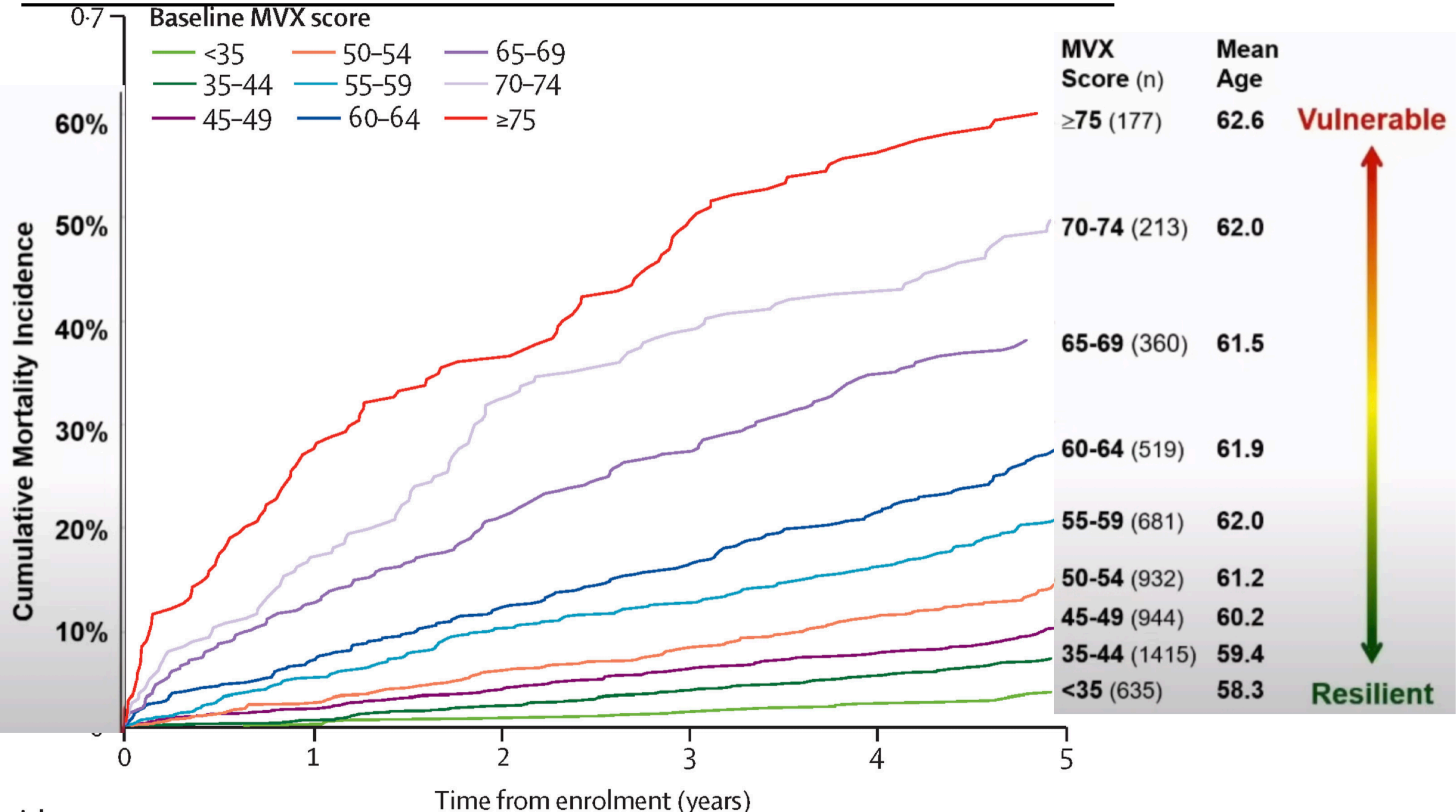
# Example of what it looks like

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	26	29 04/07/2025	score	<63
Inflammation Vulnerability <sup>A, 01</sup>	22	21 04/07/2025	score	<59
GlycA <sup>A, 01</sup>	282	286 04/07/2025	umol/L	<400
Small HDL particle number <sup>A, 01</sup>	17.1	17.5 04/07/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	44	49 04/07/2025	score	<71
Citrate <sup>A, 01</sup>	1.64	1.78 04/07/2025	mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	220	197 04/07/2025	umol/L	116-298
Leucine <sup>A, 01</sup>	112	96 04/07/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	45	44 04/07/2025	umol/L	28-109

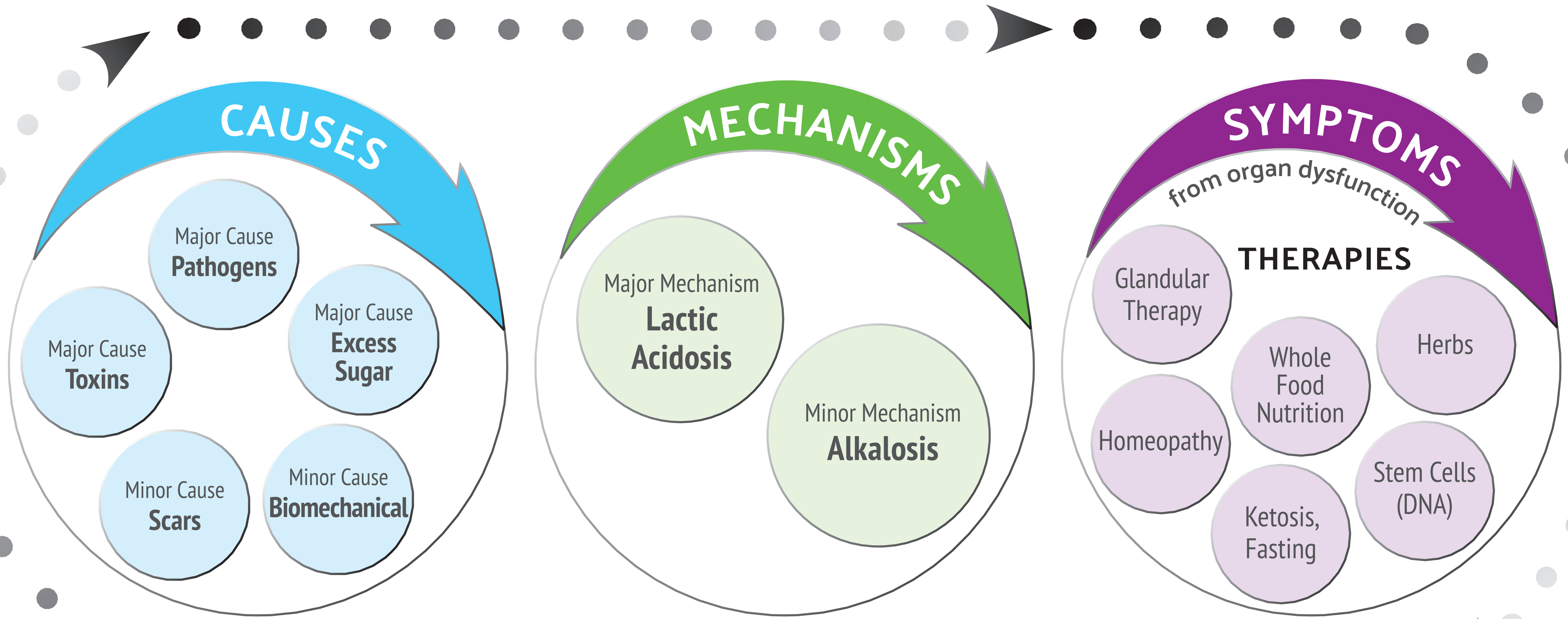
# 2 Subcategories Within MVX

- There are 3 indices determined by advanced math from the 6 factors
  1. Metabolic Vulnerability Index MVX= overall score
  2. Inflammation Vulnerability Index IVX (GlycA, Small HDL Particles Number)
  3. Metabolic Malnutrition Index MMX (citrate, valine, leucine, isoleucine). Indicates malnutrition of the most important macronutrient - protein and most important micronutrient - B1.
- For a total of 9 measurements
- 6 clinical factors measured by NMR



# Follow The Physiology

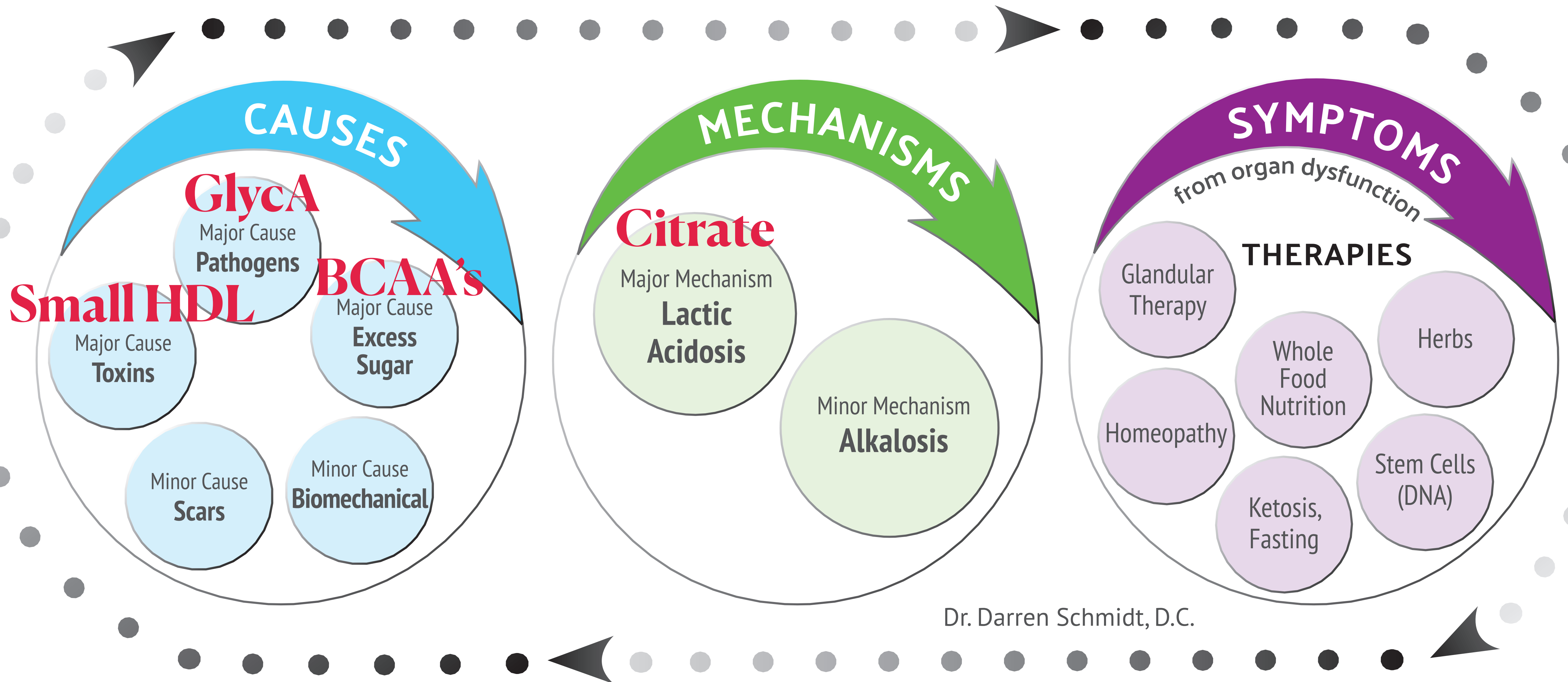
Address All 3 Factors of Chronic Disease



Dr. Darren Schmidt, D.C.

# Follow The Physiology

Address All 3 Factors of Chronic Disease



# 7 STEP BLUEPRINT TO OPTIMAL HEALTH

## 1. FOUNDATIONAL FOODS

Diet is the foundation of all health. Start here if you haven't already.

1

## 2. ENERGY

Your cells need to make enough energy in order to do the next 5 steps. Learn the best way to make it here.

2

## 3. DRAINAGE

Prepare your cleaning organs: liver, kidneys, lymph system, and more for the next steps so you don't get congestion of wastes.

3

## 4. INTESTINES AND IMMUNE CLEANSING

The first act of cleansing starts in the gut. Many people get rid of actual parasites.

4

## 5. FULL BODY IMMUNE CLEANSING

Organisms from head to toe are targeted in this step now that the intestines and drainage organs are working well.

5

6

## 6. POWERFUL DETOXIFICATION

Here's where weird smells may come out of your body- now you know you're detoxing!

## 7. CELLULAR IMMUNE CLEANSING

Some organisms live IN your cells and cause chronic symptoms. It's more common than you know and great results occur here in the final step.

7

## LIFELONG OPTIMIZATION "O"

Learn the goal of optimization here- it's actually continual improvement so you will have an easier time during a crisis, pandemic, or accident.

O

# 7 STEP BLUEPRINT TO OPTIMAL HEALTH

## BCAA's

### 1. FOUNDATIONAL FOODS

Diet is the foundation of all health. Start here if you haven't already.

1

## GlycA

### 3. DRAINAGE

Prepare your cleaning organs: liver, kidneys, lymph system, and more for the next steps so you don't get congestion of wastes.

2

### 2. ENERGY

Your cells need to make enough energy in order to do the next 5 steps. Learn the best way to make it here.

BCAA's,  
Citrate

3

## GlycA

### 4. INTESTINES AND IMMUNE CLEANSING

The first act of cleansing starts in the gut. Many people get rid of actual parasites.

4

## GlycA

### 7. CELLULAR IMMUNE CLEANSING

Some organisms live IN your cells and cause chronic symptoms. It's more common than you know and great results occur here in the final step.

7

### 5. FULL BODY IMMUNE CLEANSING

Organisms from head to toe are targeted in this step now that the intestines and drainage organs are working well.

5

## GlycA

6

### 6. POWERFUL DETOXIFICATION

Here's where weird smells may come out of your body- now you know you're detoxing!

Small HDL

0

### LIFELONG OPTIMIZATION "0"

Learn the goal of optimization here- it's actually continual improvement so you will have an easier time during a crisis, pandemic, or accident.

Citrate

# MVX Plus

How The 7 Step Blueprint To Optimal Health  
Lines Up With MVX Plus

Test

Metabolic Vulnerability Index

A, 01

Inflammation Vulnerability<sup>A, 01</sup>

GlycA<sup>A, 01</sup> 3,4,5,7

Small HDL particle number<sup>A, 01</sup> 6

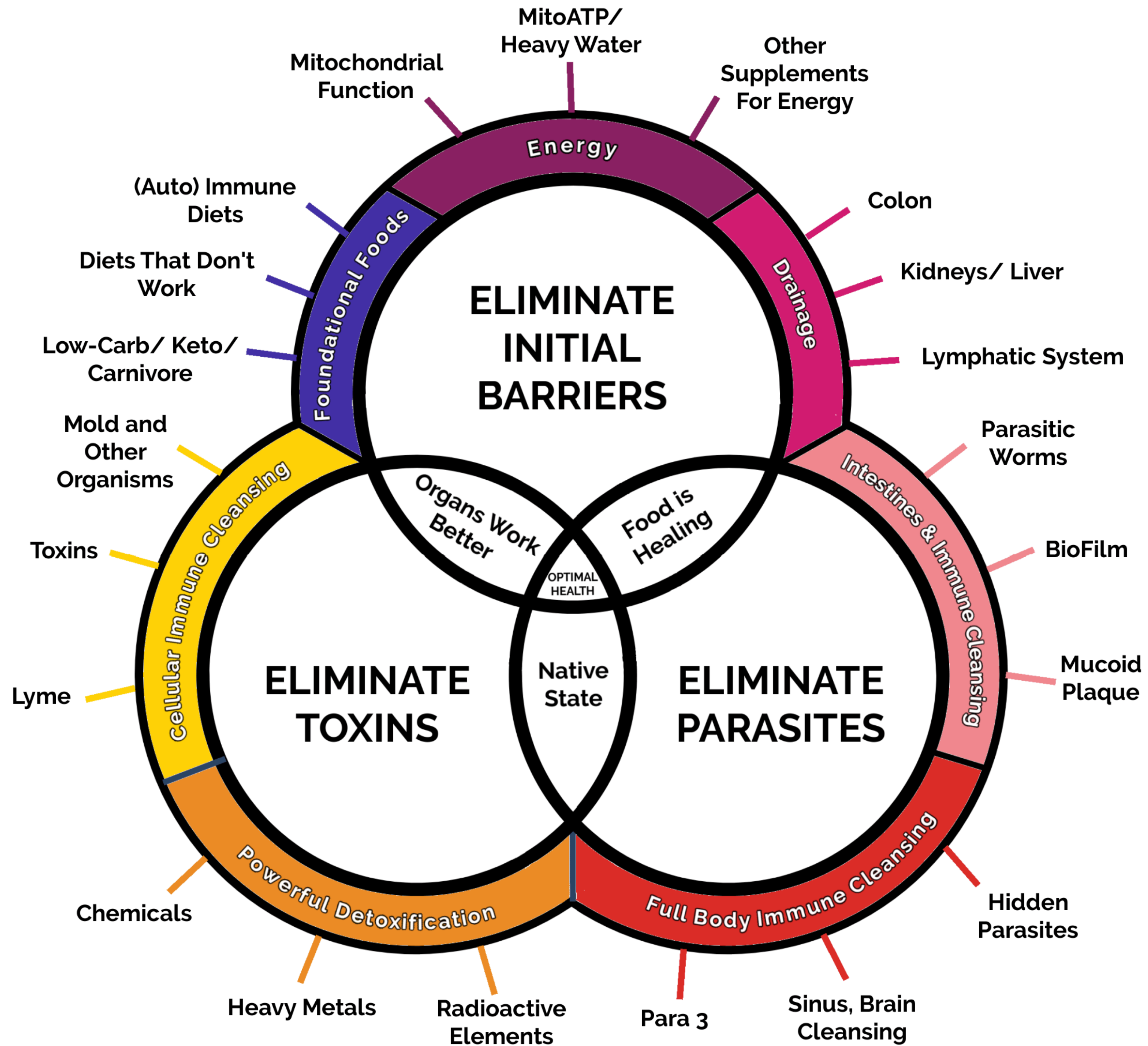
Metabolic Malnutrition Index<sup>A, 01</sup>

Citrate<sup>A, 01</sup> 2, Optimization

Valine<sup>A, 01</sup> 1,2

Leucine<sup>A, 01</sup> 1,2

Isoleucine<sup>A, 01</sup> 1,2



7 STEP BLUEPRINT TO OPTIMAL HEALTH	MVX 6 FACTORS	LABS	THERAPIES	SYMPTOMS	COURSES
1. HIGH SATIETY DIET. HIGH PROTEIN.	1. VALINE, LEUCINE, ISOLEUCINE	1. GLUCOSE/ KETONES INDEX	1. DIETDOCTOR. COM/SATIETY	1. OVERWEIGHT, POOR DIET	1. KETOSIS COURSE
2. ENERGY	2. CITRATE	2. B1 ETKA FROM HDRI	2. B1, SUPPORT MITOCHONDRIA	2. POOR BREATHING, AND SLEEP, ANXIETY	2. B1 COURSE
3. DRAINAGE	3. PREPARE TO LOWER CITRATE AND GlycA	3. COMPREHENSIVE METABOLIC PANEL	3. DRAINAGE HERBS	3. AUTOIMMUNE DISEASE, CONSTIPATION	3. "COLLAR UP" COURSE
4. INTESTINAL IMMUNE CLEANSING	4. GlycA	4. GUT ZOOMER	4. PARA 1 + 2	4. DIGESTIVE PROBLEMS	4. INTRO-HEALTHCARE THE WAY NATURE INTENDED
5. FULL BODY IMMUNE CLEANSING	5. GlycA	5. CYREX ARRAY 12, HYPER-COAGULATION PANEL	5. PARA 3 + 4, BIOCIDIN, LUMBROKINASE	5. ARTHRITIS FIBROMYALGIA	5. MOLD COURSE, VIRUS COURSE
6. DETOX	6. # OF SMALL HDL PARTICLES	6. TOTAL TOX BURDEN	6. BINDERS	6. ALWAYS FAILING HEALTH, NOTHING IMPROVES	6. 7 STEP BLUEPRINT TO OPTIMAL HEALTH
7. CELL CLEANSING	7. GlycA	7. TICKBORNE 1.0	7. IS-, BIOCIDIN, ARTEMISININ, GFSE	7. ACHES, POOR BRAIN FUNCTION	7. 7 STEP BLUEPRINT TO OPTIMAL HEALTH
"O" OPTIMIZATION	8. CITRATE	8. NUTREVAL	8. MINERALS, MITO SUPPORT, B1	8. POOR RECOVERY, EXERCISE INTOLERANCE	8. FOLLOW THE PHYSIOLOGY COURSE

# Ten Causes of Chronic Illness

- **5 Immune Challenges-** Parasites, Bacteria, Fungi (mold, candida, yeast), Virus, Lyme
- **3 Toxins-** Chemicals, Metals, Radioactive Elements
- **Lack of Drainage** Organ dysfunction of lymph, colon, liver, kidneys, sinuses, lungs, skin.
- **Nutritional Deficiency-** Protein is the most important macronutrient of fats, carbs, ketones, alcohol. B1 is the most important micronutrient.

# Know the Difference

- **Triggers** don't Cause disease. They start a mechanism. Eg. wine, chocolate, meat.
- **Causes** - Toxins, Infections, lack of drainage, nutritional deficiency
- **Mechanisms** - Lactic Acidosis, MCAS, Cachexia, Histamine Hypersensitivity, clotting and plaquing are mechanisms. Heterotopic calcification
- **Symptoms** - eczema, hives, cancer, heart attack, CKD
- **Disease** - a collection of symptoms and lab reports

# Notes on Ideal Normal Ranges

- MVX = Get it as low as you can. The lowest I have seen is 13, worst is 81.
- IVX = Get it as low as you can. Lowest I have seen is 9. Good if in the 20's and 30's.
- GlycA = When really sick, it is 700+. Lowest I have seen is 236.
- Small HDL particle count 19-22. Lowest I have seen is <2.8.
- MMX = Get it as low as you can. Best in the high 40's. Lowest I have seen 36. Treating this Index could be more important than addressing citrate, bcaa's individually.
- Citrate can bounce around.
- Valine, Leucine, and Isoleucine come together as the Branched Chain Amino Acids (BCAA's). Ideal is middle of their normal range. Valine 200, Leucine 110, isoleucine 55. They can be too low or too high.

# MVX Plus Metabolic Resilience Targets

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GlycA: 180–260  $\mu\text{mol/L}$      low-normal     

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Small HDL-P: 19–23  $\mu\text{mol/L}$      upper-normal     

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Citrate: 1.5–1.9 mg/dL     mid-normal     

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Valine: 210–250  $\mu\text{mol/L}$      mid- to upper-normal     

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Leucine: 130–170  $\mu\text{mol/L}$      upper-normal     

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Isoleucine: 45–65  $\mu\text{mol/L}$      mid-normal     

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# Intro to Treatments and Further Testing

- MVX = There is no “treating” the indices (MVX, IVX, MMX). They are a guide.
- GlycA = High GlycA is inflammation/ infection. Hypercoag panel, Cyrex Array 12, low carb
- Small HDL particle count. Too low is a need to detox, Total Tox Burden, stop alcohol
- Citrate. When high, add mitochondrial support: B1, Core nutrients, BC-ATP, Mitoactive, iron, etc.
- When citrate is too low, treat the same as too high. Citrate bounces around.
- BCAA’s too low = fix digestion, high dose B1, eat more protein (meat, BCAA powder) use [dietdoctor.com/satiety](http://dietdoctor.com/satiety) for high satiety diet, fix cachexia with raw animal foods.
- BCAA’s too high = same treatment as too low.
- “Fix digestion” means pituitary, vagus nerve, stomach, small and large intestine, pancreas, liver, gall bladder, colon, oral microbiome, SIBO.

# DS results

1st draw 1-13-25. 2nd draw 2-10-25

Gas Leak Repaired 12-7-24

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	31	55 01/13/2025	score	<63
Inflammation Vulnerability <sup>A,01</sup>	27	50 01/13/2025	score	<59
GlycA <sup>A,01</sup>	316	335 01/13/2025	umol/L	<400
Small HDL particle number <sup>A,01</sup>	17.1	11.7 01/13/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	47	59 01/13/2025	score	<71
Citrate <sup>A,01</sup>	2.31	1.94 01/13/2025	mg/dL	1.08-2.73
Valine <sup>A,01</sup>	275	170 01/13/2025	umol/L	116-298
Leucine <sup>A,01</sup>	131	78 01/13/2025	umol/L	41-179
Isoleucine <sup>A,01</sup>	52	53 01/13/2025	umol/L	28-109

# DS results

3rd draw 3-11-25. 4th draw 4-7-25

- Had a sinus infection for 3rd draw. I did not know I had a sinus infection until the next morning.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	29	39 03/11/2025	score	<63
Inflammation Vulnerability <sup>A, 01</sup>	21	33 03/11/2025	score	<59
GlycA <sup>A, 01</sup>	286	350 03/11/2025	umol/L	<400
Small HDL particle number <sup>A, 01</sup>	17.5	16.6 03/11/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	49	52 03/11/2025	score	<71
Citrate <sup>A, 01</sup>	1.78	2.00 03/11/2025	mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	197	201 03/11/2025	umol/L	116-298
Leucine <sup>A, 01</sup>	96	90 03/11/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	44	46 03/11/2025	umol/L	28-109

# DS blood draw #5 in May

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	26	29 04/07/2025	score	<63
Inflammation Vulnerability <sup>A,01</sup>	22	21 04/07/2025	score	<59
GlycA <sup>A,01</sup>	282	286 04/07/2025	umol/L	<400
Small HDL particle number <sup>A,01</sup>	17.1	17.5 04/07/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	44	49 04/07/2025	score	<71
Citrate <sup>A,01</sup>	1.64	1.78 04/07/2025	mg/dL	1.08-2.73
Valine <sup>A,01</sup>	220	197 04/07/2025	umol/L	116-298
Leucine <sup>A,01</sup>	112	96 04/07/2025	umol/L	41-179
Isoleucine <sup>A,01</sup>	45	44 04/07/2025	umol/L	28-109


# Part 3

**More Examples To Learn How To Read It**

# How To Read MVX Plus Example 1

- If a number is “lab high” start there.
- In this example, GlycA is too high (150-300) and Valine is high +3 points. Start with GlycA
- It came down 35 points in 2 months. (Biocidin)

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	45	50 01/22/2025	score	<63
Inflammation Vulnerability <sup>A, 01</sup>	45	49 01/22/2025	score	<59
 <b>GlycA</b> <sup>A, 01</sup>	<b>417 High</b>	<b>452</b> 01/22/2025	umol/L	<400
Small HDL particle number <sup>A, 01</sup>	15.3	15.5 01/22/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	48	52 01/22/2025	score	<71
Citrate <sup>A, 01</sup>	1.69	1.91 01/22/2025	mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	213	<b>301</b> 01/22/2025	umol/L	116-298
Leucine <sup>A, 01</sup>	108	152 01/22/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	54	89 01/22/2025	umol/L	28-109

# How To Read MVX Plus Example 2

- If all numbers are normal ranges, pick the the one “most out of range” to start with.
- In this example, the BCAA’s are too low so digestion/ protein is priority, then detox.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	44		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	34		score	<59
GlycA <sup>A, 01</sup>	262		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	14.0		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	58		score	<71
Citrate <sup>A, 01</sup>	2.33		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	150		umol/L	116-298
Leucine <sup>A, 01</sup>	89		umol/L	41-179
Isoleucine <sup>A, 01</sup>	36		umol/L	28-109

# How To Read MVX Plus Example 3

- If all numbers are normal ranges, pick the the one “most out of range” to start with.
- In this example, BCAA’s are too low and Small HDL particle count is low.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	48		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	30		score	<59
GlycA <sup>A, 01</sup>	290		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	15.7		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	68		score	<71
Citrate <sup>A, 01</sup>	2.58		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	176		umol/L	116-298
Leucine <sup>A, 01</sup>	<50		umol/L	41-179
Isoleucine <sup>A, 01</sup>	45		umol/L	28-109

# How To Read MVX Plus Example 4

- If all numbers are excellent, still find the one “most out of range”.
- In this example, GlycA is the highest. He eats sweets and his teeth get infected.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	23		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	9		score	<59
GlycA <sup>A, 01</sup>	299		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	20.7		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	52		score	<71
Citrate <sup>A, 01</sup>	2.12		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	192		umol/L	116-298
Leucine <sup>A, 01</sup>	101		umol/L	41-179
Isoleucine <sup>A, 01</sup>	50		umol/L	28-109

# How To Read MVX Plus Example 5

- Here, lots of toxins, infections, inflammation.
- Malnourished except citrate.

**MVX Plus**                      78 male                      □

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
▲ <b>Metabolic Vulnerability Index</b> A,01	<b>76</b> <b>High</b>		score	<63
▲ <b>Inflammation Vulnerability</b> <sup>A,01</sup>	<b>78</b> <b>High</b>		score	<59
▲ <b>GlycA</b> <sup>A,01</sup>	<b>709</b> <b>High</b>		umol/L	<400
▼ <b>Small HDL particle number</b> <sup>A,01</sup>	<b>6.7</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	65		score	<71
Citrate <sup>A,01</sup>	2.19		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	137		umol/L	116-298
Leucine <sup>A,01</sup>	73		umol/L	41-179
Isoleucine <sup>A,01</sup>	48		umol/L	28-109

□

# How To Read MVX Plus Example 6

- Here, lots of toxins, infections, inflammation.
- Also malnourished- low BCAA's.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
▲ <b>Metabolic Vulnerability Index</b> A, 01	<b>74</b> <b>High</b>		score	<63
▲ <b>Inflammation Vulnerability</b> <sup>A, 01</sup>	<b>77</b> <b>High</b>		score	<59
▲ <b>GlycA</b> <sup>A, 01</sup>	<b>897</b> <b>High</b>		umol/L	<400
▼ <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>8.1</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	63		score	<71
Citrate <sup>A, 01</sup>	1.49		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	180		umol/L	116-298
Leucine <sup>A, 01</sup>	<50		umol/L	41-179
**Results verified by repeat testing**				
Isoleucine <sup>A, 01</sup>	54		umol/L	28-109

# How To Read MVX Plus Example 7a

64 male. Reversed prostate cancer

But then got melanoma.

Compare to the next slide- the bcaa's and the indexes.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	62		score	<63
▲ <b>Inflammation Vulnerability</b> <sup>A,01</sup>	<b>65</b> <b>High</b>		score	<59
▲ <b>GlycA</b> <sup>A,01</sup>	<b>454</b> <b>High</b>		umol/L	<400
▼ <b>Small HDL particle number</b> <sup>A,01</sup>	<b>9.8</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	54		score	<71
Citrate <sup>A,01</sup>	2.68		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	199		umol/L	116-298
Leucine <sup>A,01</sup>	107		umol/L	41-179
Isoleucine <sup>A,01</sup>	47		umol/L	28-109

# How To Read MVX Plus Example 7b

- Vegan for decades. NO infections, NO inflammation. Ejection Fraction 35
- Has toxicity! 1 pill of HM-ET Binder, “I instantly could breathe easier”.
- Malnourished. 2nd MVX 60, HDL 11.5.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	62		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	51		score	<59
GlycA <sup>A, 01</sup>	278		umol/L	<400
▼ <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>10.7</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	69		score	<71
Citrate <sup>A, 01</sup>	2.60		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	144		umol/L	116-298
Leucine <sup>A, 01</sup>	75		umol/L	41-179
Isoleucine <sup>A, 01</sup>	63		umol/L	28-109

# How To Read MVX Plus Example 7c

- Continuation of the previous slide.
- Dr. Schmidt's Small HDL Particle count was low as a Carnivore just like the Vegan's was low. This is how we discovered Small HDL is toxicity, not diet.

## MVX Plus

Test	Current Re:	Previous Re:
Metabolic Vulnerability Index <sup>A, 01</sup>	62	55
Inflammation Vulnerability <sup>A, 01</sup>	51	50
GlycA <sup>A, 01</sup>	278	335
▼ <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>10.7</b>	11.7
Metabolic Malnutrition Index <sup>A, 01</sup>	69	59
Citrate <sup>A, 01</sup>	2.60	1.94
Valine <sup>A, 01</sup>	144	170
Leucine <sup>A, 01</sup>	75	78
Isoleucine <sup>A, 01</sup>	63	53

Dr. Schmidt's Small HDL Particle number  
= 11.7 on 1st test (11.5-21.6)

Notice the MMX, also. DS is 10 points better  
Due to better nutrition.

# How To Read MVX Plus Example 8

- Here, has most everything: infections and inflammation, Malnourished, Toxicity

9 male

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	57		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	52		score	<59
GlycA <sup>A, 01</sup>	363		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	11.9		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	61		score	<71
Citrate <sup>A, 01</sup>	1.83		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	161		umol/L	116-298
Leucine <sup>A, 01</sup>	51		umol/L	41-179
Isoleucine <sup>A, 01</sup>	<30		umol/L	28-109

**\*\*Results verified by repeat testing\*\***

# How To Read MVX Plus Example 8a

65 female

- Same MVX score as the previous patient.
- See the age difference. 9 vs 65.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	57		score	<63
Inflammation Vulnerability <sup>A,01</sup>	47		score	<59
▲ <b>GlycA</b> <sup>A,01</sup>	<b>448</b> <b>High</b>		umol/L	<400
Small HDL particle number <sup>A,01</sup>	16.0		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	65		score	<71
Citrate <sup>A,01</sup>	2.60		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	195		umol/L	116-298
Leucine <sup>A,01</sup>	<50		umol/L	41-179
Isoleucine <sup>A,01</sup>	42		umol/L	28-109

# How To Read MVX Plus Example 9

- Lab High Citrate - supply mitochondrial nutrition.

65 female

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	52		score	<63
Inflammation Vulnerability <sup>A,01</sup>	43		score	<59
GlycA <sup>A,01</sup>	375		umol/L	<400
Small HDL particle number <sup>A,01</sup>	14.8		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	62		score	<71
 <b>Citrate</b> <sup>A,01</sup>	<b>2.96</b> <b>High</b>		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	195		umol/L	116-298
Leucine <sup>A,01</sup>	92		umol/L	41-179
Isoleucine <sup>A,01</sup>	58		umol/L	28-109

# How To Read MVX Plus Example 10

- Needs B1.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	32		score	<63
Inflammation Vulnerability <sup>A,01</sup>	14		score	<59
GlycA <sup>A,01</sup>	332		umol/L	<400
▲ <b>Small HDL particle number</b> <sup>A,01</sup>	<b>25.4</b> <b>High</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	59		score	<71
▲ <b>Citrate</b> <sup>A,01</sup>	<b>3.13</b> <b>High</b>		mg/dL	1.08-2.73
▲ <b>Valine</b> <sup>A,01</sup>	<b>332</b> <b>High</b>		umol/L	116-298
▲ <b>Leucine</b> <sup>A,01</sup>	<b>251</b> <b>High</b>		umol/L	41-179
Isoleucine <sup>A,01</sup>	90		umol/L	28-109

# How To Read MVX Plus Example 11

- Had infected tooth pulled. Did nothing else. No supps.
- 2 weeks later, got first MVX, 4 weeks later, got 2nd MVX.
- GlycA down 34 points :- ) but small HDL's lowered by 1.2 showing new toxicity :- (
- Removing the tooth lowered GlycA but the surgery and debris weren't cleaned up.
- MVX (40) and MMX (45) stayed the same.

56 male

## MVX Plus



Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	40	40	score	<63
Inflammation Vulnerability <sup>A,01</sup>	41	40	score	<59
GlycA <sup>A,01</sup>	339	373	umol/L	<400
Small HDL particle number <sup>A,01</sup>	14.2	15.4	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	45	45	score	<71
Citrate <sup>A,01</sup>	1.49	1.71	mg/dL	1.08-2.73
Valine <sup>A,01</sup>	242	230	umol/L	116-298
Leucine <sup>A,01</sup>	133	120	umol/L	41-179
Isoleucine <sup>A,01</sup>	70	54	umol/L	28-109

# How To Read MVX Plus Example 12

**62 male**

**This is from daily alcohol, I believe.**

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
 <b>Metabolic Vulnerability Index</b> A, 01	<b>65</b> <b>High</b>		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	58		score	<59
GlycA <sup>A, 01</sup>	334		umol/L	<400
 <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>9.7</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	67		score	<71
Citrate <sup>A, 01</sup>	2.28		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	164		umol/L	116-298
Leucine <sup>A, 01</sup>	61		umol/L	41-179
Isoleucine <sup>A, 01</sup>	62		umol/L	28-109

# How To Read MVX Plus Example 13

## He Got Worse!

- I thought his BCAA's went down on Maxi-BCAA's. More toxic, More inflammation.
- The truth is, he was feeling great until he started adding coco into his coffee. He was confused about coco versus cacao.

### MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	54	45 01/24/2025	score	<63
Inflammation Vulnerability <sup>A,01</sup>	44	37 01/24/2025	score	<59
GlycA <sup>A,01</sup>	317	304 01/24/2025	umol/L	<400
Small HDL particle number <sup>A,01</sup>	13.0	14.2 01/24/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	63	56 01/24/2025	score	<71
Citrate <sup>A,01</sup>	1.64	1.32 01/24/2025	mg/dL	1.08-2.73
Valine <sup>A,01</sup>	127	171 01/24/2025	umol/L	116-298
Leucine <sup>A,01</sup>	57	60 01/24/2025	umol/L	41-179
Isoleucine <sup>A,01</sup>	<30	34 01/24/2025	umol/L	28-109

# How To Read MVX Plus Example 13

## He Got Worse!

- 2 stents and 7 medications added since first MVX. 66 male.
- Post surgery= out of breath, needing nitroglycerin.

### MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	61	47 02/18/2025	score	<63
Inflammation Vulnerability <sup>A,01</sup>	57	48 02/18/2025	score	<59
GlycA <sup>A,01</sup>	334	<b>423</b> 02/18/2025	umol/L	<400
▼ <b>Small HDL particle number</b> <sup>A,01</sup>	<b>10.2</b> <b>Low</b>	14.7 02/18/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	62	47 02/18/2025	score	<71
▲ <b>Citrate</b> <sup>A,01</sup>	<b>3.15</b> <b>High</b>	2.36 02/18/2025	mg/dL	1.08-2.73
▲ <b>Valine</b> <sup>A,01</sup>	<b>309</b> <b>High</b>	254 02/18/2025	umol/L	116-298
Leucine <sup>A,01</sup>	142	128 02/18/2025	umol/L	41-179
Isoleucine <sup>A,01</sup>	86	51 02/18/2025	umol/L	28-109

# How To Read MVX Plus

- Here, lots of toxins, infections, inflammation.
- Malnourished except citrate.

## MVX Plus

78 male







Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
<b>▲ Metabolic Vulnerability Index</b> A,01	<b>76 High</b>		score	<63
<b>▲ Inflammation Vulnerability</b> A,01	<b>78 High</b>		score	<59
<b>▲ GlycA</b> A,01	<b>709 High</b>		umol/L	<400
<b>▼ Small HDL particle number</b> A,01	<b>6.7 Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index A,01	65		score	<71
Citrate A,01	2.19		mg/dL	1.08-2.73
Valine A,01	137		umol/L	116-298
Leucine A,01	73		umol/L	41-179
Isoleucine A,01	48		umol/L	28-109



# How To Read MVX Plus

- Here, lots of toxins, infections, inflammation.
- Also malnourished- low BCAA's.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
 <b>Metabolic Vulnerability Index</b> A, 01	<b>74</b> <b>High</b>		score	<63
 <b>Inflammation Vulnerability</b> A, 01	<b>77</b> <b>High</b>		score	<59
 <b>GlycA</b> A, 01	<b>897</b> <b>High</b>		umol/L	<400
 <b>Small HDL particle number</b> A, 01	<b>8.1</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index A, 01	63		score	<71
Citrate A, 01	1.49		mg/dL	1.08-2.73
Valine A, 01	180		umol/L	116-298
Leucine A, 01	<50		umol/L	41-179
**Results verified by repeat testing**				
Isoleucine A, 01	54		umol/L	28-109

# How To Read MVX Plus

64 male. Reversed prostate cancer

But then got melanoma.

Compare to the next slide- the bcaa's and the indexes.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	62		score	<63
▲ <b>Inflammation Vulnerability</b> <sup>A,01</sup>	<b>65</b> <b>High</b>		score	<59
▲ <b>GlycA</b> <sup>A,01</sup>	<b>454</b> <b>High</b>		umol/L	<400
▼ <b>Small HDL particle number</b> <sup>A,01</sup>	<b>9.8</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	54		score	<71
Citrate <sup>A,01</sup>	2.68		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	199		umol/L	116-298
Leucine <sup>A,01</sup>	107		umol/L	41-179
Isoleucine <sup>A,01</sup>	47		umol/L	28-109

# How To Read MVX Plus

- Vegan for decades. NO infections, NO inflammation. Ejection Fraction 35
- Has toxicity! 1 pill of Detox Binder, “I could instantly breathe easier”.
- Malnourished. 2nd MVX 60, HDL 11.5.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	62		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	51		score	<59
GlycA <sup>A, 01</sup>	278		umol/L	<400
▼ <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>10.7</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	69		score	<71
Citrate <sup>A, 01</sup>	2.60		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	144		umol/L	116-298
Leucine <sup>A, 01</sup>	75		umol/L	41-179
Isoleucine <sup>A, 01</sup>	63		umol/L	28-109

# How To Read MVX Plus

- Here, has most everything: infections and inflammation, Malnourished, Toxicity

9 male

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	57		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	52		score	<59
GlycA <sup>A, 01</sup>	363		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	11.9		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	61		score	<71
Citrate <sup>A, 01</sup>	1.83		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	161		umol/L	116-298
Leucine <sup>A, 01</sup>	51		umol/L	41-179
Isoleucine <sup>A, 01</sup>	<30		umol/L	28-109

**\*\*Results verified by repeat testing\*\***

# GlycA Helps Discover Cavitations

- This high GlycA helped us find a cavitation
- 71 F

Date Collected: **07/14/2025**

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	40		score	<63
Inflammation Vulnerability <sup>A,01</sup>	36		score	<59
▲ GlycA <sup>A,01</sup>	<b>419 High</b>		umol/L	<400
Small HDL particle number <sup>A,01</sup>	18.5		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	50		score	<71
Citrate <sup>A,01</sup>	1.65		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	201		umol/L	116-298
Leucine <sup>A,01</sup>	102		umol/L	41-179
Isoleucine <sup>A,01</sup>	57		umol/L	28-109

# GlycA Helps Discover Cavitations part A

41 M

Date Collected: **04/01/2025**

Date Received: **04/01/2025**

Ordered Items: **MVX Plus; Drawing Fee**

## MVX Plus

Test	Current Result and Flag
Metabolic Vulnerability Index <sup>A, 01</sup>	39
Inflammation Vulnerability <sup>A, 01</sup>	38
<b>▲ GlycA<sup>A, 01</sup></b>	<b>455 High</b>
Small HDL particle number <sup>A, 01</sup>	19.6
Metabolic Malnutrition Index <sup>A, 01</sup>	46
Citrate <sup>A, 01</sup>	1.64
Valine <sup>A, 01</sup>	218
Leucine <sup>A, 01</sup>	113
Isoleucine <sup>A, 01</sup>	55

Date Collected: **08/13/2025**

Date Received: **08/13/2025**

Ordered Items: **MVX Plus; Drawing Fee**

## MVX Plus

Test	Current Result and Flag
Metabolic Vulnerability Index <sup>A, 01</sup>	41
Inflammation Vulnerability <sup>A, 01</sup>	41
<b>▲ GlycA<sup>A, 01</sup></b>	<b>453 High</b>
Small HDL particle number <sup>A, 01</sup>	18.5
Metabolic Malnutrition Index <sup>A, 01</sup>	47
Citrate <sup>A, 01</sup>	2.18
Valine <sup>A, 01</sup>	262
Leucine <sup>A, 01</sup>	170
Isoleucine <sup>A, 01</sup>	78

# GlycA Helps Discover Cavitations part B

41 M

- “Bump” on upper palate was infection pushing on bone.

Date Collected: **11/26/2025**

Date Received: **11/26/2025**


Date Reported: **11/29/2025**

Fasting: **Yes**

Ordered Items: **MVX Plus; Drawing Fee**

Date Collected: **11/26/2025**

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	43	40 09/24/2025	score	<63
Inflammation Vulnerability <sup>A, 01</sup>	46	44 09/24/2025	score	<59
 <b>GlycA</b> <sup>A, 01</sup>	<b>484 High</b>	<b>433</b> 09/24/2025	umol/L	<400
Small HDL particle number <sup>A, 01</sup>	18.2	16.4 09/24/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	44	40 09/24/2025	score	<71
Citrate <sup>A, 01</sup>	1.47	1.19 09/24/2025	mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	213	239 09/24/2025	umol/L	116-298
Leucine <sup>A, 01</sup>	117	148 09/24/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	50	67 09/24/2025	umol/L	28-109

# How To Read MVX Plus

65 female

- Same MVX score as the previous patient.
- See the age difference. 9 vs 65.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	57		score	<63
Inflammation Vulnerability <sup>A,01</sup>	47		score	<59
▲ <b>GlycA</b> <sup>A,01</sup>	<b>448</b> <b>High</b>		umol/L	<400
Small HDL particle number <sup>A,01</sup>	16.0		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	65		score	<71
Citrate <sup>A,01</sup>	2.60		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	195		umol/L	116-298
Leucine <sup>A,01</sup>	<50		umol/L	41-179
Isoleucine <sup>A,01</sup>	42		umol/L	28-109

# How To Read MVX Plus

- Lab High Citrate - supply mitochondrial nutrition.

65 female

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	52		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	43		score	<59
GlycA <sup>A, 01</sup>	375		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	14.8		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	62		score	<71
 Citrate <sup>A, 01</sup>	<b>2.96</b> <b>High</b>		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	195		umol/L	116-298
Leucine <sup>A, 01</sup>	92		umol/L	41-179
Isoleucine <sup>A, 01</sup>	58		umol/L	28-109

# How To Read MVX Plus

- Needs B1, fix digestion

## MVX Plus



Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	32		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	14		score	<59
GlycA <sup>A, 01</sup>	332		umol/L	<400
▲ <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>25.4</b> <b>High</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	59		score	<71
▲ <b>Citrate</b> <sup>A, 01</sup>	<b>3.13</b> <b>High</b>		mg/dL	1.08-2.73
▲ <b>Valine</b> <sup>A, 01</sup>	<b>332</b> <b>High</b>		umol/L	116-298
▲ <b>Leucine</b> <sup>A, 01</sup>	<b>251</b> <b>High</b>		umol/L	41-179
Isoleucine <sup>A, 01</sup>	90		umol/L	28-109

# How To Read MVX Plus

**62 male**

**This is from daily alcohol, I believe.**

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
 <b>Metabolic Vulnerability Index</b> A, 01	<b>65</b> <b>High</b>		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	58		score	<59
GlycA <sup>A, 01</sup>	334		umol/L	<400
 <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>9.7</b> <b>Low</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	67		score	<71
Citrate <sup>A, 01</sup>	2.28		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	164		umol/L	116-298
Leucine <sup>A, 01</sup>	61		umol/L	41-179
Isoleucine <sup>A, 01</sup>	62		umol/L	28-109

# How To Read MVX Plus

## He Got Worse.

- I thought his BCAA's went down on Maxi-BCAA's. More toxic, More inflammation.
- The truth is, he was feeling great until he started adding coco into his coffee. He was confused about coco versus cacao.

### MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	54	45 01/24/2025	score	<63
Inflammation Vulnerability <sup>A,01</sup>	44	37 01/24/2025	score	<59
GlycA <sup>A,01</sup>	317	304 01/24/2025	umol/L	<400
Small HDL particle number <sup>A,01</sup>	13.0	14.2 01/24/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	63	56 01/24/2025	score	<71
Citrate <sup>A,01</sup>	1.64	1.32 01/24/2025	mg/dL	1.08-2.73
Valine <sup>A,01</sup>	127	171 01/24/2025	umol/L	116-298
Leucine <sup>A,01</sup>	57	60 01/24/2025	umol/L	41-179
Isoleucine <sup>A,01</sup>	<30	34 01/24/2025	umol/L	28-109

# How To Read MVX Plus

## He Got Worse!

- 2 stents and 7 medications added since first MVX. 66 male.
- Post surgery= out of breath, needing nitroglycerin.





### MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	61	47 02/18/2025	score	<63
Inflammation Vulnerability <sup>A, 01</sup>	57	48 02/18/2025	score	<59
GlycA <sup>A, 01</sup>	334	<b>423</b> 02/18/2025	umol/L	<400
▼ <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>10.2</b> <b>Low</b>	14.7 02/18/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	62	47 02/18/2025	score	<71
▲ <b>Citrate</b> <sup>A, 01</sup>	<b>3.15</b> <b>High</b>	2.36 02/18/2025	mg/dL	1.08-2.73
▲ <b>Valine</b> <sup>A, 01</sup>	<b>309</b> <b>High</b>	254 02/18/2025	umol/L	116-298
Leucine <sup>A, 01</sup>	142	128 02/18/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	86	51 02/18/2025	umol/L	28-109

# How To Read MVX Plus

- In 4 weeks, went on a 10 day vacation, came home celebrated anniversary
- Drank more alcohol and ate more junk food.

## MVX Plus

Test	Current Result and Flag		Previous Result and Date		Units	Reference Interval
 <b>Metabolic Vulnerability Index</b> <small>A, 01</small>	<b>63</b>	<b>High</b>	60	02/17/2025	score	<63
 <b>Inflammation Vulnerability</b> <sup>A, 01</sup>	<b>67</b>	<b>High</b>	<b>61</b>	02/17/2025	score	<59
 <b>GlycA</b> <sup>A, 01</sup>	<b>528</b>	<b>High</b>	<b>504</b>	02/17/2025	umol/L	<400
 <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>10.7</b>	<b>Low</b>	12.7	02/17/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	52		54	02/17/2025	score	<71
Citrate <sup>A, 01</sup>	1.46		1.84	02/17/2025	mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	159		167	02/17/2025	umol/L	116-298
Leucine <sup>A, 01</sup>	89		83	02/17/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	40		38	02/17/2025	umol/L	28-109
Comment <sup>01</sup>						

# How To Read MVX Plus

- This woman had spent years detoxing -small HDL particle number great.
- BCAA's are low due to stomach pain when she eats.
- Has high GlycA. Joint pain everywhere, brain fog
- In one week stomach pain gone.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	32		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	16		score	<59
GlycA <sup>A, 01</sup>	343		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	21.0		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	57		score	<71
Citrate <sup>A, 01</sup>	2.58		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	195		umol/L	116-298
Leucine <sup>A, 01</sup>	81		umol/L	41-179
Isoleucine <sup>A, 01</sup>	41		umol/L	28-109

63 Male

Had a stroke 2 yrs earlier

3 months: reduced kidney pain

Talking faster, feeling better.

B1, Para, Lumbro, Kidney supplements, no grains

### MVX Plus


Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	42	60 02/03/2025	score	<63
Inflammation Vulnerability <sup>A, 01</sup>	34	<b>67</b> 02/03/2025	score	<59
GlycA <sup>A, 01</sup>	327	<b>527</b> 02/03/2025	umol/L	<400
Small HDL particle number <sup>A, 01</sup>	15.7	<b>10.6</b> 02/03/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	54	46 02/03/2025	score	<71
Citrate <sup>A, 01</sup>	2.47	2.23 02/03/2025	mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	205	181 02/03/2025	umol/L	116-298
Leucine <sup>A, 01</sup>	94	130 02/03/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	47	36 02/03/2025	umol/L	28-109

- 53 F chest pain
- Whole Food Detox program too difficult for her body- she switched to her own purchased products with worse and worse results.
- I stopped all hers and started a line that got rid of her left chest pain 100% in 2 m.

Date Collected: **05/20/2025**      Date Received: **05/20/2025**

Ordered Items: **MVX Plus; Venipuncture**






### MVX Plus

Test	Current Result and Flag
Metabolic Vulnerability Index <sup>A, 01</sup>	59
Inflammation Vulnerability <sup>A, 01</sup>	50
GlycA <sup>A, 01</sup>	336
Small HDL particle number <sup>A, 01</sup>	12.0
Metabolic Malnutrition Index <sup>A, 01</sup>	66
 <b>Citrate</b> <sup>A, 01</sup>	<b>2.87 High</b>
Valine <sup>A, 01</sup>	176
Leucine <sup>A, 01</sup>	73
Isoleucine <sup>A, 01</sup>	57

Date Collected: **09/11/2025**      Date Received: **09/11/2025**      Date Reported: **09/17/2025**

Ordered Items: **MVX Plus; Venipuncture**

### MVX Plus

Test	Current Result and Flag	Previous Result and Date
 <b>Metabolic Vulnerability Index</b> <sup>A, 01</sup>	<b>70 High</b>	<b>64</b> 06/25/2025
 <b>Inflammation Vulnerability</b> <sup>A, 01</sup>	<b>63 High</b>	<b>60</b> 06/25/2025
GlycA <sup>A, 01</sup>	329	350 06/25/2025
 <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>8.4 Low</b>	<b>9.6</b> 06/25/2025
 <b>Metabolic Malnutrition Index</b> <sup>A, 01</sup>	<b>71 High</b>	<b>64</b> 06/25/2025
 <b>Citrate</b> <sup>A, 01</sup>	<b>2.78 High</b>	<b>2.81</b> 06/25/2025
Valine <sup>A, 01</sup>	153	173 06/25/2025
Leucine <sup>A, 01</sup>	56	69 06/25/2025
Isoleucine <sup>A, 01</sup>	50	41 06/25/2025

# **Part 4**

**More Details on Reading MVX and Treatments**

**“If This, Then That”**

# GlycA Therapies and Tests: If This, Then That

- If GlycA is high over 300 or the highest of all the factors, then do Cyrex Array 12 and Hypercoagulation Panel to look for inflammation and infections.
- The most common supplement to fix hypercoagulation is Lumbrokinase. Secondly, high doses of niacin. Other options: Interfase, Biofilm ProBalance by SP.
- Professional co-op has LabCorp Hypercoagulability Panel (#505443) and Interpretation Guide. [https://www.professionalco-op.com/images/pdfs/Interpretation\\_Guide\\_for\\_LabCorp\\_Panel\\_505443\\_3-25.pdf](https://www.professionalco-op.com/images/pdfs/Interpretation_Guide_for_LabCorp_Panel_505443_3-25.pdf)
- GlycA <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5658936/>
- Cyrex array 12 tests 28 organisms. Example at slide #70.
- The ketogenic diet is the most anti-inflammatory diet. P-value  $10^{-6}$  Forsythe Lipids 2009

# What is GlycA?

- GlycA <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5658936/> :  
The GlycA NMR signal arises largely from ... acute-phase proteins such as  $\alpha$ 1-acid glycoprotein (orosomucoid), haptoglobin,  $\alpha$ 1-antitrypsin and  $\alpha$ 1-antichymotrypsin [ – ]. GlycA levels, ... are associated with concentrations of IL-6, tumor necrosis factor (TNF)- $\alpha$ , fibrinogen, C-reactive protein (CRP; hsCRP as assessed by high-sensitivity assay), serum amyloid A (SAA), and lipoprotein-associated phospholipase A<sub>2</sub> (Lp-PLA<sub>2</sub>) [ , – ]. Moreover, GlycA levels are associated with increased production of anti-microbial peptides, circulating leukocytes and neutrophil activity [ , ]. In fact, two of the major protein contributors to the GlycA signal,  $\alpha$ 1-acid glycoprotein and haptoglobin, are synthesized in and secreted from neutrophil granules, suggesting that, besides the liver, neutrophils may be a relevant source of elevated GlycA [ , ]. ... is higher in patients with acute febrile illnesses as well as chronic inflammatory diseases [ , , ].

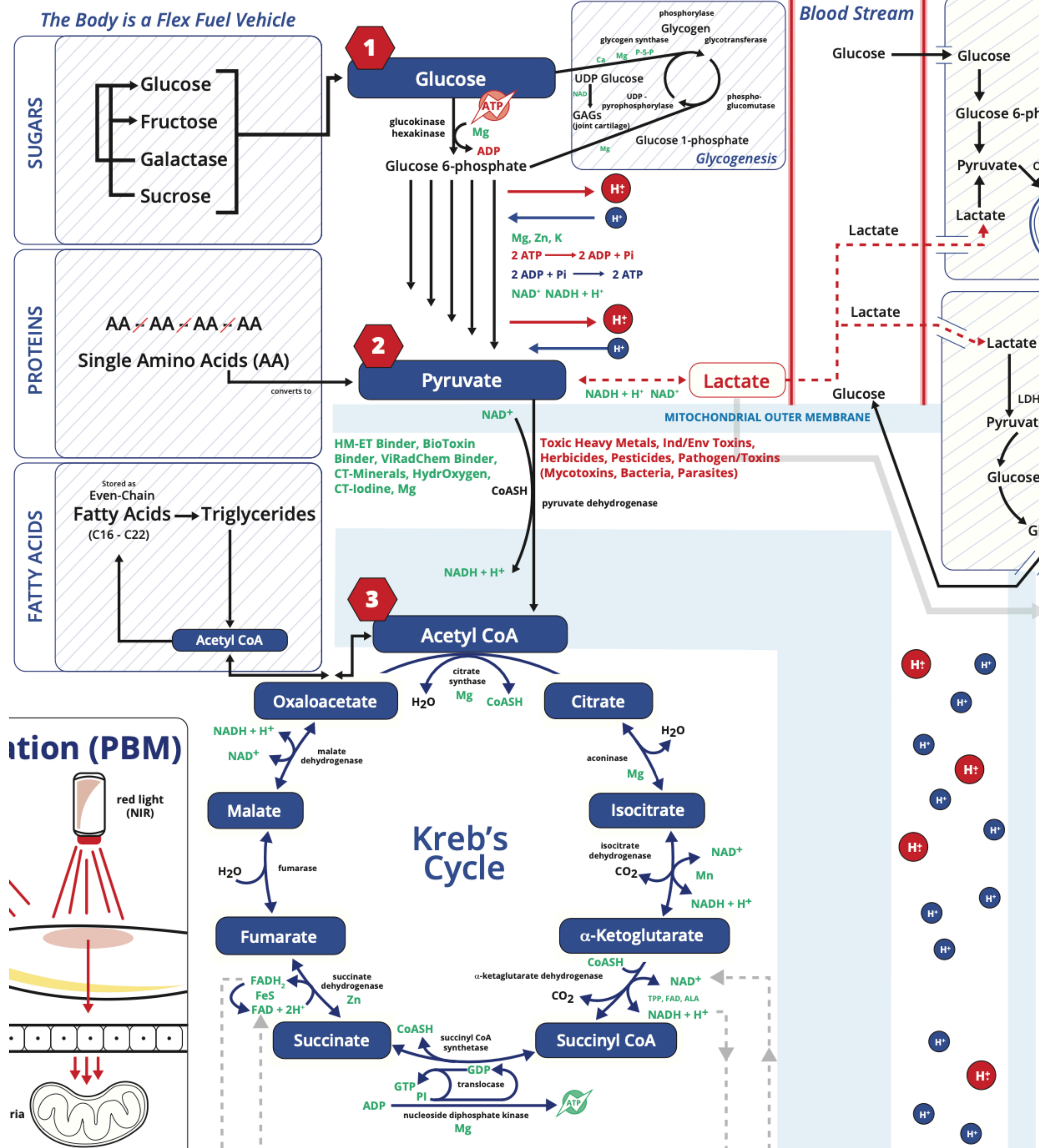
# Small HDL Therapies and Tests: If This, Then That

- If low number of small HDL particles then do Total Tox Burden looking for toxins.
- Small HDL Particles clean up LDL. LDL can be good or bad but they carry LPS Lipopolysaccharides, an endotoxin from gram-negative bacterial infection so Small HDL's can go down during infection.
- HDL's help get rid of some parasites, viruses, chemicals and heavy metals
- Functionality of HDL: Antioxidation and Detoxifying Effects: <https://pubmed.ncbi.nlm.nih.gov/25522989/>
- You want the number to be 19-22. Higher is fine. 18 is still pretty good
- Small HDL Particles are the Guardians of the Arterial Walls.
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC4593254/> Anatol Kontush
- Liver and Gall Bladder optimal function is vital for a high HDL particle count.

# Citrate Therapies and Tests: If This, Then That

- If Citrate is lab high or low, use Core Nutrients, MitoActive, BC-ATP, from Cellcore and/or B1 to enhance Mitochondria.
- Further test with Organic Acid Test. OAT (Vibrant America, Genova)
- What is Citrate? <https://www.sciencedirect.com/topics/medicine-and-dentistry/citrate>
- Citrate bounces around and may only take 10 days to normalize.

# What is Citrate?



# BCAA's Therapies and Tests: If This, Then That

- Valine, Leucine, and Isoleucine are the 3 Branched-Chain Amino Acids
- If HIGH valine, leucine, isoleucine, then take high amounts of B1 (thiamine from [objectivenutrients.com](http://objectivenutrients.com)) and eat a low carb diet. Eliminate BCAA powder if you are taking.
- If LOW valine, leucine, isoleucine, then take high amounts of B1, optimize protein intake: eat more meat, take BCAA Powders. Possibly raw animal foods, fix digestive organs, and address the underlying pathologies. Sugar and alcohol block protein.
- BCAA powders= Maxi BCAA's or SP Detox Complete.
- The value of exercise is to increase appetite to eat more protein.

# BCAA's Therapies and Tests: If This, Then That

- High Dose B1 Data:
- Benfotiamine is for the Body, Heart, Lungs, Peripheral Neuropathy.
- Take 750 mg+ per day for an average of 6 months unless the symptoms come back when you stop.
- TTFD is for the Brain, CNS. Take 300-900 mg per day.
- B1 salt (thiamine mononitrate or thiamine hydrochloride) is well tolerated but not well absorbed. 250 mg for maintenance. 1,000 to 4,000 mg per day for therapy.
- BCAA powders= Maxi BCAA's Branched Chain Amino Acid Blend Contains Minerals, L-Glutamine 4,000 mg, L-Citrulline Malate 1,000 mg AND
  - -L-Leucine 3,000 mg
  - -L-Isoleucine 750 mg
  - -L-Valine 750 mg

# What doesn't work

- Neither Statins (will never be published) Nor Exercise (<https://scholars.duke.edu/publication/1407121>) Lower MVX - tested at Duke
- This makes sense because neither are on the 7 Step Blueprint To Optimal Health
- Every single person who dies of chronic illness have 1 thing in common- dysfunctional biochemistry/physiology.
- Your job is to Reverse-Engineer the dysfunctional biochemistry.
- Drugs are not smart enough and Exercise is not deep enough.
- Detoxification and Nourishing are strong, smart, deep enough.
- Many therapies provide merely comfort. If you disagree, test it with MVX.
- I would love to see laughter, positive attitude, deep breathing, and religion extend our life. Test them with MVX. 14 more studies that need to be done....

64 male      **DS client**

The first MVX test of hundreds that did not contribute to health understanding.

See presenter notes.

Bouts of fatigue from lymphatic or nervous system??

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	26		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	22		score	<59
GlycA <sup>A, 01</sup>	300		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	17.7		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	45		score	<71
Citrate <sup>A, 01</sup>	1.69		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	214		umol/L	116-298
Leucine <sup>A, 01</sup>	130		umol/L	41-179
Isoleucine <sup>A, 01</sup>	58		umol/L	28-109

# SP Detox Balance

Possibly the Single Greatest Product for Lowering MVX

**Warning:** This product contains naturally occurring Vitamin K1. If you are taking blood-thinning medicines, are pregnant or nursing, or have been directed to eat a diet low in oxalates, please consult with your health care professional before taking this product. Not intended for long-term use unless otherwise directed by your health care professional. Keep out of reach of children.

## Supplement Facts

Serving Size: 2 Scoops (37 g)  
Servings per Container: 21

	Amount per Serving	%Daily Value
Calories	160	
Total Fat	5 g	6%*
Saturated Fat	0.5 g	3%*
Total Carbohydrate	11 g	4%*
Dietary Fiber	4 g	14%*
Total Sugars	1 g	†
Protein	17 g	34%*
Vitamin K1	4 mcg	3%
Choline	100 mg	18%
Calcium	70 mg	5%
Iron	4 mg	22%
Magnesium	70 mg	17%
Sodium	190 mg	8%
Potassium	230 mg	5%
Arginine	1300 mg	†
Glycine	600 mg	†
L-isoleucine	850 mg	†
L-leucine	1600 mg	†
DL-methionine	300 mg	†
L-valine	900 mg	†
Creatine	600 mg	†
Proprietary Blend	34.4 g	†
Organic pea protein, flax meal, organic oat flour, organic pumpkin seed protein, organic buckwheat flour, organic beet (leaf) juice powder, organic buckwheat (aerial parts), apple pectin, juniper (berry) powder, organic Spanish black radish (root), burdock (root) powder, organic beet (root), calcium citrate, organic barley (grass), dandelion (leaf), broccoli (aerial parts), inositol, organic alfalfa (aerial parts) juice powder, Oregon grape (root) powder, globe artichoke (leaf), sunflower lecithin powder, milk thistle extract (80% silymarins), organic cordyceps mushroom powder, organic sweet potato, and organic carrot.		

\*Percent Daily Values are based on a 2,000 calorie diet.

†Daily Value not established.

Other Ingredients: Creatine, L-leucine, xanthan gum, L-isoleucine, L-valine, DL-methionine, monk fruit extract, and choline bitartrate.



- **BEFORE**
- Cyrex Array 12 for GlycA
- Pathogen - Associated Immune Reactivity Screen
- Elisa Testing
- 28 organisms
- Todd Watts, DC.

TEST	RESULT			
	IN RANGE (Normal)	EQUIVOCAL*	OUT OF RANGE	REFERENCE (ELISA Index)
Array 12 - Pathogen-Associated Immune Reactivity Screen **				
Porphyromonas gingivalis			2.17	0.2-1.9
Streptococcus mutans			3.12	0.2-1.5
Helicobacter pylori		1.58		0.2-1.9
Campylobacter jejuni	0.93			0.2-1.7
Yersinia enterocolitica	0.60			0.2-1.8
Clostridium difficile			2.51	0.2-1.9
Candida albicans	0.91			0.3-1.8
Rotavirus	1.04			0.2-1.9
Entamoeba histolytica			3.48	0.2-1.9
Giardia lamblia			1.82	0.2-1.6
Cryptosporidium		1.34		0.2-1.4
Blastocystis hominis	1.41			0.2-2.0
Human + Chlamydia HSP-60		1.63		0.2-2.1
Chlamydias	0.92			0.2-2.4
Streptozymes	0.46			0.2-1.8
Streptococcal M Protein		1.91		0.2-2.1
Mycoplasmas			4.02	0.2-1.8
Acinetobacter	0.91			0.2-1.7
Klebsiella	0.75			0.2-2.4
Mycobacterium avium		1.43		0.2-1.8
Aspergillus	1.28			0.2-1.8
Penicillium	0.89			0.2-1.9
Stachybotrys chartarum	0.88			0.2-2.1
Citrullinated EBV			2.63	0.2-1.9
CYP450, mimic Hepatitis C Peptide			2.01	0.2-1.7
Cytomegalovirus			4.12	0.2-1.7
Human Herpesvirus-6	0.85			0.2-1.9
Borrelia burgdorferi		1.70		0.2-1.7

- **AFTER**
- 9 months later
- No drugs were used
- Use the 7 steps blueprint

TEST	RESULT			
	IN RANGE (Normal)	EQUIVOCAL*	OUT OF RANGE	REFERENCE (ELISA Index)
Array 12 - Pathogen-Associated Immune Reactivity Screen **				
Porphyromonas gingivalis	0.58			0.3-2.1
Streptococcus mutans	0.35			0.2-1.5
Helicobacter pylori	0.62			0.4-2.4
Campylobacter jejuni	0.82			0.5-2.4
Yersinia enterocolitica	0.68			0.2-1.8
Clostridium difficile	0.26			0.2-1.3
Candida albicans	0.34			0.2-1.8
Rotavirus	0.76			0.2-4.0
Entamoeba histolytica	0.65			0.2-1.9
Giardia lamblia	0.77			0.2-1.6
Cryptosporidium	1.44			0.4-2.6
Blastocystis hominis	0.58			0.1-1.6
Human + Chlamydia HSP-60	0.99			1.0-2.6
Chlamydias	0.59			0.0-1.8
Streptozymes	0.55			0.3-1.6
Streptococcal M Protein	1.01			0.0-2.8
Mycoplasmas	0.91			0.2-1.8
Acinetobacter	0.97			0.2-1.4
Klebsiella	0.41			0.0-1.3
Mycobacterium avium	0.32			0.2-0.7
Aspergillus	0.37			0.1-0.9
Penicillium	1.01			0.2-1.3
Stachybotrys chartarum	1.48			0.4-2.7
Citrullinated EBV	0.44			0.3-1.1
CYP450, mimic Hepatitis C Peptide	0.77			0.2-1.2
Cytomegalovirus			1.35	0.2-1.2
Human Herpesvirus-6	0.60			0.2-1.4
Borrelia burgdorferi	0.69			0.2-1.0



# Case Study

## Camille, 57 year old female

TODAYS DATE:	2/10/2023	03/02/2023	4/19/2023	6/8/23	8/23/23	9/20/23	11/15/23	1/24/24	6/1/24	9/18/24	10/9/24	
fatigue	6	6	4	6	4	3	2	2	3	3	3	
Very cold always	8	8	8	8	7	6	5	4	3	3	3	
decreased memory recall	5	0	0	0	0	0	0	0	2	2	2	
sadness	5	5	4	5	3	2	1	1	2	0	0	
Excessive Hunger	7	7	7	7	6	5	2	4	3	2	3	
fear of not getting better	9	6	6	5	5	4.5	3	2	3	2	2	
hurt	5	1	0	0	0	0	0	0	0	0	0	
negative self talk	6	4	4	3	2	2	1	1	3	2	2	
bloating	5	6	6	4	3	2	1	1	3	2	1	
Chronic tingling in my calves and lower legs	8	9	9	9	8	8	7	7	8	8	6	
inflammation in my neck (in front of ears)	10	9	9	10	8	8	7	7	8	8	6	
lymph glands inflammation	10	9	9	9	7	8	7	7	8	8	7	
trouble clearing bowels	8	8	7	7	6	5	4	3	4	2	2	
relying on laxatives, etc. for daily BM's	8	8	9	8	3	2	0	0	0	0	0	
Head inflammation	9	9	9	9	5	4	2	3	4	7	7	
Rash on my torso and back - itchy small bumps	8	8	8	3	0	0	0	7	2	0	0	
Chronic inflammation	9	9	9	9	9	8	6	6	8	8	7	
Chronic Body Pain	9	9	9	9	7	7	6	5	8	4	4	
										****possible flu/cold exposure		

# Case Study

## Steve, 31 year old male

Incontinent

Aphasia

Sleeping all day

Severely Dissociated

Had never weighed over 85 pounds in adulthood. By August 2023 he was up to 102 lbs

TODAYS DATE:	3/11/2021	6/4/21	8/10/21	10/11/21	12/20/21	2/28/22	4/30/22	6/30/22	8/21/22	10/16/22	12/11/22	2/2/23	5/28/23
Date of Last Menses													
Anxiety	10	9	5	5	5	5	6	6	6	7	7	6	3
Depression	8	8	9	9	9	9	8	8	7	5	4	2	1
Severe Fatigue	10	9	8	7	7	7	6	6	6	3	2	1	1
Severe Brain Fog	9	8	8	8	7	6	6	5	4	3	3	2	1
Memory Loss	10	5	2	1	2	5	3	2	3	2	1	1	1
All over Constant muscle pain	10	1	0	0	0	0	0	0	0	0	0	0	0
Severe constipation	8	5	6	7	6	4	4	3	4	3	4	2	1
Constant cold hands and feet	10	10	9	9	9	10	8	7	7	8	9	9	7
Sleeping 14-15 hours/night	10	10	10	10	10	10	9	9	9	5	4	2	0
Total loss of bladder control	10	7	6	5	5	6	4	5	4	0	0	0	0
Constant intestinal pain	9	0	0	0	0	0	0	0	0	0	0	0	0
Flaky skin	0	8	5	0	0	0	0	0	2	4	3	2	5
Acne	5	4	5	6	6	4	3	2	2	2	1	1	1
Hairloss	9	9	9	8	5	3	2	1	0	0	0	0	0
Throbbing/tinglingveins	8	5	0	0	0	0	0	0	0	0	0	0	0
BMI	14.2	14.1	14	14	14	14.2	14.5	14.8	15.1	15.4	14.8	14.3	
Height	5'4	5'4	5'4	5'4	5'4	5'4	5'4	5'4	5'4	5'4	5'4	5'4	5'4
Weight (in pounds)	82.6	81.9	81.7	81.6	81.7	82.8	84.6	86.5	88.2	89.8	86	83.4	89

# Case Study

Carolyn, 67 year old female (clinical psychologist)

TODAYS DATE:	3/15/2021	3/15/2022	7/15/2022	8/17/2022	09/07/2022	11/16/2022	2/4/23	
Depression	Medicacted						No meds	
Depression	7	7	4	3	2	1	0	
Anxiety	7	5	4	2	6	1	1	
Brain fog	7	5	3	3	2.5	1	0	
decreased memory recall	7	3	1	1	1	1	1	
anger	7	6	3	0.5	1	2	1	
sadness	9	7	5	0	1	6	1	
fear	8	8	7	1	3	1	1	
hurt	9	8	4	0	1	0.5	0.5	
guilt	8	5	2	1	1	0	0	
trouble falling asleep	5	2	2	2	0	0	0	
trouble staying asleep	7	7	6	6	2	3	2	
negative self talk	8	5	3	1	1	0.5	0	
Chronic fatigue	8	8	6	3	3	1	1	
bloating	9	8	8	4	1	1	2	
burping	9	8	10	4	4	1	2	
heart burn	9	8	8	4	3	0	0.25	
Constipation (not going daily)	3	3	1	1	2	0	0	
gut pain (all over)	8	6	2	2	1	1	0.25	
headaches - frequency			1x per month			1	2	1
headaches - intensity	5	5	4	4	3	2	1	
neck pain	7	7	7	2	2	2	2	
shoulder pain	7	6	6	2	3	1	1	
joint pain	9	6	4	2	2	1	1	
knee pain	3	7	7	2	0	0	1	
Shortness of breath	8	7	5	5	4	2	1.5	
Add Weight here	195	150	153	153	152	152	150	

# Case Study

Jenny, 43 year old female (medical / pharmacy rep)

Anxiety

Panic Attacks

Hashimoto's Disease

Insomnia

Fatigue

TODAYS DATE:	1/4/2022	02/01/2022	3/27/22	4/27/22	5/30/22	6/26/22	7/29/22	8/26/22	9/25/22	10/22/22	11/27/22
Date of Last Menses	12/7/21	1/5/22	3/2/22	3/29/22	4/26/22	6/19/22	7/19/22	8/13/22	9/10/22	10/14/22	11/15/22
Anxiety	9	9	8	9	6	4	6	5	4	5	4
Panic Attacks Frequency	7	9	7	7	4	2	2	1	0	0	0
Shortness of Breath	6	6	5	6	4	4	4	3	3	4	3
Brain Fog	7	7	9	9	8	8	7	7	5	5	5
Decrease memory	9	9	9	9	9	7	6	6	4	4	3
Fatigue	10	10	6	10	9	8	5	4	3	3	2
Dizziness/ Lightheaded	10	10	9	9	5	3	2	1	1	2	2
Mind racing	5	4	4	4	2	2	1	1	0	0	0
Trouble Falling Sleep	4	3	3	6	3	2	3	3	1	1	1
Trouble Staying Sleep	6	3	6	7	5	4	3	2	3	5	4
Heart palpitations	3	3	2	1	1	0	1	0	0	1	0
Blurry Vision	7	7	7	7	4	3	3	3	2	3	1
Chemical sensitivities	9	8	9	8	8	6	5	3	3	3	2
Constipation	7	7	3	3	2	2	3	2	2	3	2
Headache Frequency	7	4	9	7	7	4	2	1	1	1	1
Bloating	8	8	7	9	6	4	4	4	2	2	1

# The 4 Stages of Wound Healing

There Are Many Symptoms Occurring In This Process

Healing

Inflammation is not the cause of disease.  
It is Step 2 of the 4 Steps of Healing.

Hemostasis

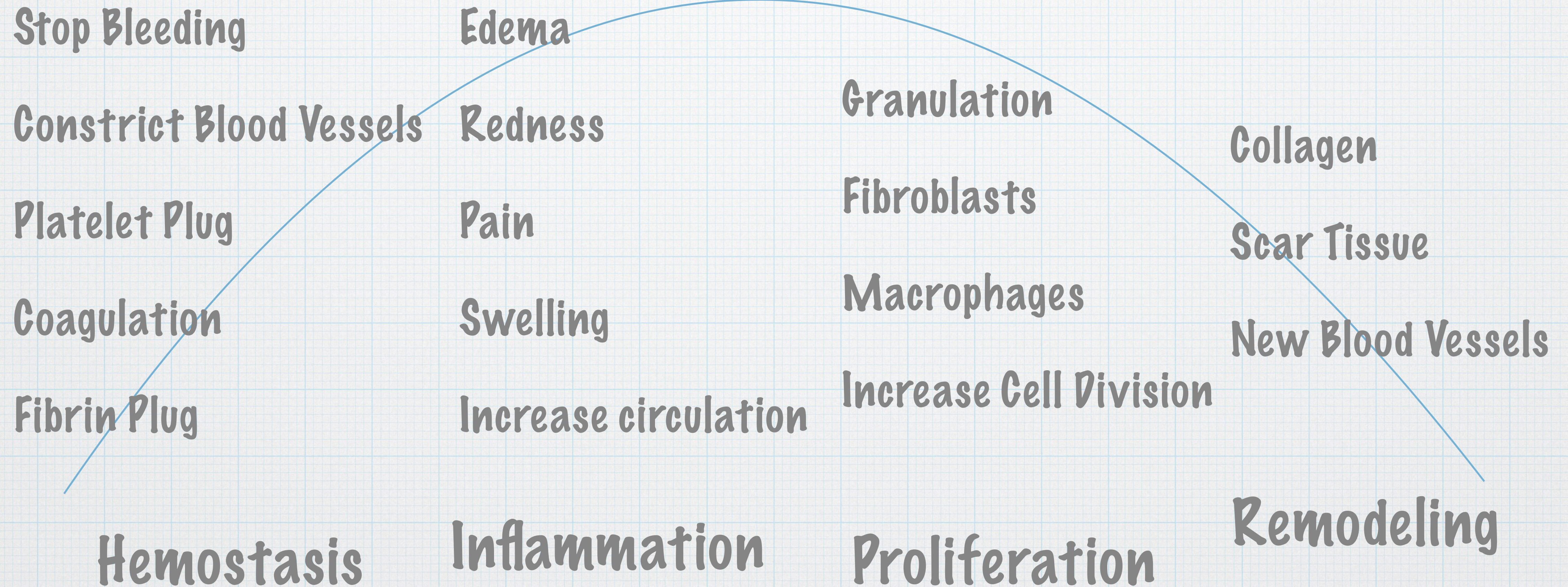
Inflammation

Proliferation

Remodeling

# The 4 Stages of Wound Healing

Symptoms Happens At Each Step



# The 4 Stages of Wound Healing

The Natural Chemicals Trying To Heal. Each Can Be Blocked By A Drug!

Cyclooxygenase  
Thromboxanes  
PD-L1  
Factor Xa  
Platelets  
Clotting Factors  
Fibrin

Hemostasis

B and T Lymphocyte  
Bradykinins  
Antibodies  
Interleukins-6,2  
Prostaglandins  
Cytokines  
Mast Cells  
Histamines

Inflammation

FGF  
Endothelin-1  
VEGF  
TGF Beta  
TGF Alpha  
PDGF  
Interleukin-22

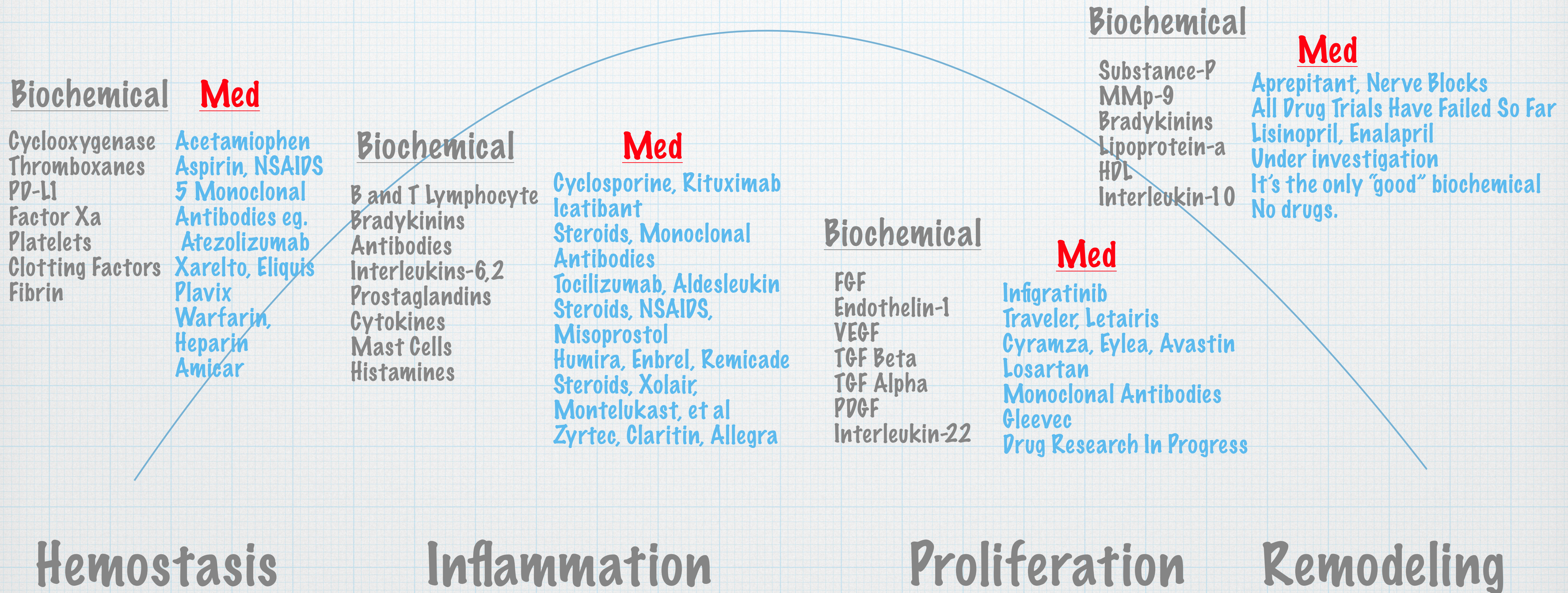
Proliferation

Substance-P  
MMP-9  
Bradykinins  
Lipoprotein-a  
HDL  
Interleukin-10

Remodeling

# The 4 Stages of Wound Healing

The Natural Biochemicals Trying To Heal. Each Can Be Blocked By A Drug!



High						
Test Name	Current	Previous	Result		Reference	
			75th	95th		
2,4-Dichlorophenoxyacetic Acid (2,4-D)^ (ug/g)	1.85		0.5	1.55	≤1.55	
Bisphenol A (BPA)^ (ug/g)	17.19		2.12	5.09	≤5.09	
Diethylthiophosphate (DETP)^ (ug/g)	13.97		1.24	3.92	≤3.92	
Cesium^ (ug/g)	13.19		6.37	10.3	≤10.3	
Tungsten^ (ug/g)	0.41		0.12	0.33	≤0.33	
Aflatoxin B1 (AFB1) (ng/g)	14.82		3.9	6.93	≤6.93	
Aflatoxin G2 (ng/g)	24.63		6.08	10.8	≤10.8	
Aflatoxin M1 (ng/g)	17.67		3.6	6.4	≤6.4	
Deoxynivalenol(DON) (ng/g)	214.41		37.95	67.47	≤67.47	
Enniatin B1(ENN B1) (ng/g)	0.32		0.13	0.22	≤0.22	
Gliotoxin (ng/g)	213.41		116.93	207.87	≤207.87	
Nivalenol (NIV) (ng/g)	6.17		1.8	3.2	≤3.2	
Ochratoxin A (OTA) (ng/g)	18.72		3.83	6.8	≤6.8	
Roridin L2 (ng/g)	13.43		3.83	6.8	≤6.8	
Sterigmatocystin (STC) (ng/g)	1.68		0.3	0.53	≤0.53	

Suboptimal						
Test Name	Current	Previous	Result		Reference	
			75th	95th		
2-Hydroxyisobutyric Acid (2HIB) (ug/g)	978.09		795.93	1215.72	≤1215.72	
2-Methylhippuric Acid (2MHA)^ (ug/g)	242.64		77.9	248	≤248	
2,2-bis(4-Chlorophenyl) acetic acid (DDA) (ug/g)	16.68		7.9	19	≤19	
3-Phenoxybenzoic Acid (3PBA)^ (ug/g)	2.86		1.01	5.44	≤5.44	
4-Methylhippuric Acid (4MHA) (ug/g)	244.90		65.51	752.72	≤752.72	
Atrazine ^ (ug/g)	0.03		0.02	0.05	≤0.05	

Suboptimal						
Test Name	Current	Previous	Result		Reference	
			75th	95th		
Atrazine mercapturate^ (ug/g)	0.04		0.02	0.05	≤0.05	
Butylparaben^ (ug/g)	3.81		0.25	4.39	≤4.39	
Diethyl phosphate (DEP)^ (ug/g)	6.63		3.2	15.7	≤15.7	
Dimethyldithiophosphate (DMDTP)^ (ug/g)	5.20		0.67	6.12	≤6.12	
Dimethylthiophosphate (DMTP)^ (ug/g)	6.12		5.91	33.7	≤33.7	
Ethylparaben ^ (ug/g)	24.36		5.41	99.3	≤99.3	
N-Acetyl (2,Hydroxypropyl) Cysteine (NAHP)^ (ug/g)	310.78		101	403	≤403	
N-Acetyl (Propyl) Cysteine (NAPR)^ (ug/g)	18.28		11.3	46.1	≤46.1	
Tiglylglycine (TG) (ug/g)	0.34		0.09	3.24	≤3.24	
Triclosan (TCS)^ (ug/g)	349.58		29.9	358	≤358	
Arsenic^ (ug/g)	22.26		11.9	52	≤52	
Beryllium^ (ug/g)	0.46		0.2	0.76	≤0.76	
Mercury^ (ug/g)	0.89		0.57	1.61	≤1.61	
Chaetoglobosin A (CHA) (ng/g)	21.19		17.93	31.87	≤31.87	
Citrinin (CTN) (ng/g)	12.30		7.05	12.53	≤12.53	
Fumonisin B3 (ng/g)	6.31		6.08	10.8	≤10.8	
Satratoxin G (ng/g)	0.15		0.1	0.18	≤0.18	
Satratoxin H (ng/g)	0.14		0.1	0.18	≤0.18	

Creatinine						
Test Name	Current	Previous	Result		Reference	
			75th	95th		
Urine Creatinine (mg/mL)	0.19		0	2.16	0.25-2.16	

# Part 6

**Let's Practice!**

**Write down your answers before you listen to the solutions.**

72 male

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	27		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	15		score	<59
GlycA <sup>A, 01</sup>	333		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	21.4		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	53		score	<71
Citrate <sup>A, 01</sup>	1.96		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	198		umol/L	116-298
Leucine <sup>A, 01</sup>	90		umol/L	41-179
Isoleucine <sup>A, 01</sup>	50		umol/L	28-109

68 female, wife of previous slide.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	29		score	<63
Inflammation Vulnerability <sup>A,01</sup>	9		score	<59
GlycA <sup>A,01</sup>	299		umol/L	<400
▲ <b>Small HDL particle number</b> <sup>A,01</sup>	<b>23.0</b> <b>High</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	61		score	<71
Citrate <sup>A,01</sup>	2.16		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	175		umol/L	116-298
Leucine <sup>A,01</sup>	81		umol/L	41-179
Isoleucine <sup>A,01</sup>	60		umol/L	28-109

**Not a client.**

53 Male

**MVX Plus**

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	56		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	51		score	<59
GlycA <sup>A, 01</sup>	334		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	11.7		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	61		score	<71
Citrate <sup>A, 01</sup>	2.46		mg/dL	1.08-2.73
▲ <b>Valine</b> <sup>A, 01</sup>	<b>394</b> <b>High</b>		umol/L	116-298
▲ <b>Leucine</b> <sup>A, 01</sup>	<b>200</b> <b>High</b>		umol/L	41-179
▲ <b>Isoleucine</b> <sup>A, 01</sup>	<b>129</b> <b>High</b>		umol/L	28-109

42 female

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	51		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	47		score	<59
GlycA <sup>A, 01</sup>	286		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	11.8		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	55		score	<71
Citrate <sup>A, 01</sup>	1.72		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	259		umol/L	116-298
Leucine <sup>A, 01</sup>	98		umol/L	41-179
Isoleucine <sup>A, 01</sup>	81		umol/L	28-109
Comments <sup>01</sup>				

# 55 Female

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	51		score	<63
Inflammation Vulnerability <sup>A,01</sup>	37		score	<59
GlycA <sup>A,01</sup>	284		umol/L	<400
Small HDL particle number <sup>A,01</sup>	13.8		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	66		score	<71
Citrate <sup>A,01</sup>	1.98		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	140		umol/L	116-298
Leucine <sup>A,01</sup>	<50		umol/L	41-179
**Results verified by repeat testing**				
Isoleucine <sup>A,01</sup>	34		umol/L	28-109

39 male

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	41		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	38		score	<59
GlycA <sup>A, 01</sup>	325		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	14.5		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	49		score	<71
Citrate <sup>A, 01</sup>	1.94		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	272		umol/L	116-298
Leucine <sup>A, 01</sup>	132		umol/L	41-179
Isoleucine <sup>A, 01</sup>	73		umol/L	28-109

67 Male

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	35		score	<63
Inflammation Vulnerability <sup>A, 01</sup>	30		score	<59
GlycA <sup>A, 01</sup>	322		umol/L	<400
Small HDL particle number <sup>A, 01</sup>	16.6		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	49		score	<71
Citrate <sup>A, 01</sup>	1.52		mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	221		umol/L	116-298
Leucine <sup>A, 01</sup>	96		umol/L	41-179
Isoleucine <sup>A, 01</sup>	54		umol/L	28-109

60 male. Psoriasis.

## MVX Plus

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	31	32 03/26/2025	score	<63
Inflammation Vulnerability <sup>A, 01</sup>	15	14 03/26/2025	score	<59
GlycA <sup>A, 01</sup>	335	332 03/26/2025	umol/L	<400
▲ <b>Small HDL particle number</b> <sup>A, 01</sup>	<b>24.1 High</b>	<b>25.4</b> 03/26/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	58	59 03/26/2025	score	<71
▲ <b>Citrate</b> <sup>A, 01</sup>	<b>3.21 High</b>	<b>3.13</b> 03/26/2025	mg/dL	1.08-2.73
▲ <b>Valine</b> <sup>A, 01</sup>	<b>299 High</b>	<b>332</b> 03/26/2025	umol/L	116-298
▲ <b>Leucine</b> <sup>A, 01</sup>	<b>198 High</b>	<b>251</b> 03/26/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	94	90 03/26/2025	umol/L	28-109

**49 male**

**MVX Plus**

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A,01</sup>	29		score	<63
Inflammation Vulnerability <sup>A,01</sup>	9		score	<59
GlycA <sup>A,01</sup>	301		umol/L	<400
 <b>Small HDL particle number</b> <sup>A,01</sup>	<b>24.2</b> <b>High</b>		umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A,01</sup>	60		score	<71
Citrate <sup>A,01</sup>	1.08		mg/dL	1.08-2.73
Valine <sup>A,01</sup>	130		umol/L	116-298
Leucine <sup>A,01</sup>	60		umol/L	41-179
Isoleucine <sup>A,01</sup>	33		umol/L	28-109

**67 male**

See presenter notes.

**MVX Plus**

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Metabolic Vulnerability Index <sup>A, 01</sup>	36	35 04/14/2025	score	<63
Inflammation Vulnerability <sup>A, 01</sup>	26	22 04/14/2025	score	<59
GlycA <sup>A, 01</sup>	334	309 04/14/2025	umol/L	<400
Small HDL particle number <sup>A, 01</sup>	17.9	18.0 04/14/2025	umol/L	11.5-21.6
Metabolic Malnutrition Index <sup>A, 01</sup>	55	56 04/14/2025	score	<71
Citrate <sup>A, 01</sup>	1.88	1.84 04/14/2025	mg/dL	1.08-2.73
Valine <sup>A, 01</sup>	179	175 04/14/2025	umol/L	116-298
Leucine <sup>A, 01</sup>	89	72 04/14/2025	umol/L	41-179
Isoleucine <sup>A, 01</sup>	52	41 04/14/2025	umol/L	28-109
Comment <sup>01</sup>				

# History

**If you don't know your history, you don't know your future.**

**-John Cattleson**

# History of “Causes”

## 1/3 Toxins

- All farms were organic prior to WW2.
- Chemical companies became powerful after WW2 including pharma and ag.
- The book “Silent Spring” by Rachel Carson came out 1962 about DDT - probably the first cultural awareness of toxicity.
- The idea that mercury (in teeth) can harm the body came from Dietrich Klinghardt, MD in the 1980’s.
- The idea that nanoplastics are in our body came in 2022.
- The Founders of Medicine knew of “Toxins” but toxicity was not severe and the solutions were poor.

# History of “Causes”

## 2/3 Pathogens

- Acute Pathogens have been addressed since the “silver bullet” theory of the 1830’s but chronic pathogens are the Achilles heel of medicine.
- Lyme disease - intracellular pathogens - was discovered in 1980. Now there are dozens of known intracellular pathogens.
- Mold problem is biblical (Leviticus ch. 14) but today ignored by most clinicians except the AAEM. Also ignored by landlords, lawyers, and politicians.
- Parasites are prehistoric with herbal solutions in every indigenous culture. Currently ignored by everyone except the true pioneering clinicians who are not afraid to be called derogatory names. Even infectious disease doctors don’t “get it”.

# History of “Causes”

## 3/3 Excess sugar

- The era of vitamin discoveries and research was the 19-teens through the 1930's.
- Researchers did feeding studies where they removed foods to create deficiencies to see what disease appeared, then added it back to see the cure.
- The 1930's Great Depression showed the deficiency of B1 which caused heart disease (beri-beri). Within weeks of adding B1 to white bread in 1934, beri-beri heart disease was cured nationwide.
- Multiple researchers toured the world to see indigenous tribes and their traditional diets. Dr. Weston A. Price is the most famous. Refined sugar causes disease.
- Vitamin research was severely disrupted due to WW2.
- Harvard promoted sugar and vilified fat in the 1960's.
- The Founders of Medicine knew of Sugar, Vitamins, and B1

# History of “Lactic Acidosis”

## Now Known as Mitochondrial Dysfunction

- The Founders all thought if you reversed Lactic Acidosis , then you reversed chronic disease.
- Through the years, they tried alkalizing minerals, glandulars, diet changes with no good results. They knew little of Toxins, and generalized toxicity was not severe.
- In 1961, a study disproved one tenant of lactic acidosis and a lawsuit was lost by Royal Lee. This ended “lactic acidosis” as a theory of the chronic disease model.
- By this time, specializing in drugging symptom collections (disease) overtook the more holistic approach.
- Thomas Seyfried, PhD brought back mitochondria and Otto Warburg in his book Cancer as a Metabolic Disease in 2012.
- Mitochondria and the Future of Medicine by Lee Know in 2018.

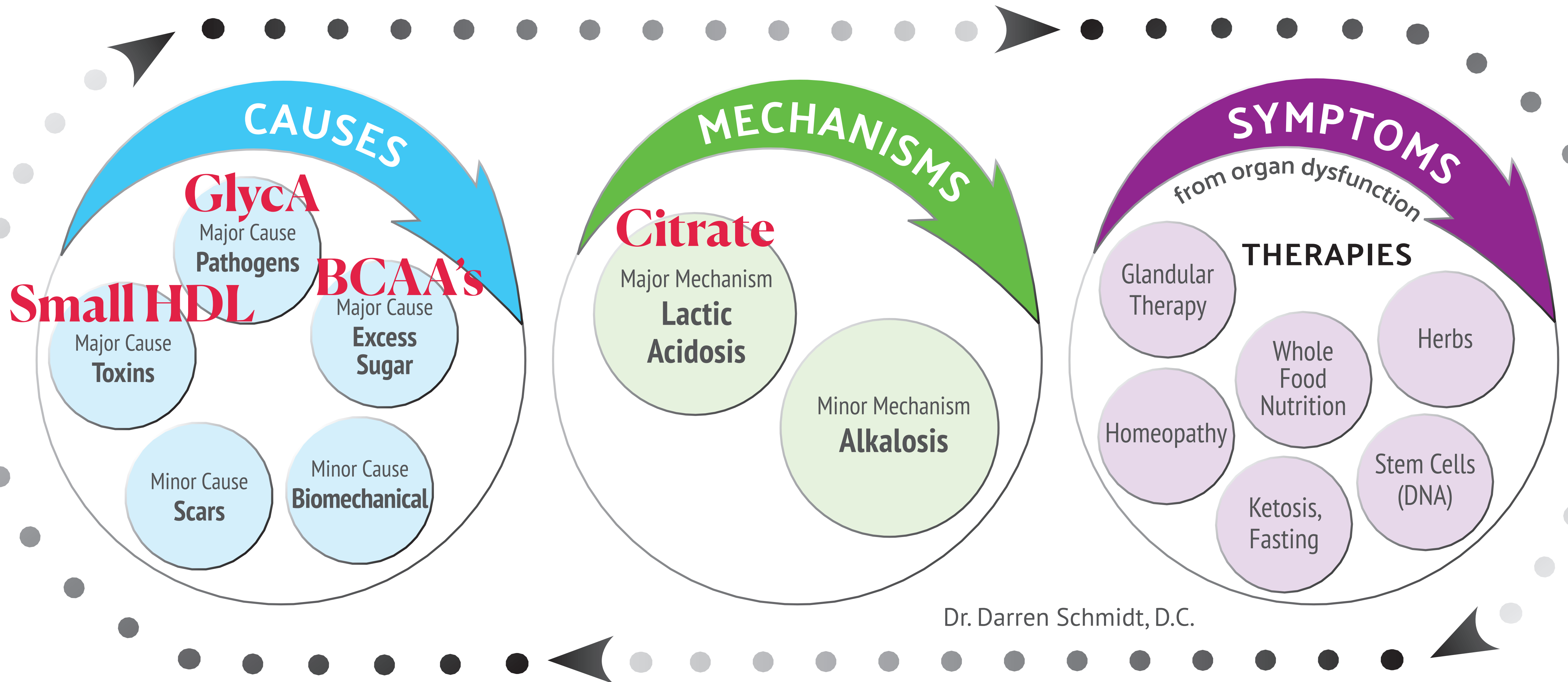
# History of “Symptoms”

## Quiet Symptoms by Feeding or Addressing Organs

- It makes sense that medicine focuses so much on symptoms because that is what people want to get rid of - their symptoms.
- In order to achieve true healing from chronic disease, the patient also has to be educated and motivated on the true healing process and lifestyle choices.
- Medical patients only need to just take pills and it's easy to see symptoms diminish.
- I have heard many times “If you treat the symptoms, you treat the cause” but this is false. You have to address all 3 factors of chronic disease.
- Now with MVX we can test what the Founders of Medicine tells us are the most important factors in health.

# Follow The Physiology

Address All 3 Factors of Chronic Disease





# Dr. Henry Harrower Practical Endocrinology 1931

- The ideal therapy of a condition of this nature is threefold: (1) The fundamental cause should be discovered and controlled; (2) resultant endocrine difficulties that are largely responsible for the clinical picture should be ameliorated by suitable treatment, including proper organotherapy; and (3) remineralization by means of a basic diet and alkalies should be instituted.
- Remineralization can be brought about in two ways: (1) by encouraging a better metabolism, and (2) by actual administration of the alkaline mineral salts. Unfortunately, alkaline therapy does not interfere with either of the two common underlying causes-the initial difficulty and the endocrine reaction to that difficulty.
- In other words, if our purpose is to treat the patient, and if our attempt is to be as thorough and our service as complete as possible, we must include remineralization, for most endocrine cases require it.

# **Dr. Henry Harrower's treatment plan 1931:**

- 1) the fundamental cause should be discovered and controlled.
- 2) Endocrine therapy to address the clinical picture. Polyglandular preferred over uniglandular.
- Reduce the lactic acidosis by basic diet and alkalis (minerals). There are two ways to address the lactic acidosis 1) a better metabolism (ketosis) 2) add mineral salts which unfortunately, does not address the two underlying causes- the initial difficulty and the endocrine reaction to that difficulty.



Otto  
Warburg

# RAVENOUS



**OTTO WARBURG,  
THE NAZIS, AND THE  
SEARCH FOR THE  
CANCER-DIET  
CONNECTION**

**SAM APPLE**

# **Dr. Otto Warburg's treatment plan 1967:**

- 1) keep the speed of the bloodstream so high that the venous blood still contains sufficient oxygen. (Exercise and clean blood). To keep high the concentration of hemoglobin in the blood. (No anemia)
- 2) to add always to the food B vitamins.
- 3) At the same time exogenous carcinogens are excluded rigorously. (Detox!! And clean living)
- taken from Tripping Over the Truth book by Travis Christofferson.

- Otto Warburg ctd.
- If at the same time exogenous carcinogens are excluded rigorously, then much of the endogenous cancer may be prevented today. These proposals are in no way utopian. On the contrary, they may be realized by everybody, everywhere, at any hour. Unlike the prevention of many other diseases, the prevention of cancer requires no government help, and not much money."

# **Guideposts to Mental Health Dr. Lee 1958**

"Two basic disorders of chemical balance are particularly important: (1) an imbalance between the acid and alkaline minerals (acidosis and alkalosis) and (2) an inconstant supply of oxygen and sugar to the nerve cells (anoxia and hypoglycemia). Thus when the acid alkaline (pH) balance of the body is disturbed or there is a deficiency of sugar or oxygen, the result may be symptoms which are indicative of an instability of the nervous system."

# From [cancertutor.com](http://cancertutor.com)

"Lactic Acid is the main component of the deadly cachexia cycle (i.e. Lactic acid cycle) which kills about half of all cancer patients. Lactic Acid is a major cause of pain, it blocks nutrients from getting to the cells (which is why many cancer patients are weak).

**Dealing with the lactic acid and the microbes in the bloodstream should be a TOP priority from day one after the diagnosis of cancer. Orthodox medicine never does this."**

# “One Weird Trick”: How Medicine Fools You

How Targeting Chemicals With Poisons  
Keeps You Buying.



# The 4 Stages of Wound Healing

There Are Many Symptoms Occurring In This Process

Healing

Inflammation is not the cause of disease.  
It is Step 2 of the 4 Steps of Healing.

Hemostasis

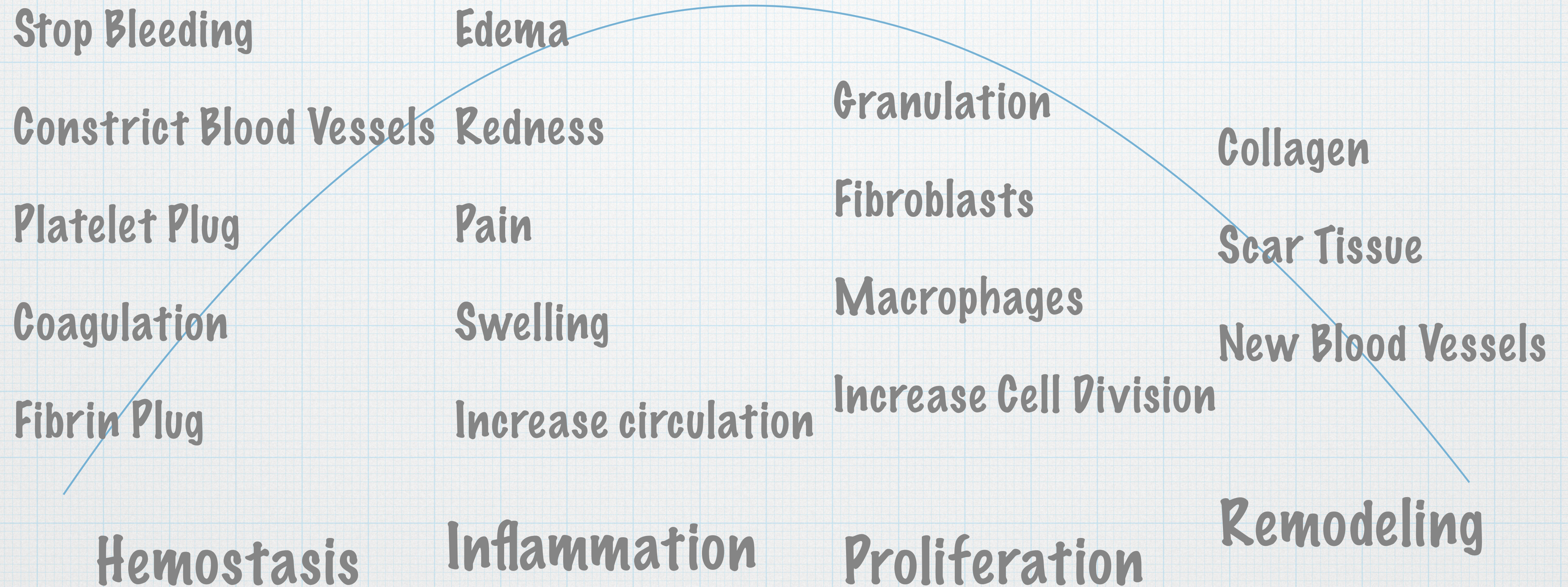
Inflammation

Proliferation

Remodeling

# The 4 Stages of Wound Healing

## What Happens At Each Step



# The 4 Stages of Wound Healing

The Natural Chemicals Trying To Heal. Each Can Be Blocked By A Drug!

Cyclooxygenase  
Thromboxanes  
PD-L1  
Factor Xa  
Platelets  
Clotting Factors  
Fibrin

Hemostasis

B and T Lymphocyte  
Bradykinins  
Antibodies  
Interleukins-6,2  
Prostaglandins  
Cytokines  
Mast Cells  
Histamines

Inflammation

FGF  
Endothelin-1  
VEGF  
TGF Beta  
TGF Alpha  
PDGF  
Interleukin-22

Proliferation

Substance-P  
MMp-9  
Bradykinins  
Lipoprotein-a  
HDL  
Interleukin-10

Remodeling

# The 4 Stages of Wound Healing

What Is Causing the Wound Healing in Chronic Disease?

## CAUSES:

### Chronic Infections:

Parasites Lyme

Yeast Chronic Bacteria

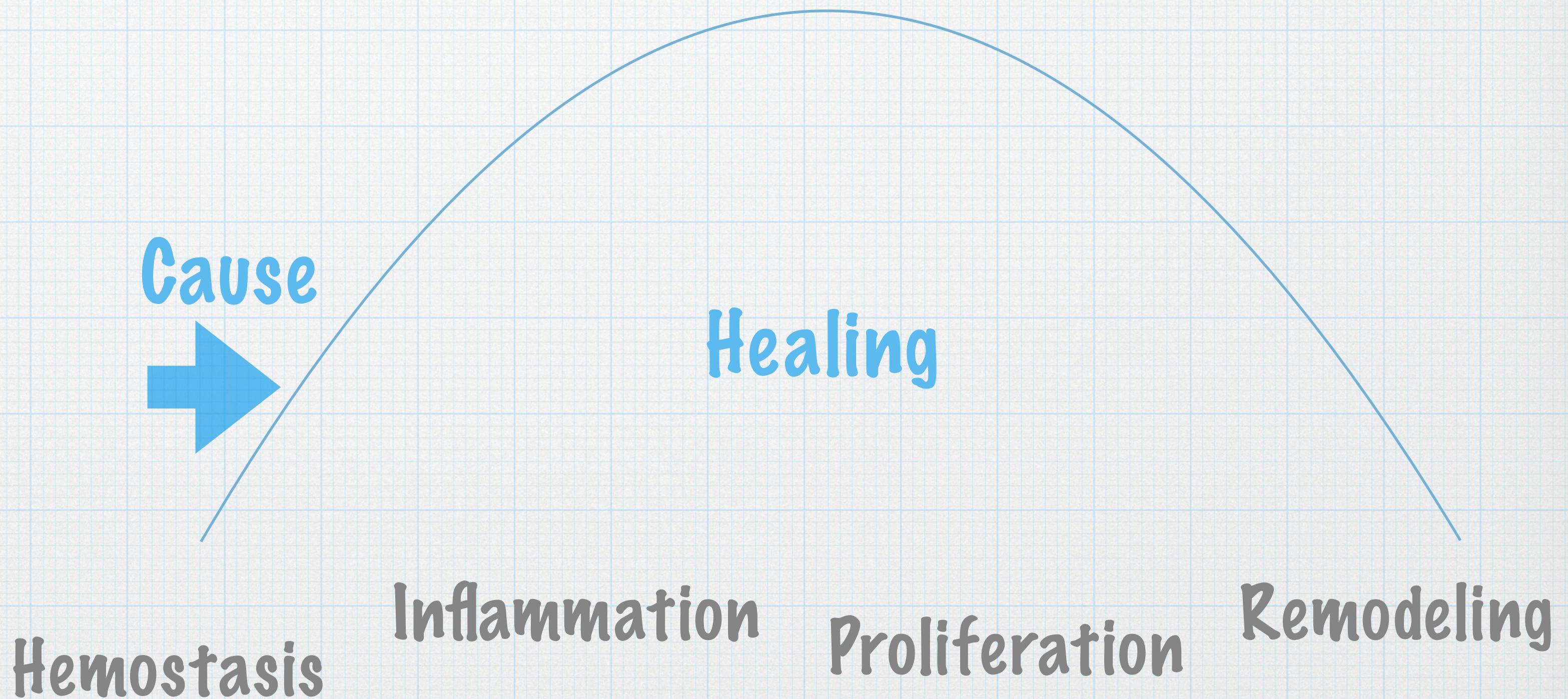
Viruses Fungi Candida

Mold/Mycotoxins

Toxins: Chemicals

Metals Radiation

Seed Oils Excess Sugar



# The 4 Stages of Wound Healing

The Causes of Chronic Disease Give Symptoms Via the Healing Cycle

## Chronic Disease Symptoms:

Hormones: Endometriosis, PCOS, Estrogen Dominance

Autism ADHD Fever Diabetes

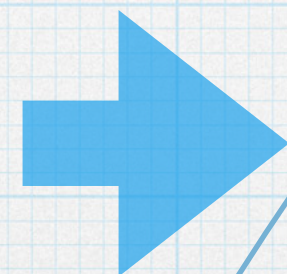
Cardiovascular Disease Allergies

Asthma Dementia Chronic Pain

Rashes Fatigue Depression

Autoimmune Diseases

Cause



Healing

Hemostasis

Inflammation

Proliferation

Remodeling

# The 4 Stages of Wound Healing

The Natural Biochemicals Trying To Heal. Each Can Be Blocked By A Drug!

## Biochemical

Cyclooxygenase  
Thromboxanes  
PD-L1  
Factor Xa  
Platelets  
Clotting Factors  
Fibrin

## Med

Acetaminophen  
Aspirin, NSAIDS  
5 Monoclonal Antibodies eg. Atezolizumab  
Xarelto, Eliquis  
Plavix  
Warfarin, Heparin  
Amicar

## Biochemical

B and T Lymphocyte  
Bradykinins  
Antibodies  
Interleukins-6,2  
Prostaglandins  
Cytokines  
Mast Cells  
Histamines

## Med

Cyclosporine, Rituximab  
Icatibant  
Steroids, Monoclonal Antibodies  
Tocilizumab, Aldesleukin  
Steroids, NSAIDS, Misoprostol  
Humira, Enbrel, Remicade  
Steroids, Xolair, Montelukast, et al  
Zyrtec, Claritin, Allegra

## Biochemical

FGF  
Endothelin-1  
VEGF  
TGF Beta  
TGF Alpha  
PDGF  
Interleukin-22

## Biochemical

Substance-P  
MMP-9  
Bradykinins  
Lipoprotein-a  
HDL  
Interleukin-10

## Med

Aprepitant, Nerve Blocks  
All Drug Trials Have Failed So Far  
Lisinopril, Enalapril  
Under investigation  
It's the only "good" biochemical  
No drugs.

## Med

Infigratinib  
Traveler, Letairis  
Cyramza, Eylea, Avastin  
Losartan  
Monoclonal Antibodies  
Gleevec  
Drug Research In Progress

Hemostasis

Inflammation

Proliferation

Remodeling

# The 4 Stages of Wound Healing

What does this all mean?

Chronic Infections:

Parasites Lyme

Yeast Chronic Bacteria

Viruses Fungi Candida

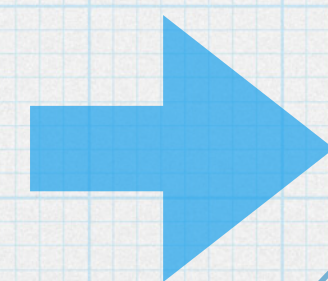
Mold/Mycotoxins

Toxins: Chemicals

Metals Radiation

Seed Oils Sugar

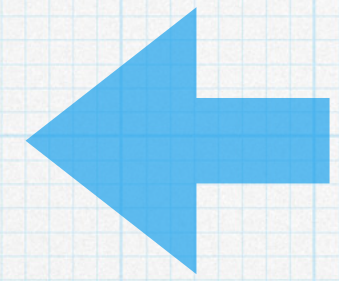
The more drugs you take here, the more expensive it is and the sicker you get. A main side effect is weaker immune system and polypharmacy.



Hemostasis Inflammation Proliferation Remodeling

# The 4 Stages of Wound Healing

The Natural Chemicals Trying To Heal But Each Can Be Blocked By A Drug!  
What Is Causing All This in Chronic Disease?



The more effective  
supplements/meds and  
nutrition you take  
here, the less  
expensive it is and the  
better you get.

Chronic Infections:

- Parasites Lyme
- Yeast Chronic Bacteria
- Viruses Fungi Candida
- Mold/Mycotoxins
- Toxins: Chemicals
- Metals Radiation

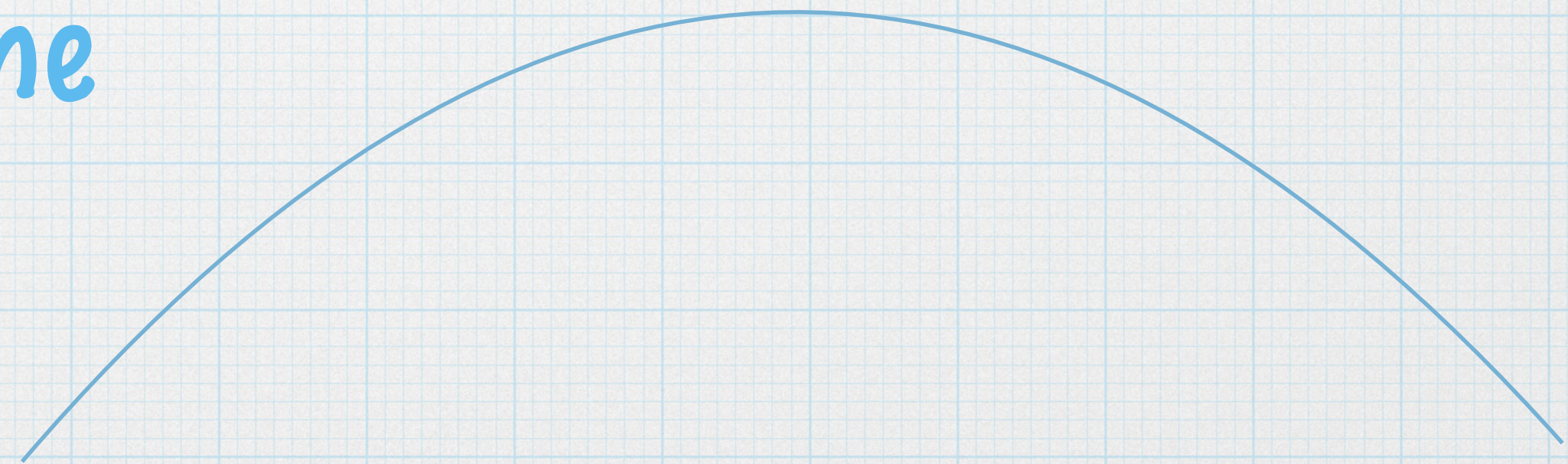
Seed Oils

Hemostasis

Inflammation

Proliferation

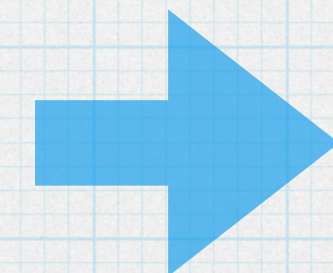
Remodeling



# The 4 Stages of Wound Healing

This battle between  
Natural healthcare and drugs is Biblical.

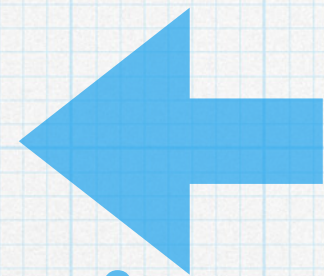
Medicine=Sorcery  
Pharmakeia=Poison  
Blocks Healing.  
Fake Help.  
Profits on Suffering.  
Takes Your Income  
Weekly Regardless of  
Outcome.



Hemostasis    Inflammation    Proliferation    Remodeling

# The 4 Stages of Wound Healing

This battle between  
Natural healthcare and drugs is Biblical.

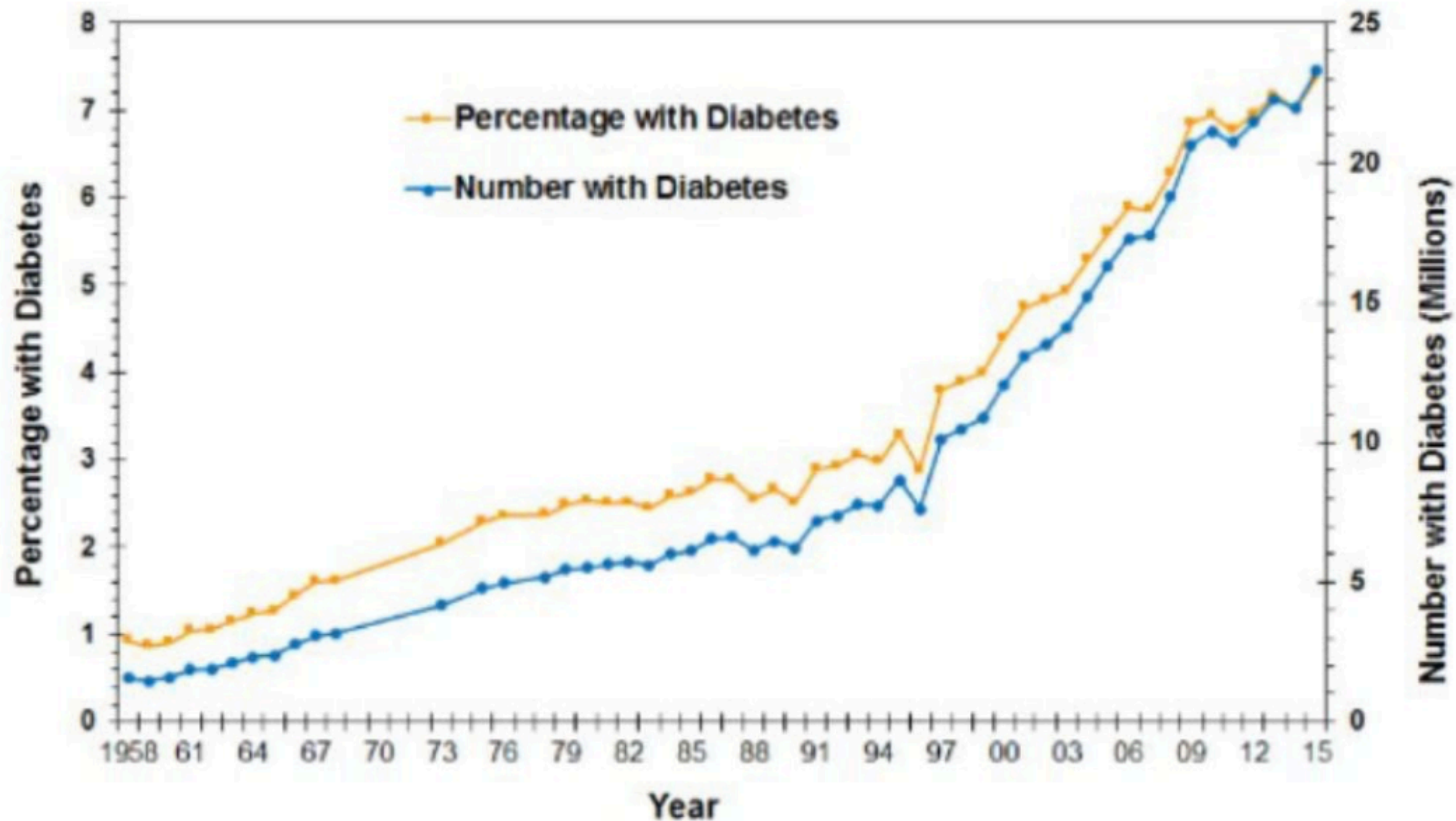


Chronic Infections:

- Parasites Lyme
- Yeast Chronic Bacteria
- Viruses Fungi Candida
- Mold/Mycotoxins
- Toxins: Chemicals
- Metals Radiation
- Seed Oils

Natural/Holistic  
Healthcare facilitates  
Healing, Removes  
Toxins and Pathogens.  
Profits on Health  
Improvement.  
Free Market  
Enterprise.

# Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958-2015



The diabetes epidemic in the United States from 1958 to 2015.



# **Low Carb, Keto, High Protein Highly Satisfying**

Darren Schmidt, D.C.

# John Ioannidis, MD Meta Researcher



- "Nutritional epidemiology is a scandal, It should just go to the waste bin."

"Most Research Findings Are False for Most Research Designs and for Most Fields"

- <https://commons.wikimedia.org/wiki/File:John Ioannidis 2015 00.21.jpg>

# Surveys Are Not Science 1/4

There needs to be an experiment where you do something to a group of people to cross the threshold from survey to science.

These survey studies are NOT science:

- Cohort
- Longitudinal study
- Cross sectional study
- Case study, Case Series, Case Control studies
- Observational studies
- Epidemiology
- Exploratory Epidemiology
- Meta-analysis of these surveys.

# Surveys Are Not Science 2/4

There needs to be an experiment where you do something to a group of people to cross the threshold from survey to science.

These studies ARE science:

- Controlled Clinical trial
- Randomized, Double Blind Placebo Controlled Trial
- Systemic Review of Only Controlled Trials.

That's it, there's no more!

# Surveys Are Not Science 3/4

There needs to be an experiment where you do something to a group of people to cross the threshold from survey to science.

These surveys are NOT science:

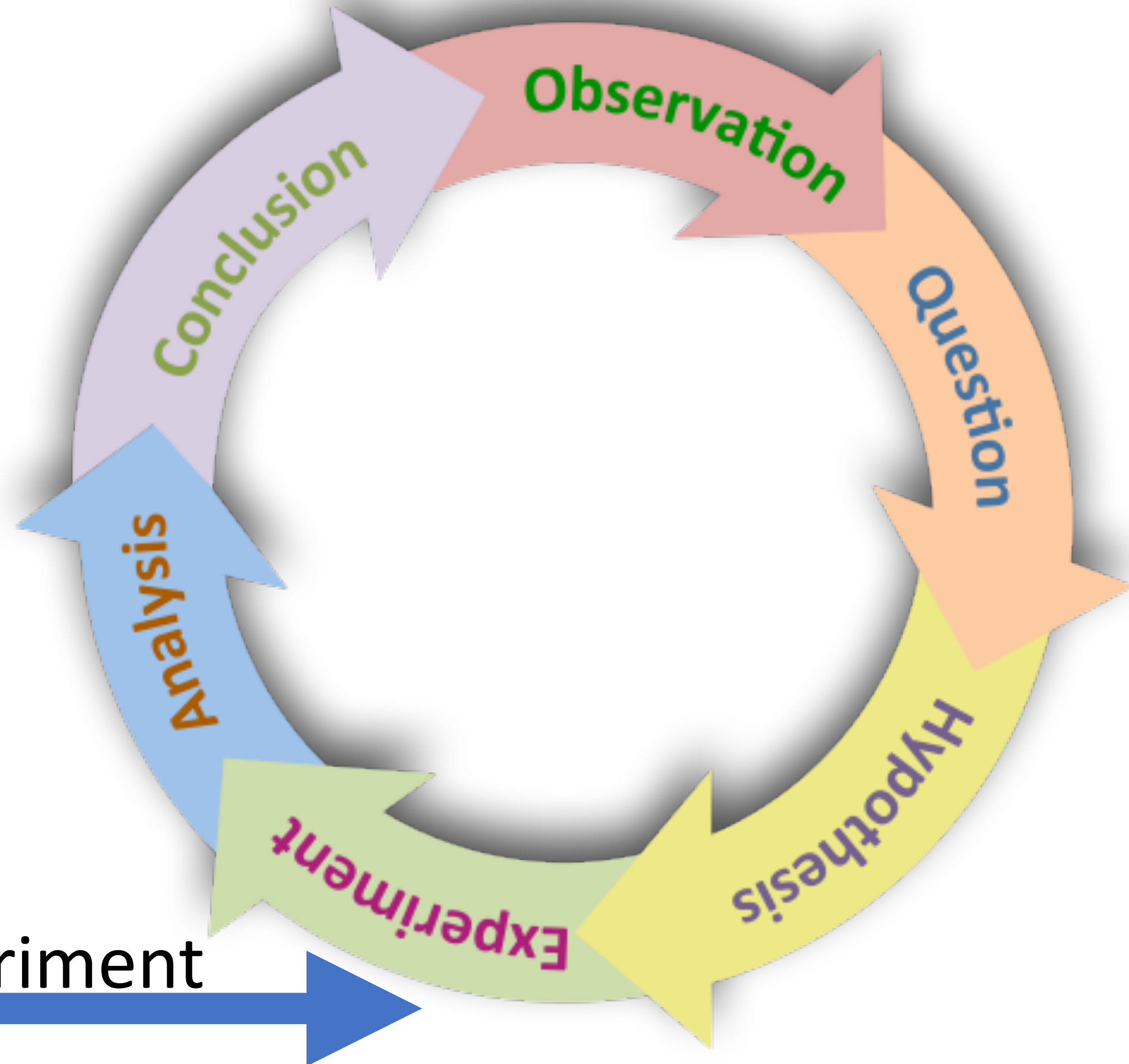
- Blue zones
- China study
- EPIC study
- NHANES
- Okinawans
- 7th Day Adventists
- Ancel Keyes 7 Country Study

# Surveys Are Not Science 4/4

There needs to be an experiment where you do something to a group of people to cross the threshold from survey to science.

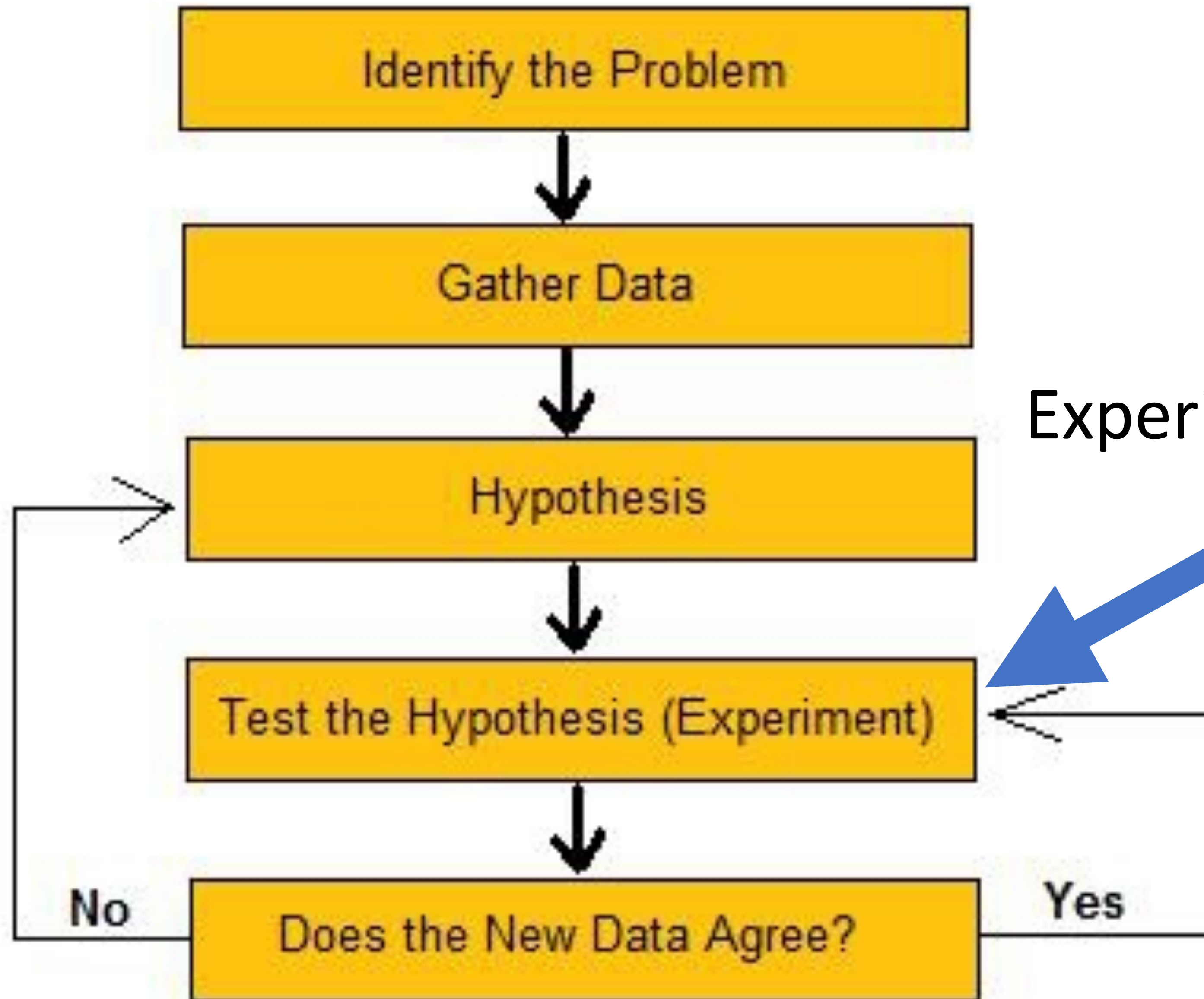
These studies ARE science:

- Virta Health Study
- Women's Health Initiative
- There are 1,910 Low Carb Clinical Trials- all are ignored by the USDA Dietary Guidelines Committee.
- Low Carb Beats Low Fat 94-7 in RCT's. See reference below.



The 4th step is an experiment to discover if the hypothesis is correct.

- [https://upload.wikimedia.org/wikipedia/commons/2/27/The\\_Scientific\\_Method\\_%28simple%29.png](https://upload.wikimedia.org/wikipedia/commons/2/27/The_Scientific_Method_%28simple%29.png)



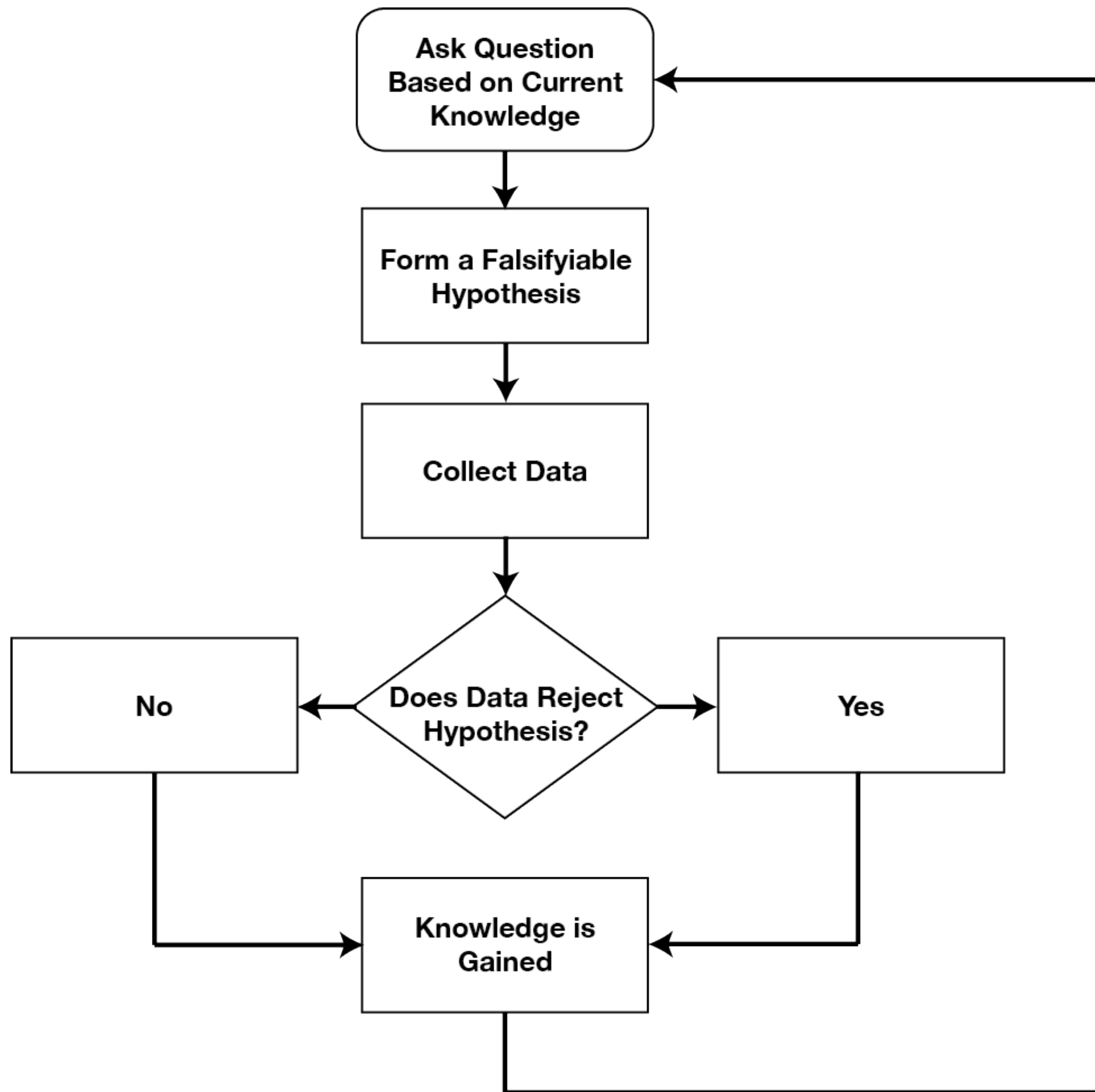
The 4th step is an experiment to discover if the hypothesis is correct.

- [https://upload.wikimedia.org/wikipedia/commons/c/c7/The\\_Scientific\\_Method.jpg](https://upload.wikimedia.org/wikipedia/commons/c/c7/The_Scientific_Method.jpg)



Experiment

The 4th step is an experiment to discover if the hypothesis is correct.



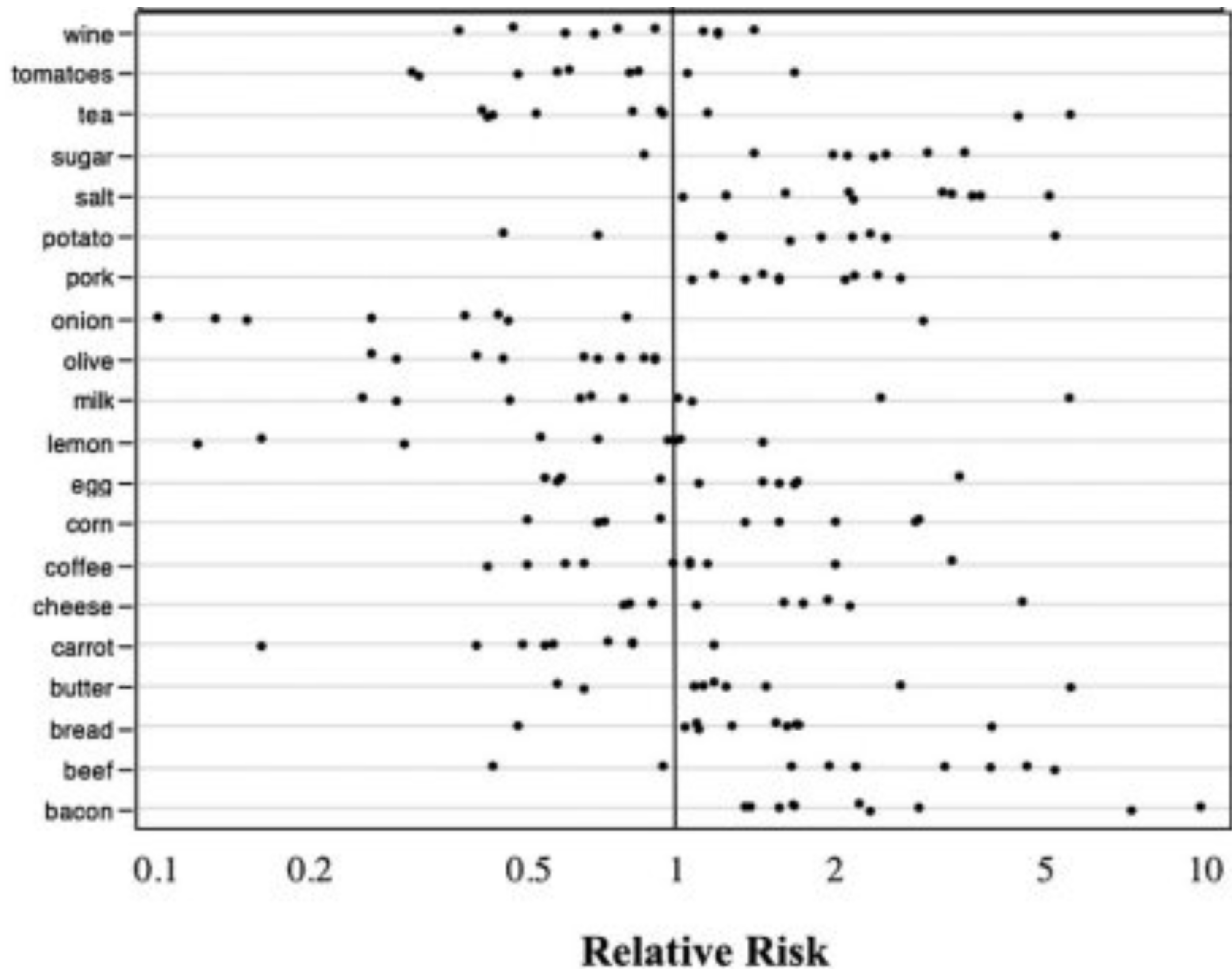
- [https://upload.wikimedia.org/wikipedia/commons/c/c3/Scientific\\_Method.png](https://upload.wikimedia.org/wikipedia/commons/c/c3/Scientific_Method.png)

No Experiment in this one!

:-)

# Guide to Reading Survey Studies

- RR = Relative Risk, OR = Odds Ratio, HR = Hazard Ratio
- 1.0 is neither harmful nor beneficial
- $<1.0$  is protective
- $>1$  is potentially harmful but must be...
- ... $>3$  or 4, then the next step is to send the hypothesis to an experiment to find out if it is true.
- Cigarettes RR = 100+



## Does Eating Plants Affect Cancer?

- NO! RR is 0.998

- Am J Clin Nutr. 2012;97(1):127-134. doi:10.3945/ajcn.112.047142

# Does Protein Intake Affect Cancer and Heart Disease?

- NO!
- RR for cancer is 0.98
- RR for heart disease is 0.99
- Includes plant and animal protein
- [https://www.bmj.com/content/370/  
bmj.m2412.long](https://www.bmj.com/content/370/bmj.m2412.long)

# Does Red Meat Cause Cancer or Heart Disease?

- Scientific Clinical Experiments say NO.

Effect of Lower Versus Higher Red Meat Intake on Cardiometabolic and Cancer Outcomes: A Systematic Review of Randomized Trials.

- <https://pubmed.ncbi.nlm.nih.gov/31569236/>

## Reduction of Red and Processed Meat Intake and Cancer Mortality and Incidence

A Systematic Review and Meta-analysis of Cohort Studies. “The possible absolute effects of red and processed meat consumption on cancer mortality and incidence are very small, and the certainty of evidence is low to very low.”

- <https://www.acpjournals.org/doi/10.7326/m19-0699>

- There are ZERO scientific experiments that shows meat causes any disease!

# Does Saturated Fat Cause Disease?

- 67,000 Men and Women in RCT's on Saturated Fats lasting 1 to 8 yrs
- **No** effect on MI, Stroke, CHD, CHD Mortality
- <https://www.jacc.org/doi/10.1016/j.jacc.2020.05.077>
  
- To see why the USDA DGAC ignores the science: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9794145/>

There is no robust evidence that current population-wide arbitrary upper limits on saturated fat consumption in the United States will prevent CVD or reduce mortality.

Several foods relatively rich in SFAs, such as whole-fat dairy, dark chocolate, and unprocessed meat, are not associated with increased CVD or diabetes risk.

# Does Cholesterol In Your Diet Cause Disease?

- The USDA DGAC found no relationship of eating cholesterol and the cholesterol in your blood.
- The removed the cap on cholesterol consumption in 2015.
- It was first postulated by the AHA in 1961 based on observational studies.

# Kidney Function and Protein Consumption



- High Protein diets result in higher GFRs.
- High Protein intake do not adversely influence kidney function on GFR in healthy adults.
- [https://academic.oup.com/jn/article/148/11/1760/5153345?  
login=false](https://academic.oup.com/jn/article/148/11/1760/5153345?login=false)

# Vegetables and Health

Dr. Georgia Ede, MD

- There are zero scientific experiments that show vegetables are healthy for humans.
- Dr. Ede redid her search in 2017 and still found zero.
- If you know of one, send it to me.

AHS12 Georgia Ede MD Little Shop of Horrors? The Risks and Benefits of Eating Plants



# Vegans = More Mental Illness. Solution= Keto

- 11 of 18 studies show greater mental illness in veganism:  
<https://doi.org/10.1111/nbu.12540>
- More depression in vegans (survey):
- DOI: [10.1093/nutrit/nuaa030](https://doi.org/10.1093/nutrit/nuaa030)
- Another study, a community survey:
- <https://doi.org/10.1186/1479-5868-9-67>
- Meat avoidance creates depression, anxiety, self-harm:
- <https://www.tandfonline.com/doi/full/10.1080/10408398.2020.1741505>

# The Ketogenic Diet for Refractory Mental Illness: A Retrospective Analysis of 31 Inpatients

Can eating a ketogenic diet improve symptoms of serious mental illness?



Clinique du Castiel  
Castelmarou, France

**28**

inpatients



Bipolar disorder  
n=12



Major depression  
n=6



Schizophrenia  
n=10

Ketogenic Diet



75-80% fat

15-20% protein

5% carbohydrate



**43%**

achieved  
clinical  
remission



symptoms  
improved in  
**100%**  
of patients



**64%**

of patients  
were discharged  
on **less** medication



**96%**  
of patients  
lost weight

# Hazard Ratios for Heart Disease

Type 2 diabetes = 10.2 (sugar)

Insulin resistance = 6.4 (sugar)

Past Pneumonia or Sepsis = 6.33 1st yr,  
1.87 5th yr

Metabolic Syndrome = 6.0 (sugar)

High CRP and Total Cholesterol = 5.0

Hypertension = 4.5 (sugar)

Plastic Toxicity 4.5

Obesity = 4.3 (sugar)

Smoking = 3.9 (cigarettes)

ApoB = 3.2 (sugar)

CRP = 2.9

NAFLD = 2.58 (Fructose)

Triglycerides = 1.8 (sugar)

TMAO = 1.55 (not  
significant)

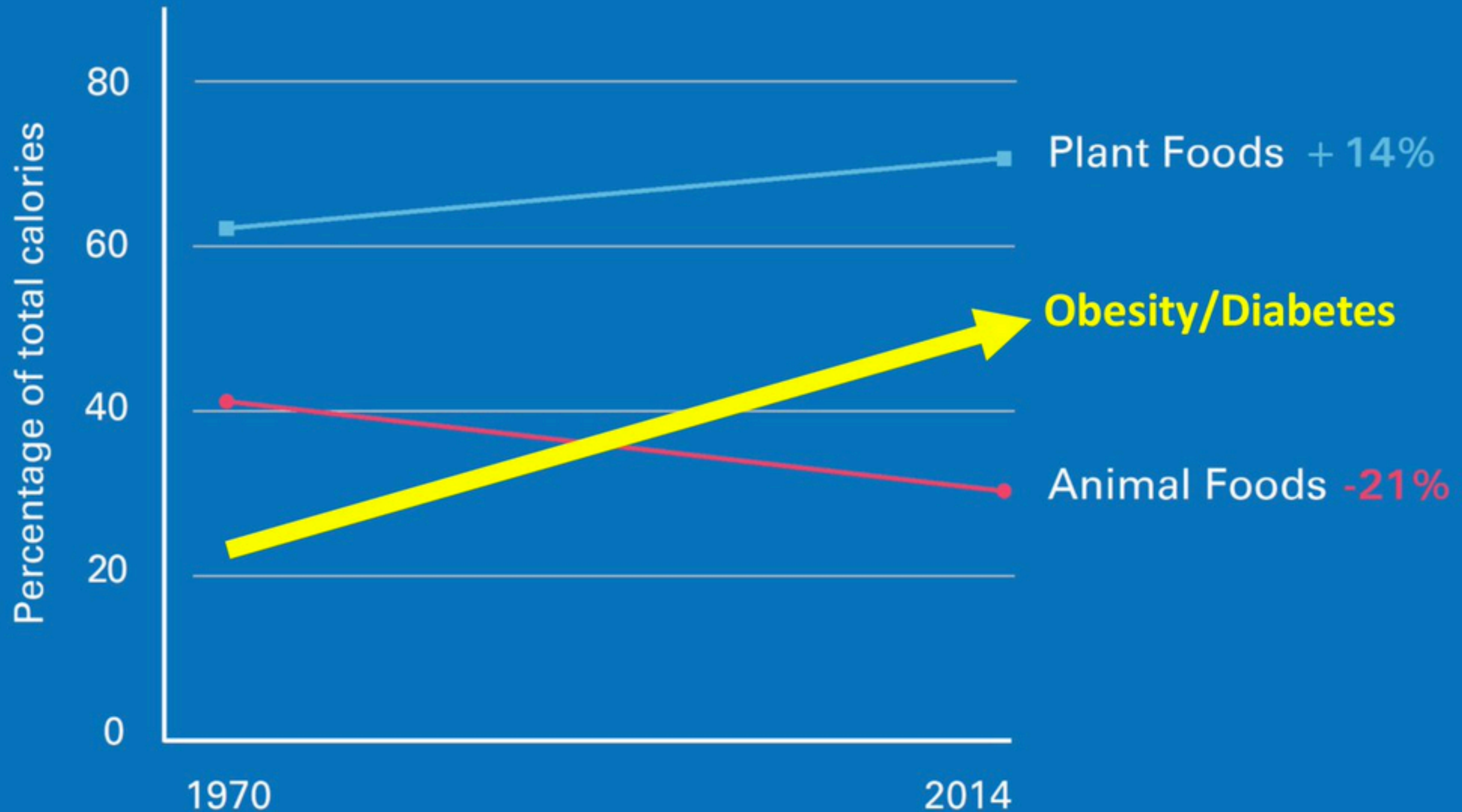
sdLDL = 1.3 (not significant)

Non-HDL 1.27

# FOOD CONSUMPTION IN U.S.

Plant-based vs. animal-based as % of total calories

1970-2014



# Red Meat and Diabetes

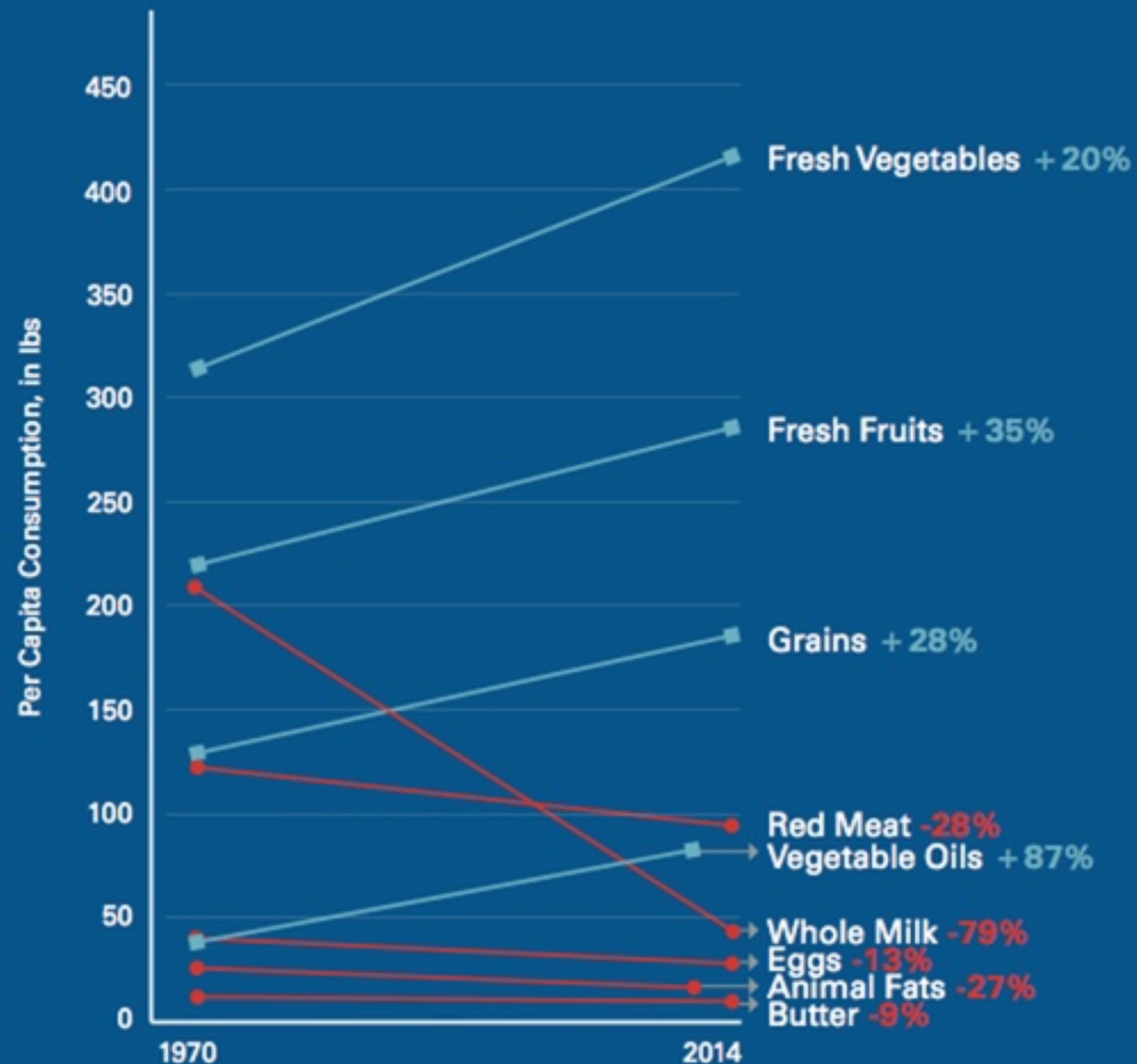
**Red meat availability (g/day/per capita) vs  
Incidence of Diabetes  
USA 1975 - 2015**



# AMERICANS HAVE FOLLOWED THE US DIETARY GUIDELINES

Food Availability

1970 - 2014



Red meat is down 28% in 50 years.

All animal products are down except chicken.

Seed Oils up 87%.

Grains, Fruit, Vegetables are all up.

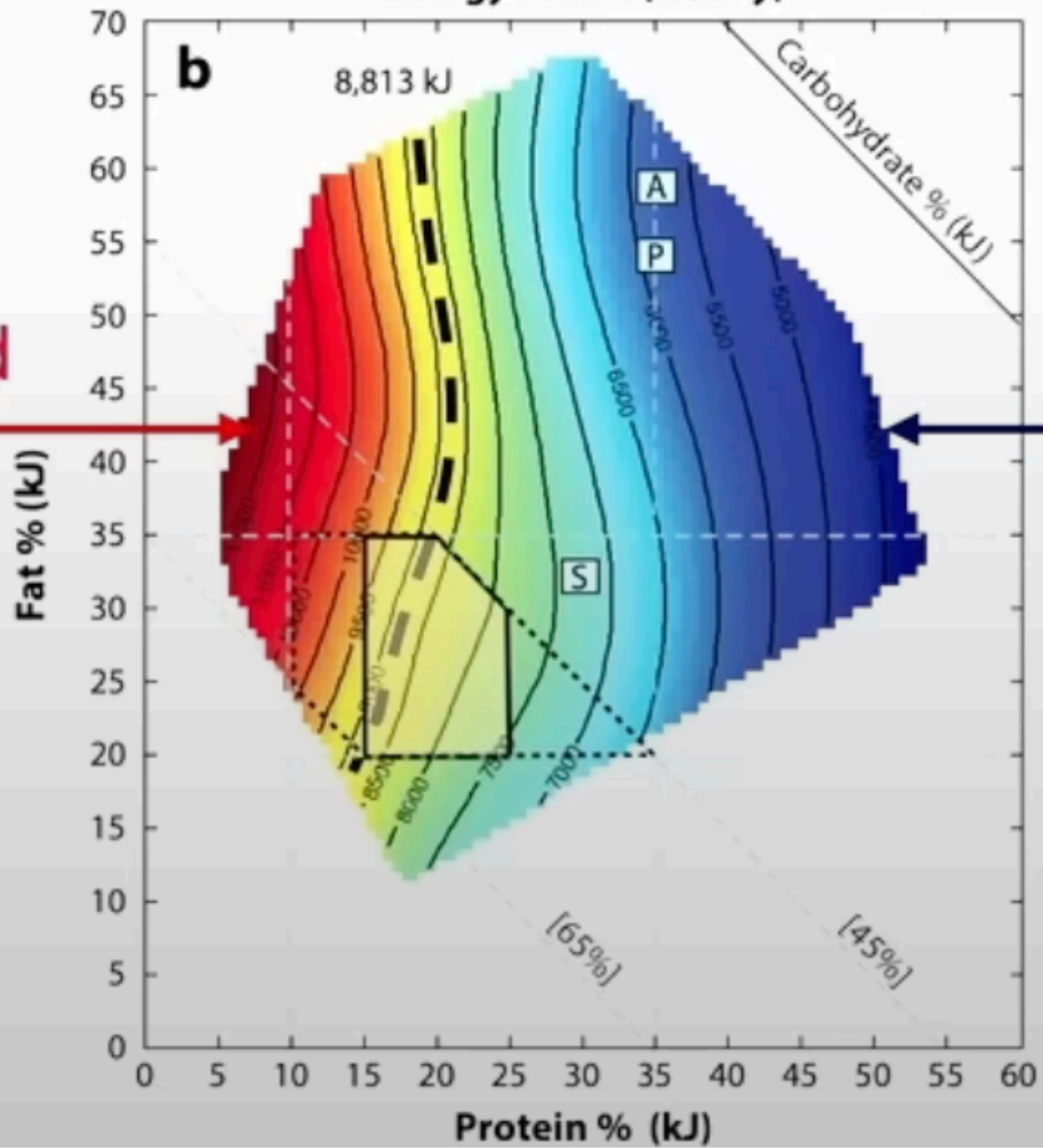
# Quality of Plants

- Why are pesticides not banned? Because the poisons made by the plants are 10,000X more abundant by weight than the poisons sprayed.
- 99.99% (by weight) of the pesticides consumed by the American public are **made by the plants themselves** as a defense mechanism. Dr. Bruce Ames
- Toxins:
  - Phytates, Oxalates, Cyanide, Tannins, Salicylates, Lectins, Nutrient blockers, Hormone Disrupters, Solanine
  - Brussels sprouts have 136 known poisons.

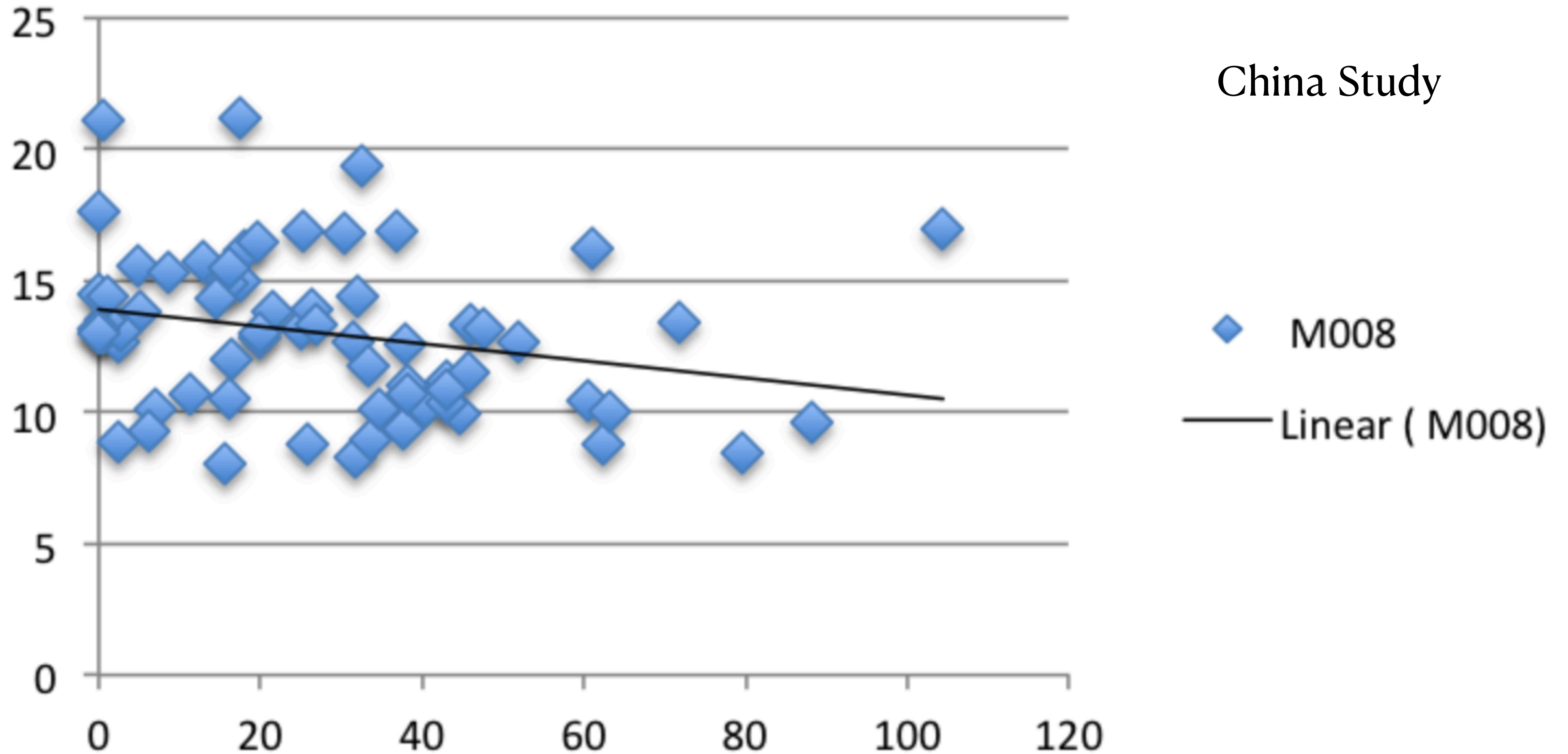
# Energy intake (kJ/day)

2,750 cal/d

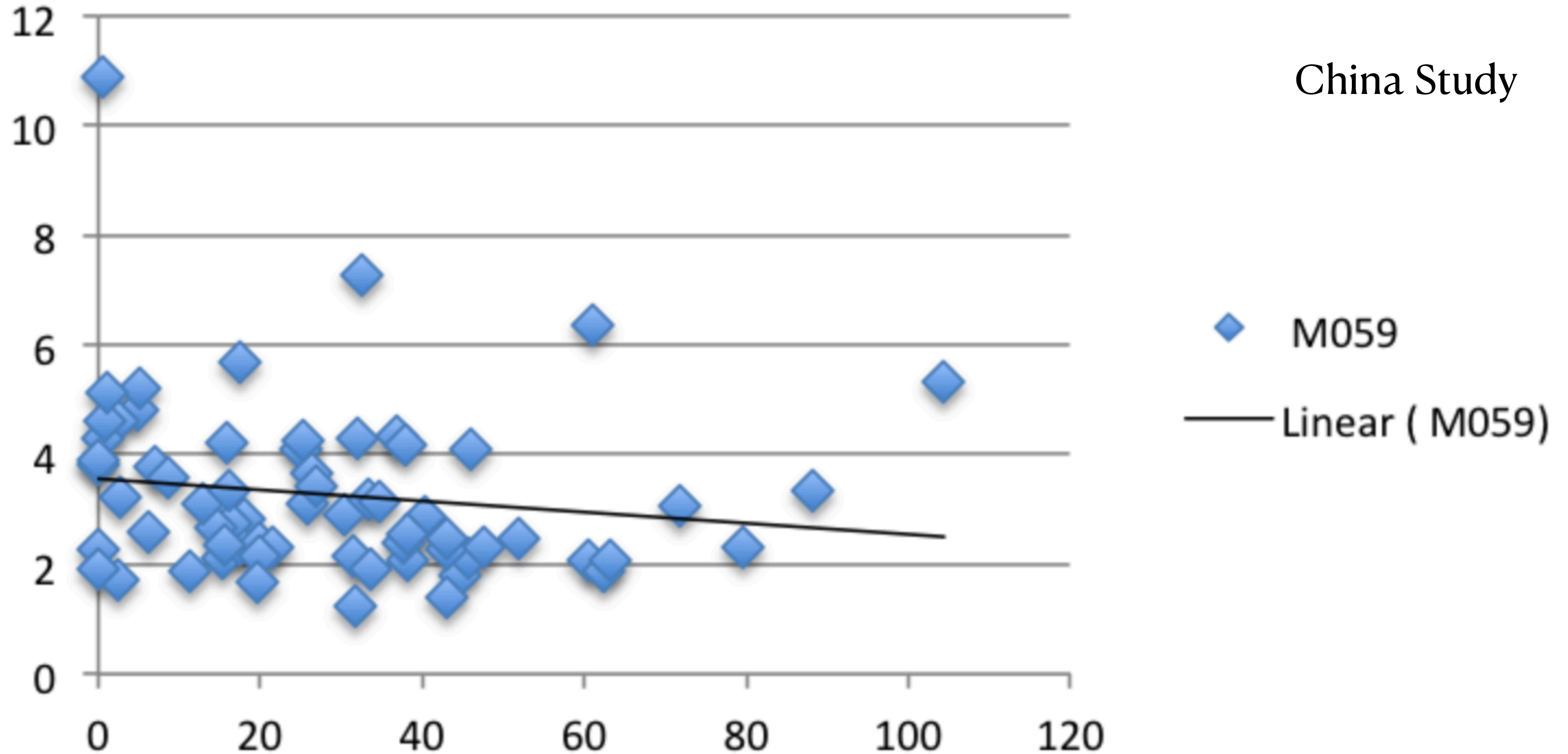
1,075 cal/d



# All Cause Mortality vs. Red Meat



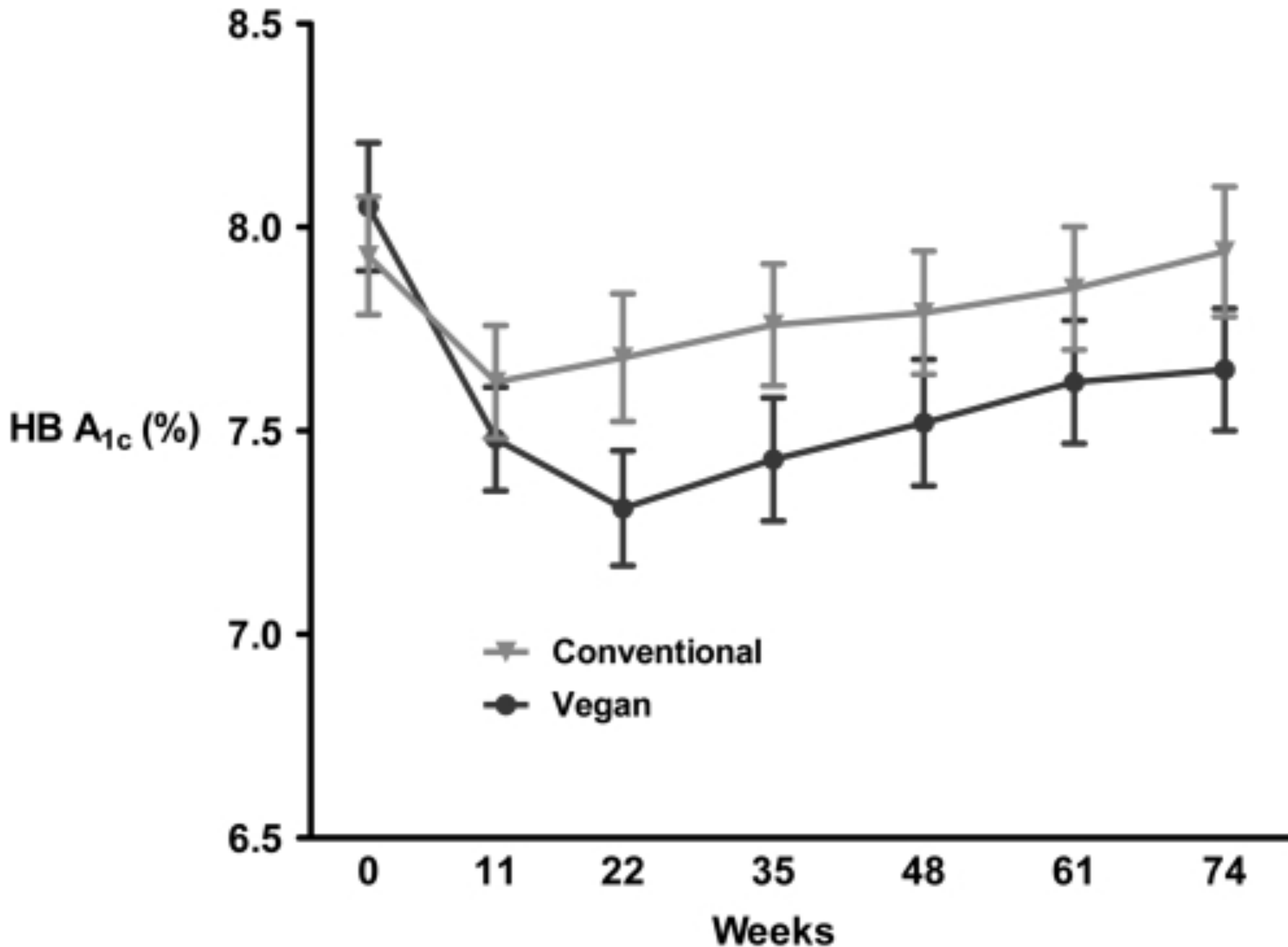
# All Cardiac Mortality vs. Red Meat



# Meat is a Health Food

- Meat = food, plants = medicine, drugs = poison.
- 35 Eggs per day for severe burns: <https://pubmed.ncbi.nlm.nih.gov/1191862/>
- The famous healers of the 1900's all used raw animal foods to cure disease.
- Dr. Mayo- the raw milk diet
- Dr. Gerson- raw, never frozen liver 3 glasses per day.
- Dr. Weston A. Price- cod liver oil combined with June butter.
- Aajonus Vonderplanitz. The Primal Diet. Raw, fermented meat and organs.
- A patient with Pancreatic Cancer 6 tumors, Ca19-9 at 10,400. She ate raw liver and red meat. 3 months later all tumors shrinking and ca 19-9 was 195.

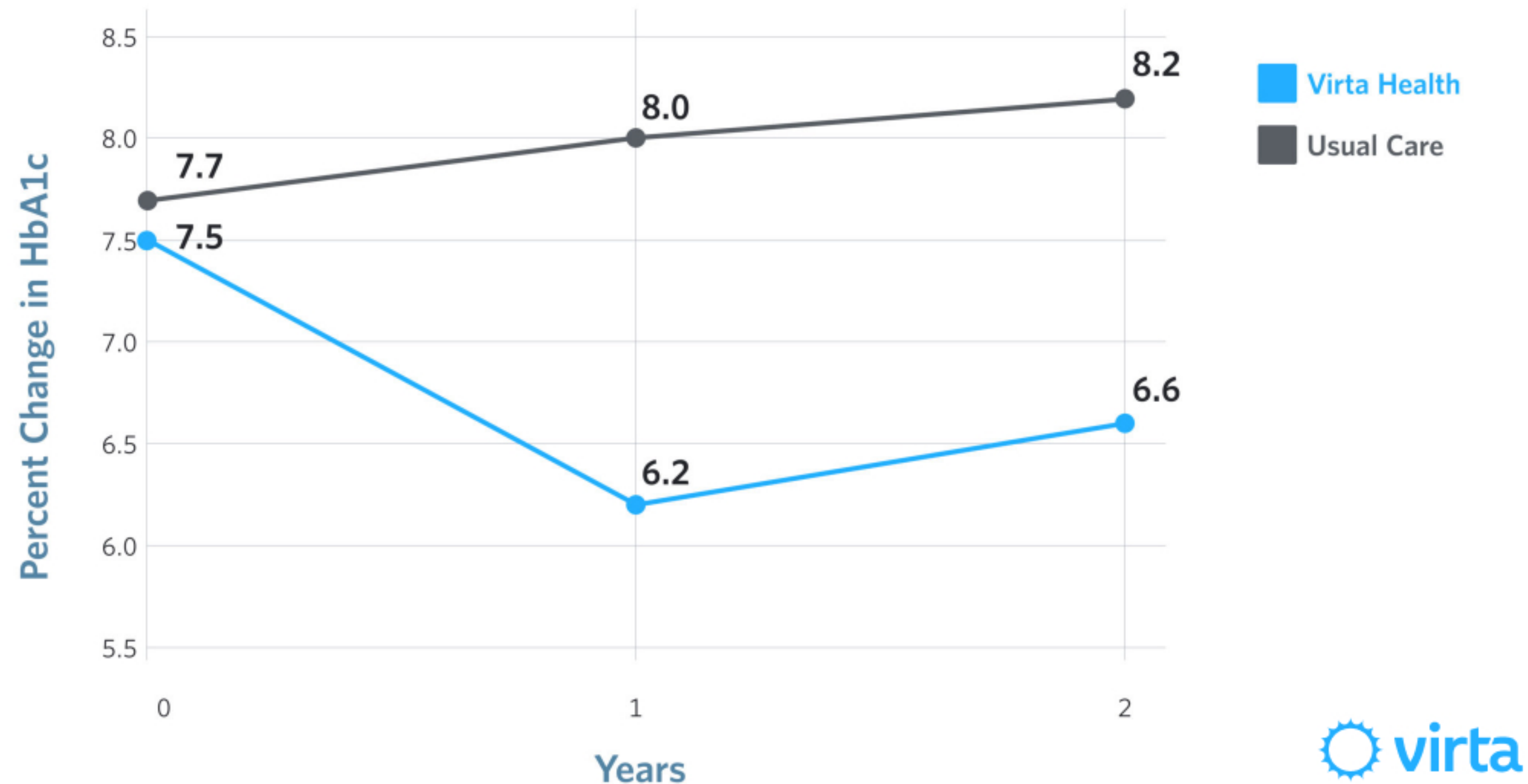
# Is Veganism Good for Diabetes?



- RCT by Vegan Neal Barnard, MD.
- A1C dropped 0.4 after 1.5 yrs
- <https://pubmed.ncbi.nlm.nih.gov/19339401/>

# Is Keto Good for Diabetes?

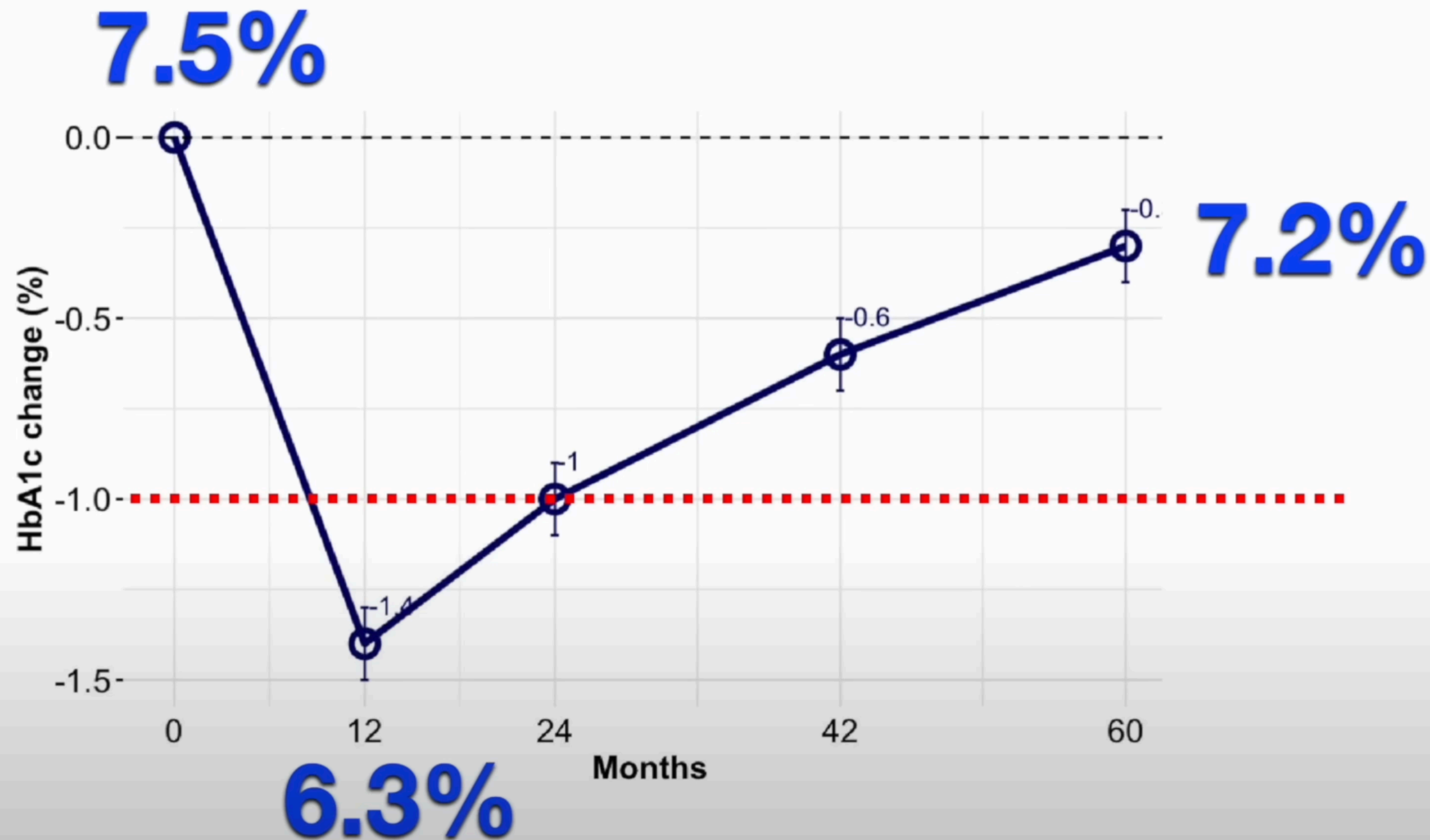
Average A1c over Time among Trial Completers



- RCT by Vista Health.
- A1C dropped 0.9 at 2 yrs
- <https://www.virtahealth.com/blog/2yr-t2d-trial-outcomes-virta-nutritional-ketosis>

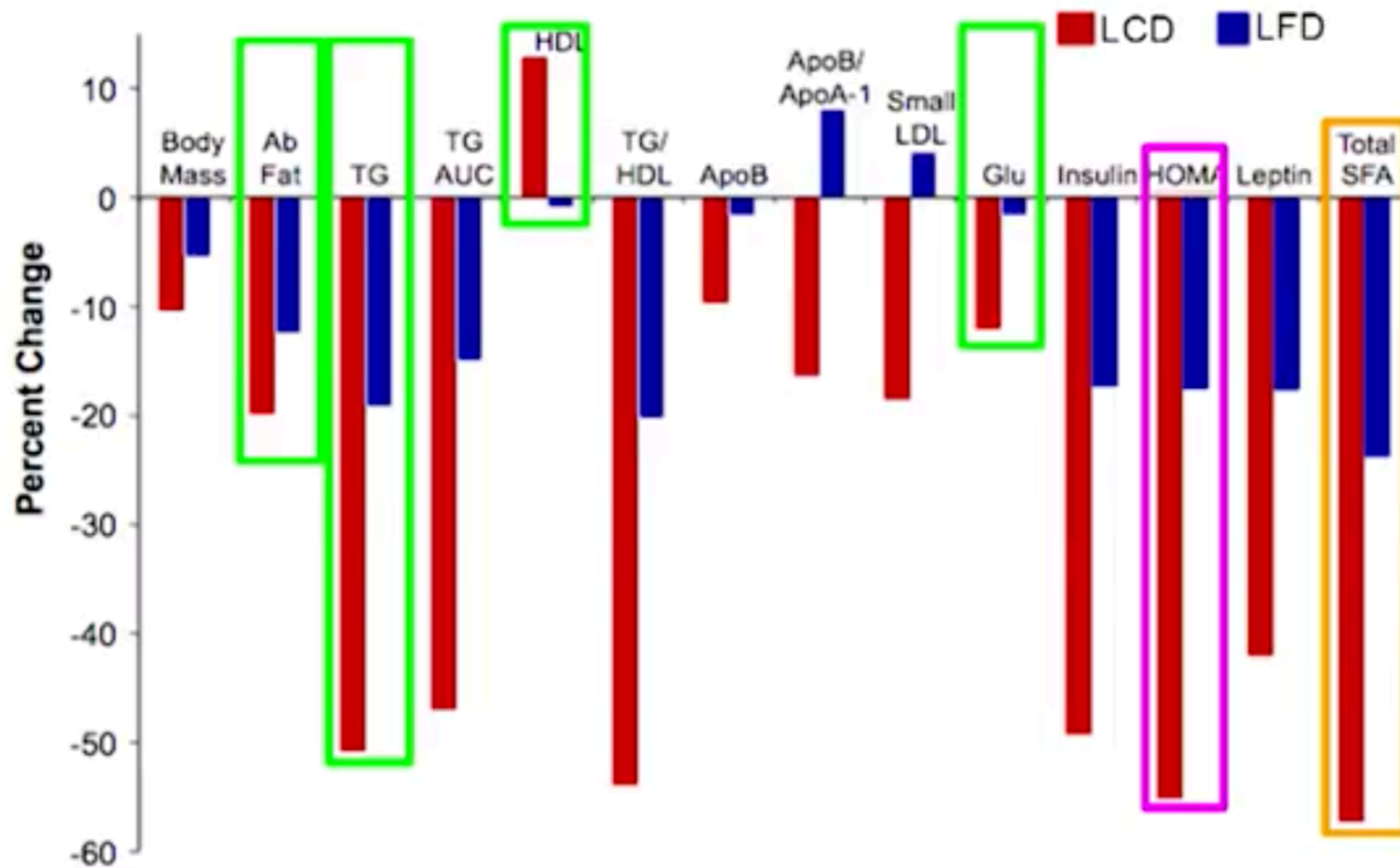


# Is Keto Good for Diabetes?



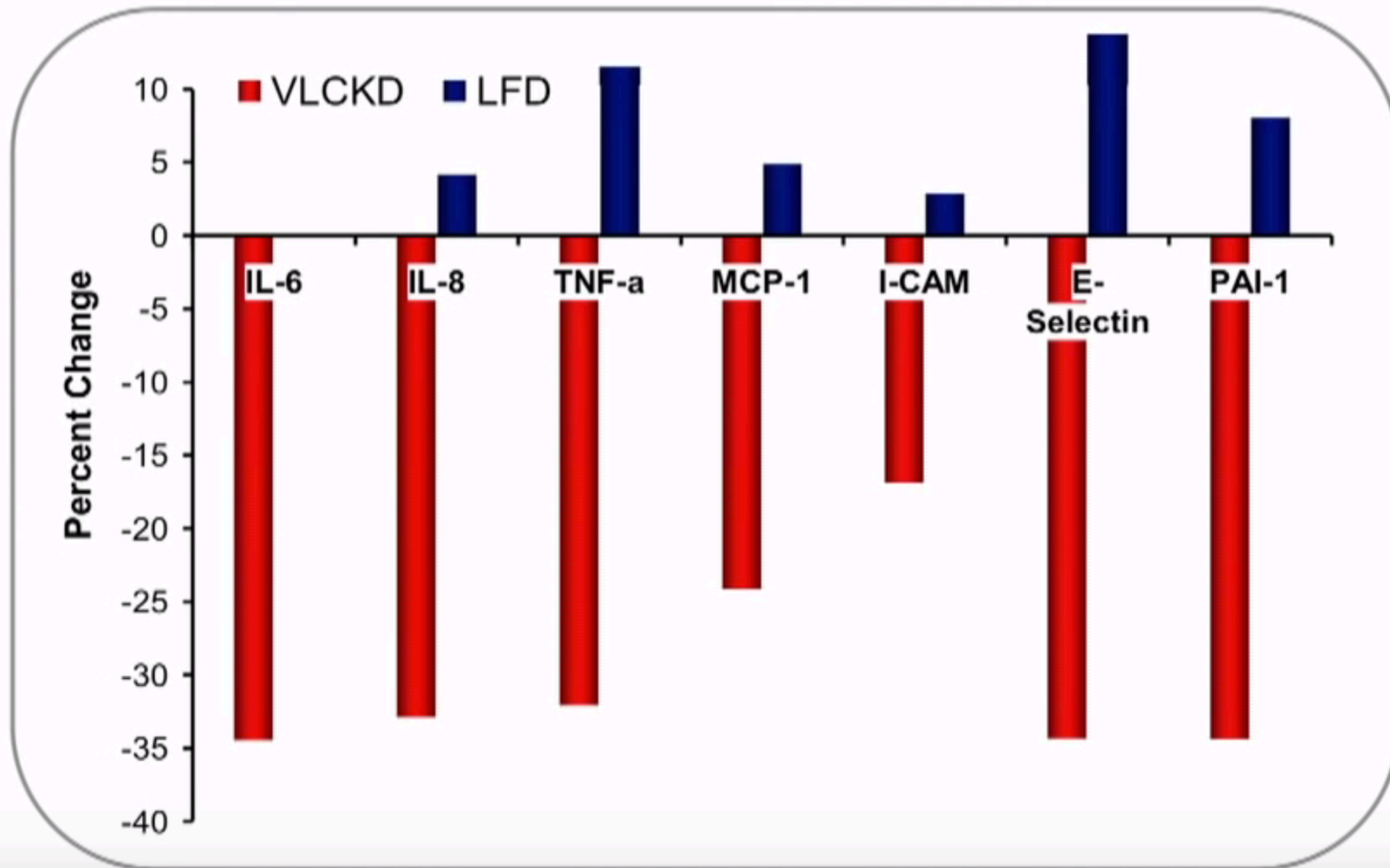
- RCT by Vista Health.
- 5 year update
- A1C rebounded at 5 yrs
-

# A ketogenic diet is superior at improving metabolic syndrome



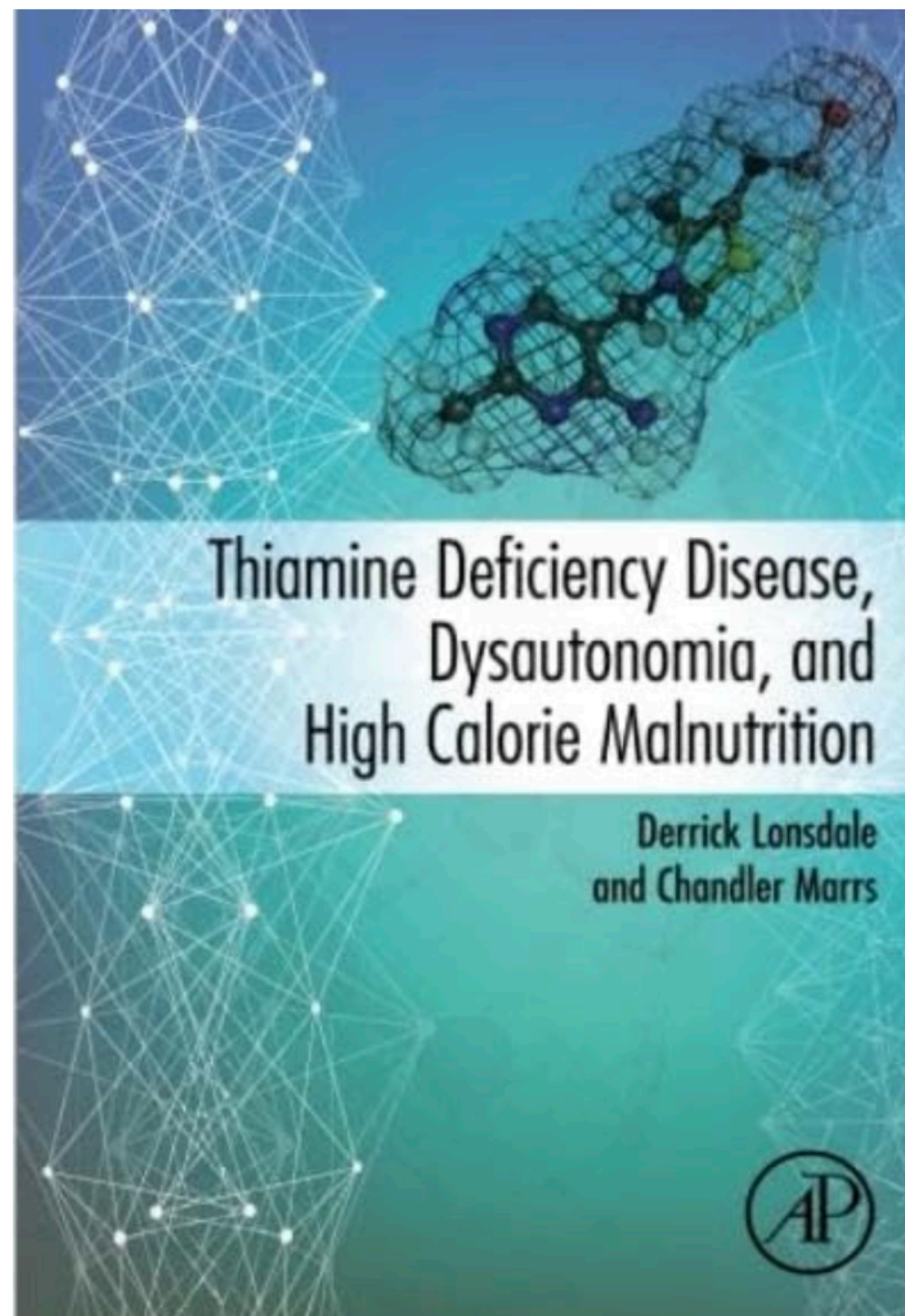
- All the markers of MetS improved, significantly better in LC than LF
  - Except BP (not shown)
- Marker of insulin resistance (HOMA-IR) improved dramatically for LC than LF
- Total SFA was dramatically lower in LC than LF in serum, even though dietary intake was 3x higher
  - Likely because patients are so much better at oxidizing it

# A ketogenic diet has anti-inflammatory effects



# Thiamine

# The Best Resources on Thiamine



- Thiamine Deficiency Disease, Dysautonomia and High Calorie Malnutrition. 965 References
- Derrick Lonsdale, MD
- Chandler Marris, PhD

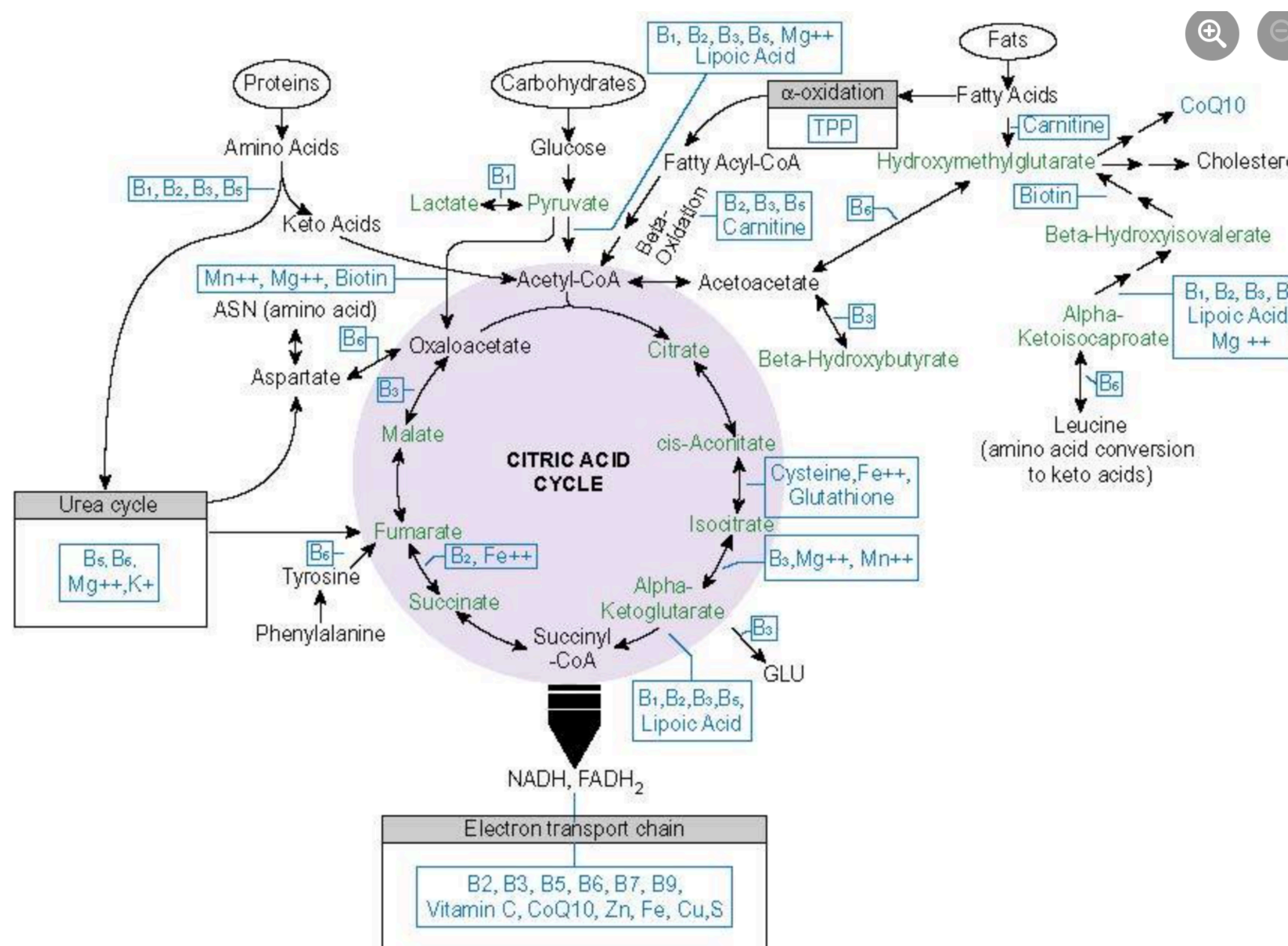
EONutrition on Youtube

Hiding in Plain Sight: Modern Thiamine Deficiency

<https://www.mdpi.com/2073-4409/10/10/2595>

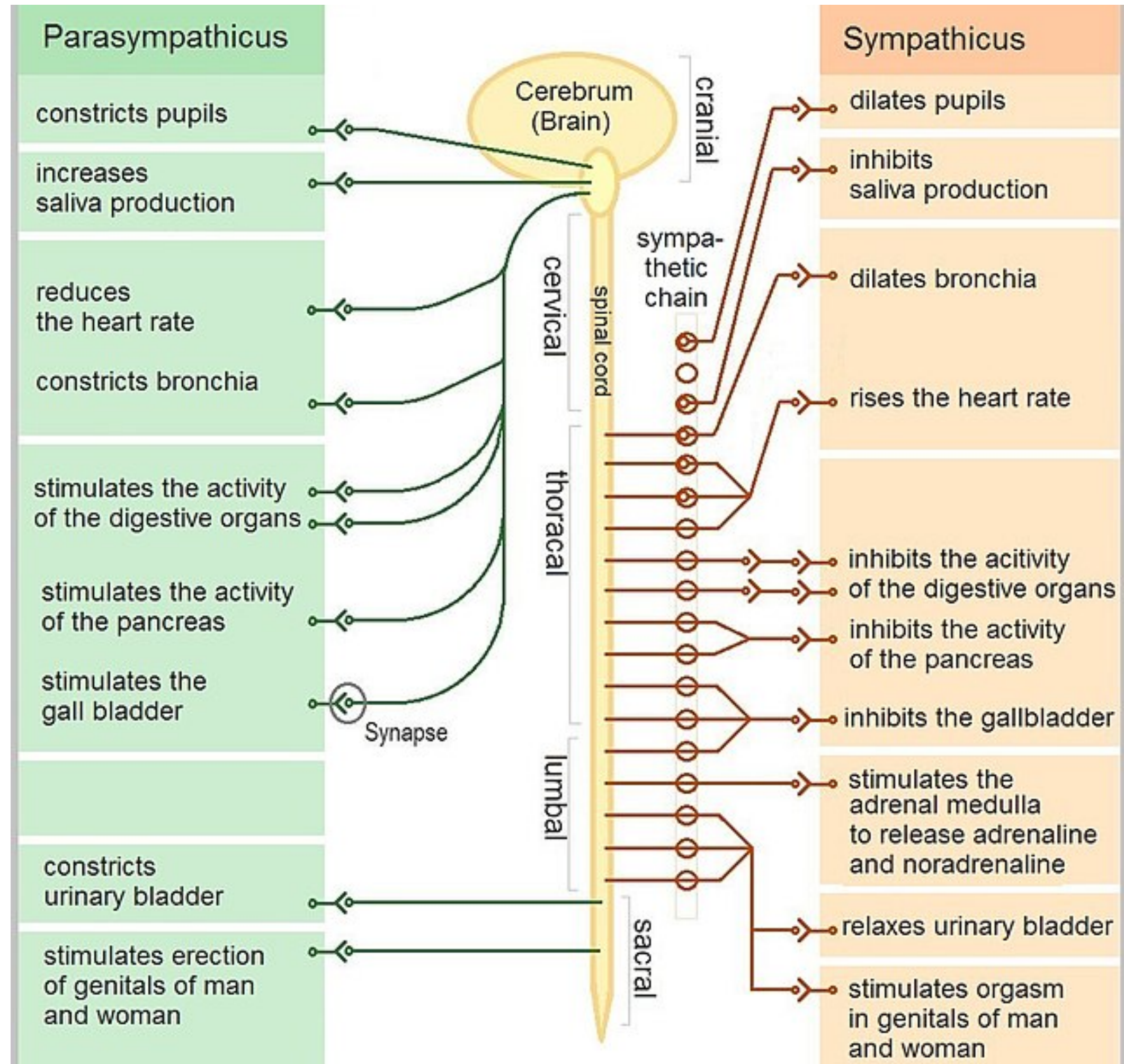
I have 6 books from 1931 to 1944 with similar information.

# What B1 Does Biochemically:



- B1 is needed for Glycolysis
- Brings fuel (pyruvate) into the mitochondria
- Converts Pyruvate to Acetyl-CoA to...
- ...Start the Krebs's Cycle
- Used twice more in Krebs's cycle.
- Converts Amino Acids to Acetyl-CoA
- Converts Lactate to Pyruvate stopping lactic acidosis.
- Needed to make Acetylcholine, Serotonin, Amino Acids, Cholesterol, Myelin, Fatty Acids

# What B1 Does Neurologically:



- B1 is the best nutrient for nerve cells
- B1 increases oxygen to the nerves
- B1 needed for neurotransmitters
- Benfotiamine for peripheral neuropathy
- TTFD for the brain

# How Does B1 Heal the Body, Heart, Lungs?

## Otto Warburg Nobel Lecture

- B1 transfers O<sub>2</sub> from blood to cells
- B1 increases oxygen to the nerves
- B1 increases CO<sub>2</sub> production. Bohr Effect

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Nobel Lecture, December 10, 1931

## The Oxygen-Transferring Ferment of Respiration

[Read the Nobel Lecture](#)

PDF 159 KB

# B1 Deficiency Causes Body Symptoms...

- Insulin Resistance, T2 Diabetes
- Atherosclerosis
- Fatty Liver
- High or Low Blood Pressure
- High or Low Pulse
- Apnea
- Shallow breathing
- Yawning, Sighing, Air Hunger
- Fatigue
- Fibromyalgia
- Swollen ankles, Legs
- Anxiety
- Dyslipidemia
- Muscle Weakness
- Completely White or Blue Nails
- Exercise Intolerance

# B1 Deficiency Causes Nervous Symptoms...

- POTS
- Anxiety
- Depression
- Peripheral Neuropathy
- Poor Vision
- Ataxia
- Aphonia
- Toe Walking
- Bad Thoughts
- Dizziness
- Coma
- Dysautonomia
- Temperature Dysregulation
- Hyper/Hypo Sweating
- Insomnia
- Dissociative Disorder
- Lack of Focus
- ADD/ ADHD
- Poor Navigation
- Restless Legs

# B1 Deficiency Causes GI Symptoms...

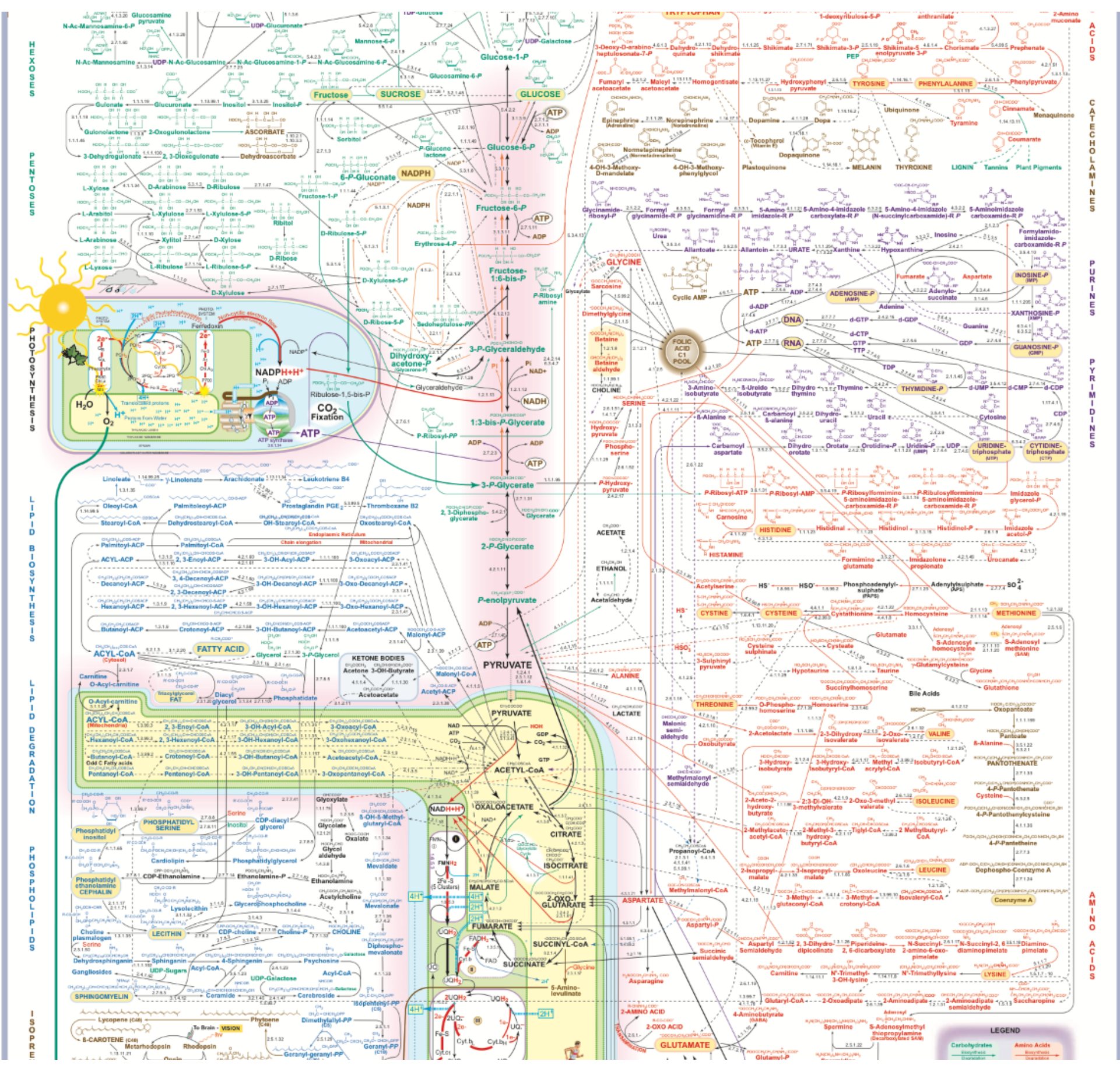
- Dysbiosis
- GERD
- Bloating
- SIBO
- Acid Reflux
- Heartburn
- Leaky Gut
- Hypo/Hyperphagia
- IBS, IBD
- Constipation
- Diarrhea
- Food Allergies, sensitivities

# B1 Deficiency Causes End-Of-Life Symptoms...

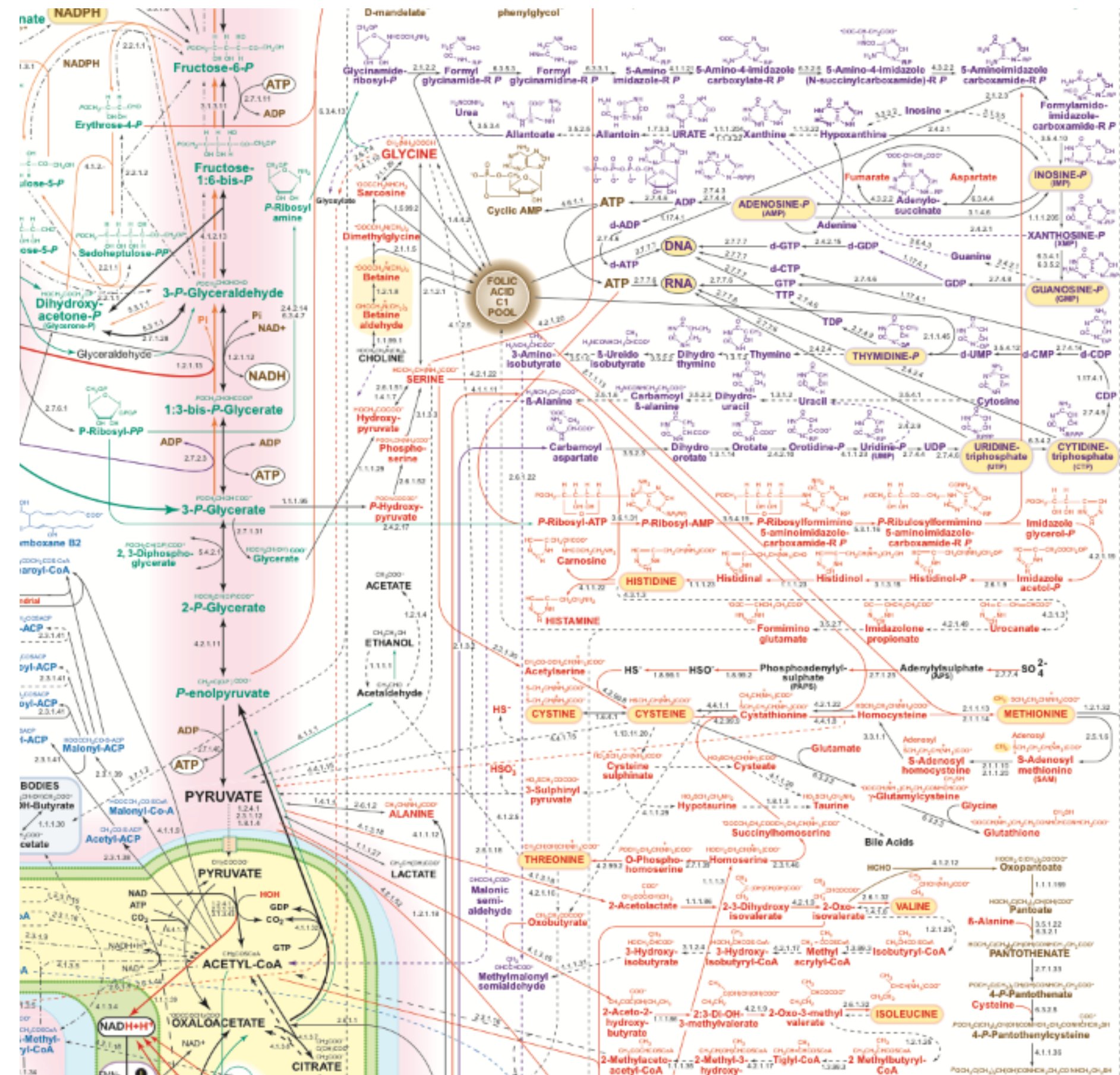
- Alzheimer's
- Parkinsons
- Congestive Heart Failure
- Heart Attack
- Coma
- Cachexia
- Lactic Acidosis
- Beri Beri
- Dysautonomia
- Insomnia
- Dissociative Disorder-  
Sensation of Leaving  
Body
- Sudden Infant Death
- Death

# Let's Define Some Words 1/4

- Glycolysis- Breaking down sugar to create fuel. This inefficient cycle happens outside of the mitochondria and it makes lactate and other waste products that can feed the death cycle.
- The pink part (See next slide)



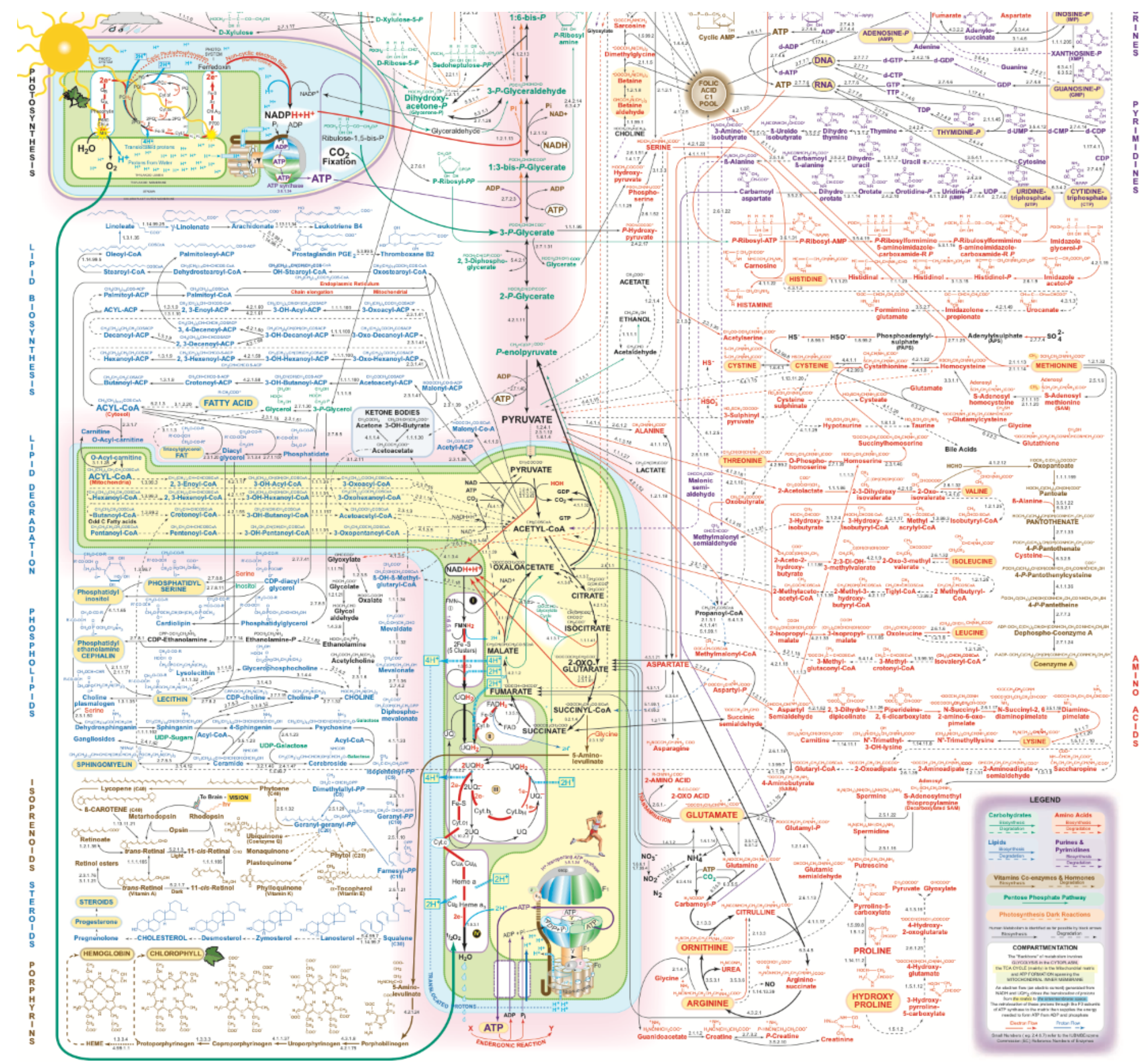
# Let's Define Some Words 2/4



M I N E S  
P U R I N E S  
P Y R I M I D I N E S

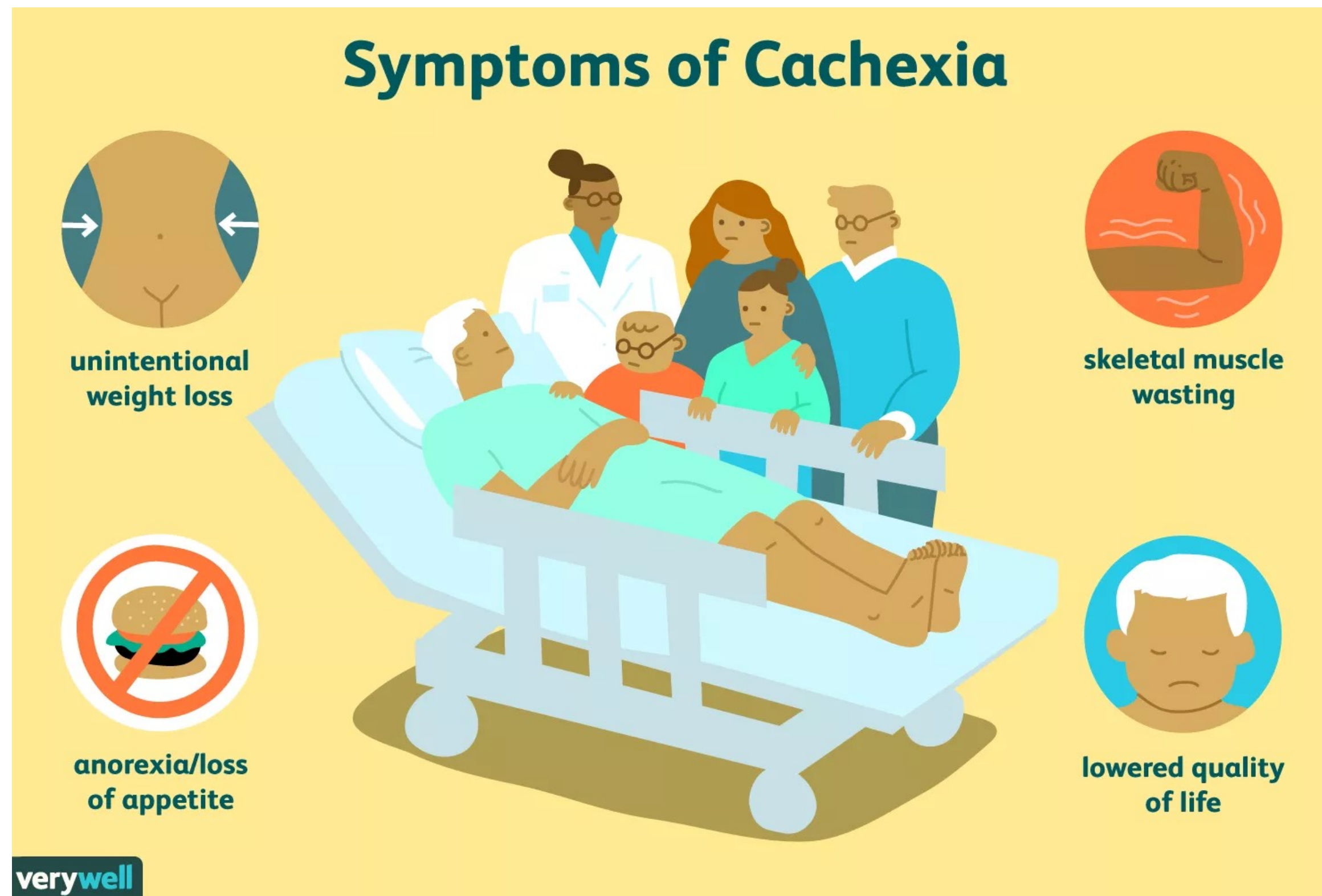
- Lactic Acidosis - Fermenting lactate outside of the mitochondria. The Lactic Acid Cycle is the Death Cycle.
- To the Right of Glycolysis, the pink part.

# Let's Define Some Words 3/4



- Oxidative Phosphorylation- Healthy mitochondria making ample ATP with no waste products while using oxygen.
- The opposite of Lactic Acidosis
- Yellow part.

# Let's Define Some Words 4/4



- Cachexia - Caca= poop. Exhia= to hold onto. Inability to release Co<sub>2</sub>. Loss of appetite, losing weight even when eating sufficient calories. The last stage of lactic acidosis before death.
- B1 deficiency makes you feel full
- B1 deficiency prevents digestion of fats, proteins, carbs, alcohol.

# Dysautonomia: Dysfunctional Autonomic Nervous System

- Stomach churning, esophageal and intestinal peristalsis (Vagus nerve) and metabolic rate.
- Diaphragm breathing (C3-5)
- Urinary and Gall Bladder contraction
- Fluid Production: Saliva, Sweat, Tears
- Body Temp Regulation
- Heart: Pulse, BP, Blood Vessel width
- Sexual function
- Urination and Defecation
- Pupils
- Reflexes: coughing , sneezing, vomiting, swallowing.
- Throat and glottis tone

# Similar Conditions/ Names of Lactic Acidosis, Cachexia

- Sarcopenia - a pathological state of muscle loss or muscle wasting.
- Protein-Energy Wasting
- Frailty
- Malnutrition-Inflammation Complex Syndrome (MICS) - a pathological state of a combination of measurable markers of inflammation (GlycA, Small Dense HDL Particles) and Malnutrition (leucine, isoleucine, valine, citrate) that can be measured.
- Examples: Vegans, Older people, Sick people with chronic infections or toxins.
- It's a spectrum of mitochondrial dysfunction from health to death.

# What Causes B1 Deficiency?

- Stress
- Using your brain or body eg. study, exercise beyond a caveman.
- Exercise makes B1 deficiency and symptoms worse.
- Tannins from tea and coffee
- All Drugs and All Alcohol
- Aspergillus mycotoxins
- Parasites
- Poor Digestion Capabilities. Misaligned Bite, Dentures, Poor GI function.
- High carb eating. Any diet over 55% calories from carbs.
- High Fat Classical Keto Diet

## 3 Main Forms of Thiamine

- B1 salts: Thiamine Hydrochloride, Thiamine Mononitrate
- 5-10% absorbable. Anyone can handle.
- Benfotiamine
- Fat Soluble great for Body, Peripheral Neuropathy, CV, O2 transfer.
- TTFD
- Fat Soluble great for Brain, ANS! Crosses the blood brain barrier.



# Dosing

- B1 salts: Thiamine Hydrochloride, Thiamine Mononitrate
- 50 mg to 7,000 mg/day
  
- Benfotiamine
- 50 mg to 1,500 mg/day
  
- TTFD
- 50 mg to 500 mg/day

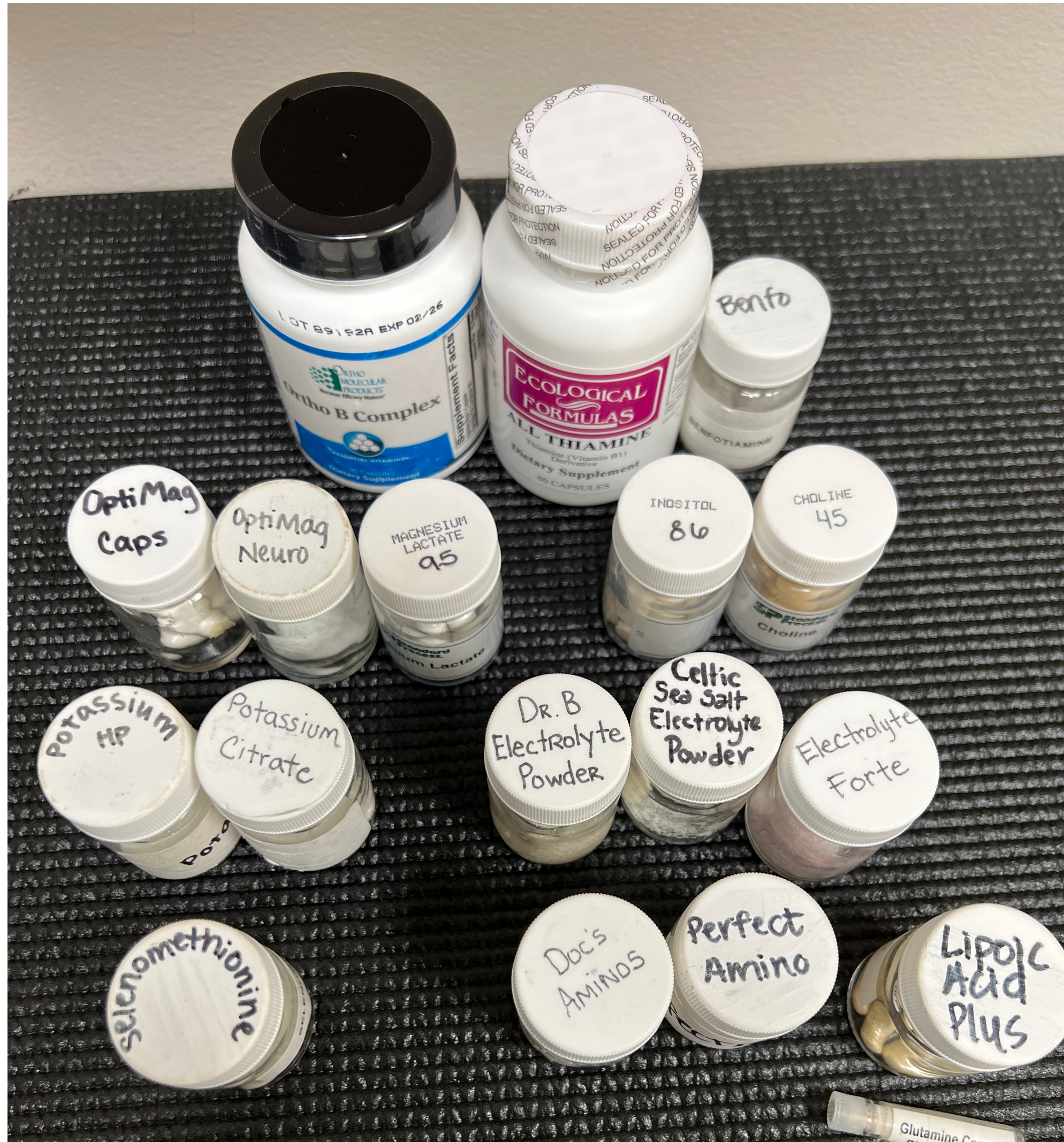
# Ways to take it

- Pills
- Patches
- Shots - Two 50 mg shots/week = 1,000 mg/day of pills.
- IV

# Duration

- B1 salts: Thiamine Hydrochloride, Thiamine Mononitrate
- Everyday for maintenance. My 4 friends have taken 100-700 mg/day for 20 yrs.
  
- Benfotiamine
- 6 months to replenish deficiency. Or forever if dependent.
  
- TTFD
- 6 months to replenish deficiency. Or forever if dependent.

# Support Products



- Once the Mitochondria are Working, they probably need cofactors.
- Magnesium, Potassium, Selenium, Amino Acids, Electrolytes, Lipoic Acid, Glutathione, all the other B vitamins (2,3,5,6,7,9,12), choline, inositol, iron, Parotid PMG, BC-ATP

# Medicine Relies on B1 Deficiency To Exist

- SPECIALTIES:

- Cardiology
- Endocrinology
- Gastroenterology
- Pulmonology
- Psychiatry
- Neurology

- DRUGS:

- Acid Reflux Drugs
- Antidepressants
- BP drugs
- Diuretics
- Anxiolytics
- Pain Killers
- Antipsychotics
- Oxygen tanks, CPAP

# Drugs That Cause a B1 Deficiency

- All of Them

- All of Them

- All of Them

- All of Them

# What To Muscle Test (Demo)

- Test **at/from** the Brain Stem and Heart
- Inhale/ Exhale
- Wiggling Fingers
- Looking at Two Objects - Eyes Bouncing Back and Forth
- **Focus** on an object
- Look at light, computer screen
- Look at a word / numbers forwards and backwards.