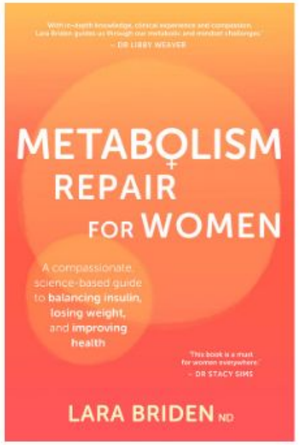
Nourishing Women's Metabolic Health

Hidden Nutrient Gaps and a Troubleshooting Framework

Lara Briden, ND

IPM Congress
Sat, 20 June 2026

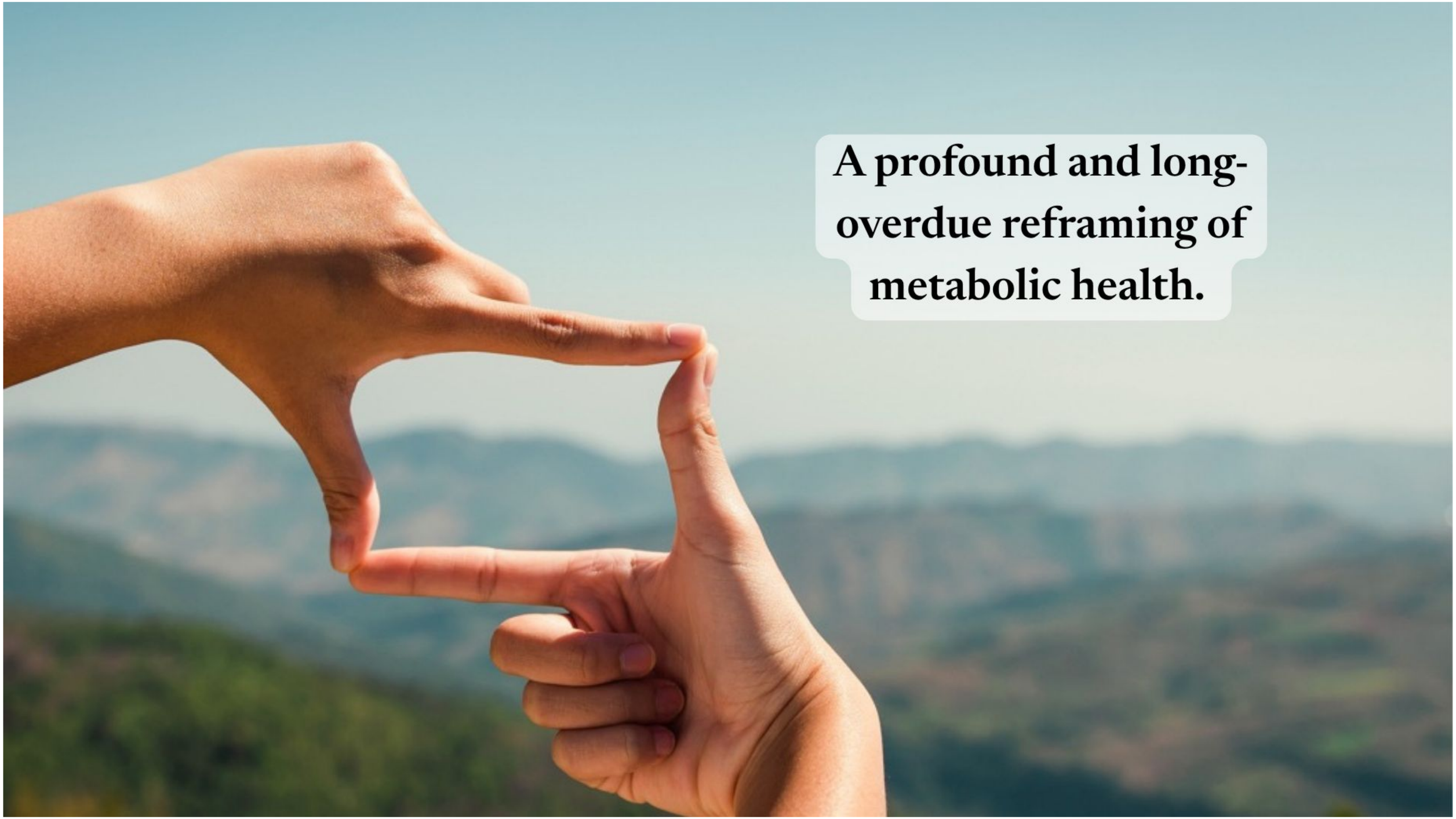


Bachelor of Science (BSc) from the University of Calgary

Doctor of Naturopathic Medicine from the Canadian College of Naturopathic Medicine (CCNM)

Clinical practice since 1997

Author of *Period Repair Manual*, *Hormone Repair Manual*, and *Metabolism Repair for Women*


A profound and long-overdue reframing of metabolic health.

Reframing metabolic health

- Metabolic health is not an arithmetic problem of calories in versus calories out.
- "Just lose weight" is not a strategy for improving a metabolic condition that makes it hard to lose weight.
- Strategies that work for fitness and sports performance may not work for recovering metabolic health.
- Metabolic health is a dynamic, responsive system.
- Improving metabolic health is the key to losing weight.
- Consider the whole body and "metabolic obstacles"

Improving insulin sensitivity is a whole-body project.

Before the 1970s, the biological systems regulating metabolic health were largely still functioning.

Metabolic health was damaged by cumulative, multi-generational exposure to environmental toxins, medications, microbiome disruption, circadian misalignment, and ultraprocessed foods.

Missing metabolic nutrients.

Insulin resistance is not people's fault.

Before the 1970s, the biological systems regulating metabolic health were largely still functioning.

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High linoleic acid (omega-6) can drive multi-generational insulin resistance via several mechanisms. (Nayyar et al., 2024)

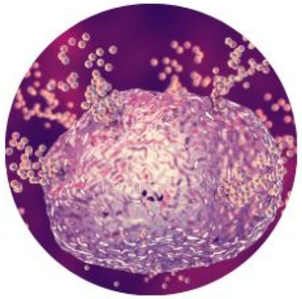
Hydrogen sulfide from gut dysbiosis damages the mitochondria of GLP-1-producing cells. The resulting GLP-1 deficiency can drive insulin resistance. (Qi et al., 2024)

Gut T-cells travel to the brain to communicate with the part that regulates hunger. (Yoshida et al, 2025)

A sticky extracellular matrix can form around hypothalamic hunger neurons, driving or worsening insulin resistance and resulting in increased hunger and reduced energy expenditure.

(Beddows et al., 2024)

In women, androgen excess promotes insulin resistance and visceral fat. Relevant for PMOS/PCOS, menopause, and androgenic progestins like levonorgestrel. (Cree et al., 2024) (Desir, 2025)



Histamine can stimulate insulin release and may play a role in insulin resistance. (Wang et al., 2024)

Autoimmune thyroid disease increases the risk of hypertrophied visceral fat, fatty liver, and insulin resistance.

(Lui et al., 2018)

insulin resistance

noun [C]

a hormonal condition characterised by reduced insulin sensitivity and chronically elevated insulin levels. Also called hyperinsulinemia or metabolic syndrome.

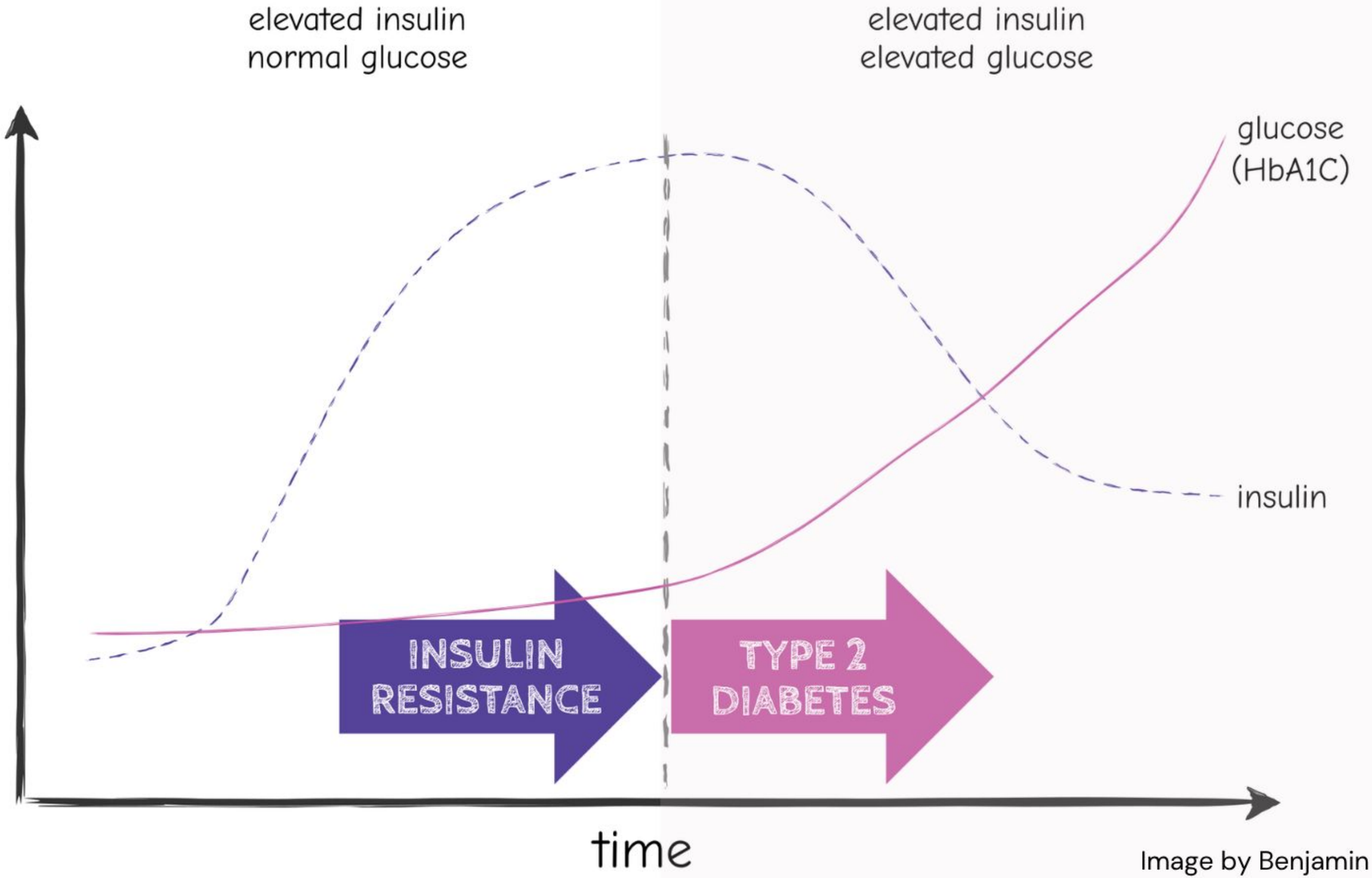


Image by Benjamin Bikman, PhD

The glucose narrative was established because glucose was the first metric that could be measured.

Insulin resistance cannot be ruled out by a normal serum glucose, HbA1c, or CGM.

Journal of
Clinical Medicine

MDPI

Review

Recognizing the Role of Insulin Resistance in Polycystic Ovary Syndrome: A Paradigm Shift from a Glucose-Centric Approach to an Insulin-Centric Model

Jim Parker [1,*], Lara Briden [2] and Felice L. Gersh [3]

[1] School of Medicine, University of Wollongong, Wollongong 2522, Australia
[2] Centre for Menstrual Cycle and Ovulation Research, University of British Columbia, Vancouver, BC V5Z 1M9, Canada; lara@larabriden.com
[3] College of Medicine, University of Arizona, Tucson, AZ 85004, USA; felicelgersh@yahoo.com
* Correspondence: jimparker@ozemail.com.au

Abstract: Polycystic ovary syndrome (PCOS) is a common metabolic–endocrine disorder affecting women of reproductive age, and insulin resistance (IR) is a key pathophysiological feature. Current medical education and clinical practice emphasize glucose-centric approaches in PCOS management, and IR testing is often overlooked due to limited emphasis

Women of reproductive age are
less likely than men the same age to
develop insulin resistance.

Women require a somewhat
different approach
due to different hormones and a
differently calibrated
autonomic nervous system.

Identify insulin resistance

Biomarkers:

- evidence of fatty liver disease on ultrasound or ALT > 19 IU/L
- triglycerides > 1.7 mmol/L (150 mg/dL)
- urate > 0.33 mmol/L
- C-RP > 1 mg/L
- serum ferritin > 200 ng/mL
- fasting insulin > 8 mIU/L or 55 pmol/L
- 1 or 2-hour insulin > 60 mIU/L or 410 pmol/L
- HOMA-IR index > 1.0

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If insulin is high,
it's insulin resistance. If it's low,
you just don't know.

Identify insulin resistance

Common signs and symptoms:

- high blood pressure
- skin tags
- skin darkening (acanthosis nigricans)
- waist circumference >85 cm or waist-to-height ratio > 0.5
- a reduced ability to access body fat for energy, resulting in reactive hypoglycemia, constant high hunger, and possibly food noise

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Food noise also involves the reward system, dopamine, and food addiction.

Reduced ability to access body fat for energy:

“I can’t diet or go too long between meals, or I feel really weak.”

“I feel totally wiped out by exercise.”

Erin, 28

Is it reasonable to expect Erin to stick with and benefit from the same diet and workout plan that works for people with good insulin sensitivity?

I should try harder.

I should have more willpower.

I'm a bad person.


Doing things differently...

Shift the goal

- When metabolic inflexibility makes it hard to access stored fat for energy, “just lose weight” can be a frustrating starting goal.
- Weight and BMI do not reliably reflect improvements in insulin sensitivity.
- Willpower is difficult to sustain in the face of fatigue and low blood sugar.

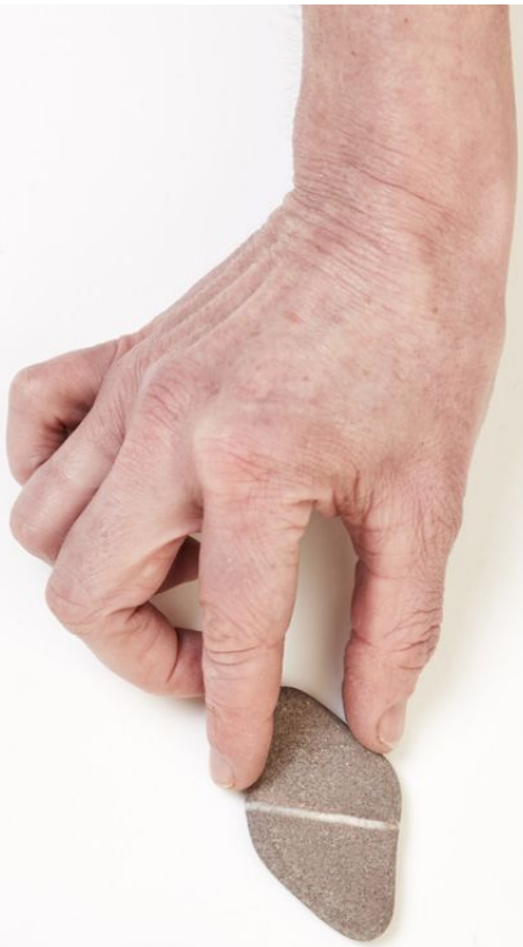
- Shift the goal to improving insulin sensitivity and metabolic flexibility.
- Look for early signs of success with improved energy and satiety, and changes in ALT and triglycerides.
- As energy improves, it becomes easier to make changes and stay with the process.


1
Be fully nourished.
2
3
4

Missing metabolic nutrients:

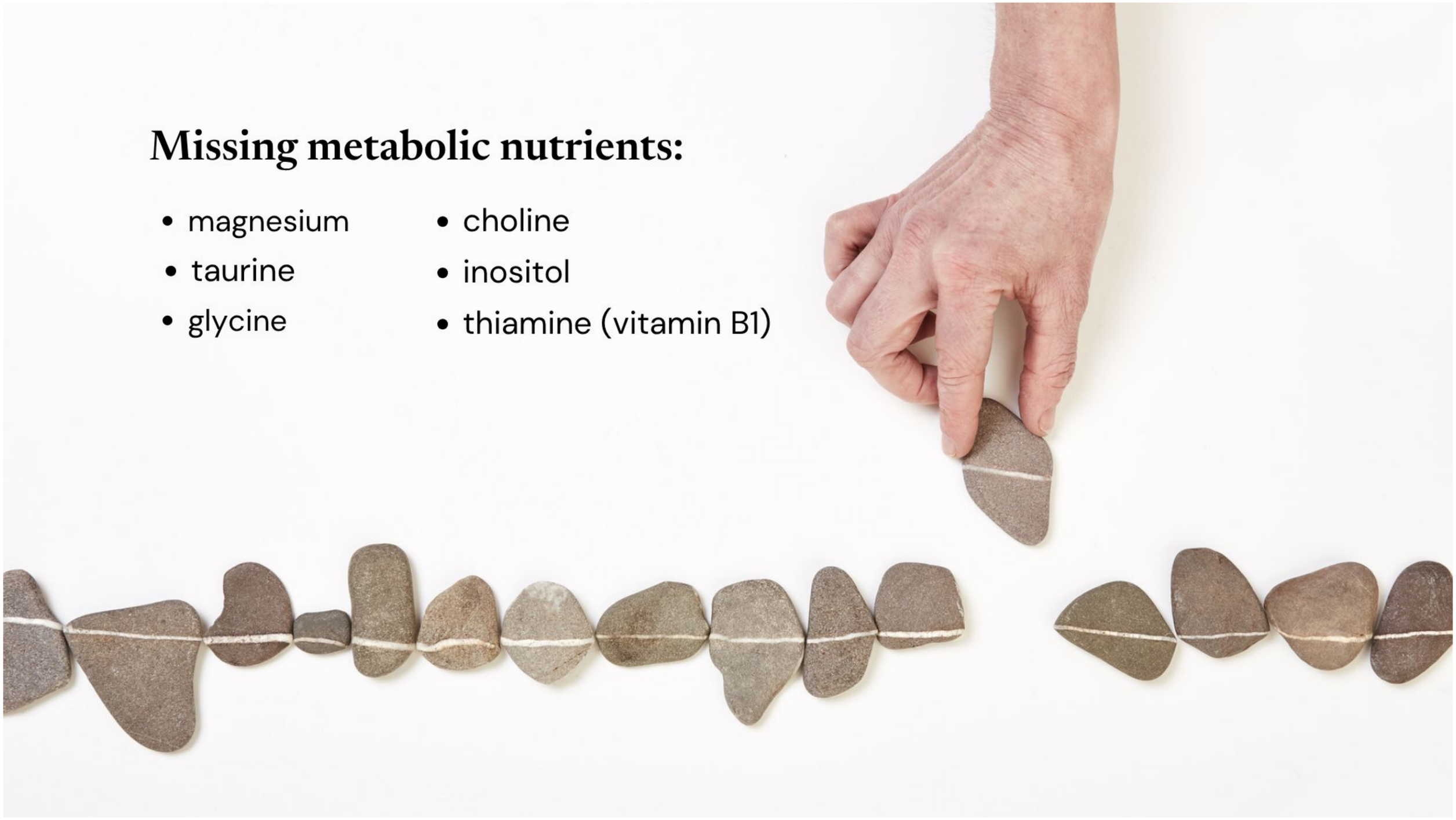
- magnesium
- taurine
- glycine
- choline
- inositol

traditionally from egg yolks and organ meats



Missing metabolic nutrients:

- magnesium
- taurine
- glycine
- choline
- inositol
- thiamine (vitamin B1)



cells

MDPI

Review

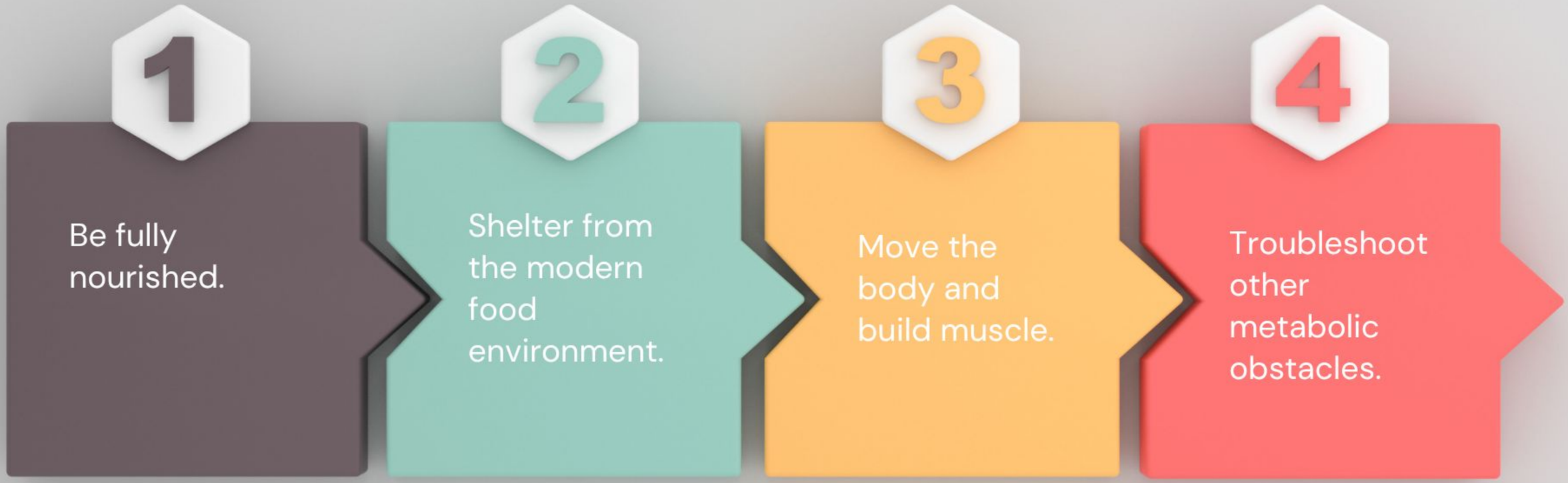
Hiding in Plain Sight: Modern Thiamine Deficiency

Chandler Marrs [1,*] and Derrick Lonsdale [2]

[1] Independent Researcher, Henderson, NV
[2] Emeritus, Cleveland Clinic, Cleveland
* Correspondence: drchandlermarrs@g

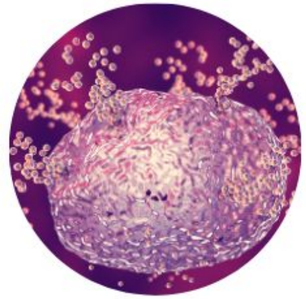
Abstract: Thiamine or vitamin B1 is … mitochondrial energetics—the production of adenc… miting cofactor to multiple enzymes involved in th… s and at critical junctures for the glucose, fatty acid, a… half-life, limited storage capacity, and is susceptible to d… products that epitomize modern life, including environment… RDA for thiamine is 1.1–1.2 mg for adult females and males, resp… ever a poor one, it is not difficult to meet that daily requirement, and yet, i… deficiency has been observed across multiple patient populations with incidence rates ranging from 20% to over 90% depending upon the study. This suggests that the RDA requirement may be insufficient to meet the demands

> Thiamine is crucial for processing carbs, but can be depleted by modern factors, such as diet and medication
>
> (Marrs et al., 2021)


1
Be fully nourished.
2
Shelter from the modern food environment.
3
Move the body and build muscle.
4
Troubleshoot other metabolic obstacles.

gut health

nervous system



immune health

hormonal issues, especially androgen excess

medications


Metabolic health is
an expression of
general health.

Erin

- History of PCOS diagnosis, and confirmed insulin resistance with high fasting triglycerides and ALT.
- Encouraged to eat satisfying, higher-protein meals, preferably home-cooked.
- Supplement magnesium, taurine, and inositol.
- Consider removing the levonorgestrel implant.
- Shelter from ultra-processed foods.


INSULIN RESISTANCE
IS NOT
PEOPLE'S FAULT


What works for fitness and sports performance
may not work for recovering metabolic health.

Improving insulin sensitivity is a whole-body project.

Questions?

www.larabriden.com
lara@larabriden.com
@larabriden

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