



NOURISH FUNCTIONAL HEALTH

OPTIMIZING IRON

A Functional Nutrition Approach

Understand the complex system
behind absorption, transport, use,
storage and recycling.



1

DIGESTION

2

MINERALS

3

INFLAMMATION

4

TRANSPORT

5

IRON

Iron never works in isolation.

Nourish Functional Health



BEGIN HERE

Why iron matters

Iron supports far more than ferritin. It helps the body move oxygen, make energy and carry out essential work in nearly every tissue.

OXYGEN

Helps hemoglobin carry oxygen from the lungs to tissues.

ENERGY

Supports mitochondrial energy production and physical stamina.

BRAIN

Contributes to neurotransmitter production, focus and cognition.

THYROID

Supports enzymes involved in thyroid hormone production.

IMMUNITY

Participates in immune defense and healthy cell function.

GROWTH + REPAIR

Supports DNA synthesis, muscles, development and tissue repair.

THE IMPORTANT SHIFT

Optimizing iron is not simply about taking more iron. The body must absorb it, transport it safely, deliver it to cells, store it appropriately and recycle it again.



THE WHOLE SYSTEM

Iron never works in isolation

Iron has an intricate recycling system. Digestion, nutrient cofactors, inflammatory signaling transport proteins, losses and storage must work together.

THE FIVE-PART IRON OPTIMIZATION PATHWAY

1

DIGESTION

Release and absorb iron from food or supplements.

2

MINERALS

Provide the cofactors needed to move and use iron.

3

INFLAMMATION

Keep inflammatory signals from restricting iron access.

4

TRANSPORT + USE

Carry iron safely and deliver it where it is needed.

5

STORAGE + RECYCLING

Store, recover and reuse iron while accounting for losses.

Different mechanisms can create similar symptoms or ferritin results.
The pattern matters more than any single number.



STEP 1

Digest + absorb

Iron must be released, remain available in the digestive tract and cross the intestinal lining before the body can use it.

What may interfere

- Low stomach-acid or reduced digestive signaling
- H. pylori, celiac disease or dysbiosis
- Intestinal barrier stress
- Antacid use, low appetite or a restricted diet

What this can look like

- Bloating, reflux, nausea or constipation
- Iron causes stomach discomfort
- Low ferritin with other low nutrients
- Ferritin does not rise despite consistent intake

CLUES THAT BRING INSIGHT

FOOD + HISTORY

Tolerance, appetite, diet pattern, antacid use and digestive symptoms.

GI-MAP

H. pylori, dysbiosis, digestive function and intestinal immune or barrier patterns.

BLOOD LABS

The Full Monty, hs-CRP and other select labs that bring insight.

OPTIMIZATION GOAL

Create a digestive environment where iron and its supporting nutrients can be absorbed and tolerated.



STEP 2

Build the nutrient terrain

Iron relies on other nutrients to move, enter cells and support red blood cell production. A weak cofactor system can look like an iron problem.

Why cofactors matter

- Copper and vitamin A help mobilize and use iron
- Protein supports hemoglobin and transport proteins
- B vitamins support red blood cell formation
- Magnesium and trace minerals support cellular energy

What this can look like

- Fatigue despite iron supplementation
- Low stamina, weakness or poor recovery
- Hair shedding, brittle nails
- Iron markers that remain inconsistent



CLUES THAT BRING INSIGHT

HTMA

Longer-term mineral patterns and relationships.

BLOOD LABS

The Full Monty, hs-CRP and other select labs that bring insight.

NUTRITION CONTEXT

Protein intake, vitamin A, B vitamins, copper and overall nutrient density.

OPTIMIZATION GOAL

Support the nutrient network that allows the body to transport, use and recycle iron.



STEP 3

Understand inflammation

Inflammatory signaling can change how iron is absorbed, released from storage and made available to cells.

How access may change

- Hepcidin may reduce absorption and iron release
- Ferritin may rise as an acute-phase reactant
- Iron may be stored but less available
- Gut, immune or metabolic stress may drive the pattern

What this can look like

- Fatigue or brain fog with normal or high ferritin
- Low serum iron or saturation despite stored iron
- Poor response to iron supplementation
- Symptoms that flare with infection or inflammation

CLUES THAT BRING INSIGHT

BLOOD LABS

The Full Monty, hs-CRP and other select labs that bring insight.

GI-MAP

Gut infections, dysbiosis and intestinal inflammatory patterns.

CONTEXT

Recent illness, chronic inflammatory conditions, metabolic stress and menstrual history.

OPTIMIZATION GOAL

Identify why iron may be restricted before assuming the body simply needs a higher dose.



STEPS 4 + 5

Move it. Use it. Recycle it.

Iron must travel safely, reach cells, support oxygen and energy, return to storage and be recycled from aging red blood cells.

What may interfere

- Low transport proteins or protein status
- Copper or vitamin A imbalance
- Adrenal, liver or thyroid dysfunction
- Inflammation, ongoing blood loss or increased demand

What this can look like

- Shortness of breath, weakness or poor stamina
- Cold intolerance, headaches or rapid heartbeat
- Ferritin rises temporarily, then falls
- Serum iron and ferritin tell different stories

TRANSPORT LAB CLUES

FULL MONTY

Transport +
storage picture

hs-CRP

Inflammatory
context

SELECT LABS

Cofactors,
losses, history +
response

THE RECYCLING VIEW

Most iron is continually recovered and reused. The system depends on healthy red blood cell turnover, macrophage recycling, liver signaling, transport proteins and adequate cofactors.

LOOK FOR CONNECTIONS

Pair the lab pattern with symptoms, losses, inflammation, digestive health and response to previous support.

The goal is not simply more iron. It is a system that can absorb, move, use, store and recycle iron appropriately.



PUT THE PIECES TOGETHER

Common iron patterns

These patterns are educational starting points. Symptoms, history and the complete lab picture determine what deserves a closer look.

LAB PATTERN	WHAT IT MAY MEAN	WHAT IT CAN LOOK LIKE	WHAT TO EXPLORE
Normal iron + low ferritin	Storage, recycling or ongoing losses may need attention.	Fatigue, hair shedding or low stamina despite “normal” iron.	Full Monty, HTMA, GI MAP + losses
Low iron + low ferritin	Intake, absorption or blood loss may be limiting iron.	Weakness, pallor, coldness, headaches or shortness of breath.	Full Monty, GI-MAP, HTMA + history
High iron + low ferritin	Iron may not be moving or storing efficiently.	Fatigue with unusual or inconsistent markers.	Full Monty, select labs, HTMA, GI-MAP
Low iron + high ferritin	Inflammation may be restricting access to stored iron.	Fatigue or brain fog during inflammatory stress.	Full Monty, hs-CRP, GI-MAP, HTMA
Ferritin rises, then falls	The number changed but an upstream issue or loss may remain.	Temporary improvement followed by returning symptoms.	Retest pattern, GI-MAP, HTMA

Patterns are not diagnoses. Use them to guide thoughtful testing and individualized clinical interpretation.



THE FULL PICTURE

Three views of one system

The Full Monty blood labs, GI-MAP and HTMA offer different information. Together they help connect circulation, digestion and the mineral terrain.

1

FULL MONTY BLOOD LABS (add on)

Shows circulation, transport and storage - with hs-CRP and other select labs adding useful context.

2

GI-MAP

Explores digestive and microbial factors that may interfere with absorption or contribute to inflammation.

3

HTMA

Adds a longer-term view of mineral patterns, stress physiology and relationships that may influence iron use.

THE FULL PICTURE

Blood shows the circulating pattern.

The gut shows possible blocks to absorption.

HTMA shows the mineral terrain.



Testing and interpretation should be individualized with a qualified clinician.

1

DIGESTION

2

MINERALS

3

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Iron