

SUMMIT
HEALTH SOLUTIONS

ROOT CAUSE. PEAK WELLNESS.

FUNCTIONAL LAB REPORT

Your Lab Results, Explained

Jordan Sample

ABOUT YOU

Female, 44 years

COLLECTED

September 15, 2026

LABORATORY

Sample Reference Lab

MARKERS REVIEWED

75



CREATED WITH THE LAB ANALYZER BY

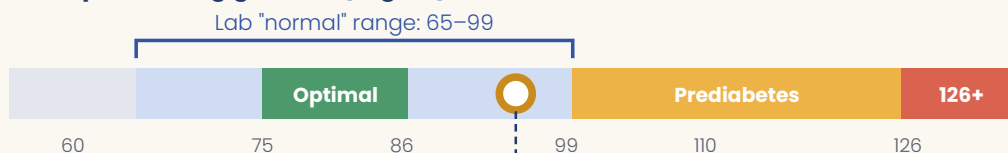
Dr. Mark Kennington, DC, MS · Summit Health Solutions

Why optimal isn't the same as normal

A lab's normal range is built from the middle 95% of everyone it tests, including many people with early, undiagnosed problems. It describes what is common, not what is healthy.

Optimal targets are narrower ranges where the body tends to work best and long-term risk stays lowest. A result can be "normal" and still be drifting in the wrong direction years before it is ever flagged.

Example: fasting glucose (mg/dL)



A result of 95: the lab calls it normal,
but it has already drifted well above optimal
and is close to the prediabetes line.

AT A GLANCE

Summary of your results

Of the 75 markers reviewed, 47 are in the optimal range. 28 are outside optimal and explained at the end of this report.

47

Optimal

20

Outside optimal, inside the lab's range

8

Outside the lab's range



● Optimal: where the body tends to work best ● Below / above optimal: inside the lab's range, worth attention

● Low / high: outside the lab's range

Patterns worth noticing

Markers rarely tell the story alone. When several move together, one underlying driver is often behind them. These are conversation starters, not diagnoses.

Blood sugar strain

Insulin, fasting ↑ · HOMA-IR ↑ · Glucose, fasting ↑ · Hemoglobin A1c ↑ · Triglycerides ↑ · HDL cholesterol ↓ · Triglyceride : HDL ratio ↑ · Uric acid ↑ · SHBG ↓

Several markers point toward the body working harder to manage blood sugar. This is the most common pattern and the one that responds best to nutrition, strength training, sleep and weight loss where needed.

Liver under metabolic strain

ALT ↑ · GGT ↑ · Triglycerides ↑ · SHBG ↓

Liver enzymes rising together with triglycerides or ferritin often reflect fat building up in the liver, the liver's version of insulin resistance.

Low iron stores

Ferritin ↓ · Iron saturation ↓ · Iron, serum ↓ · TIBC ↑

Iron appears to be running low. The cause, such as heavy periods, diet or absorption, matters as much as the numbers.

Thyroid not keeping up

TSH ↑ · Free T3 ↓ · Free T3 : reverse T3 ↓

The thyroid markers suggest output or conversion to active hormone deserves a closer look, especially with fatigue, feeling cold or weight gain.

Low-grade inflammation

hs-CRP ↑ · Homocysteine ↑

Inflammation markers are elevated. Common drivers include excess abdominal fat, insulin resistance, poor sleep, a recent illness and gum disease.

B12 and folate needs

Homocysteine ↑ · Vitamin B12 ↓

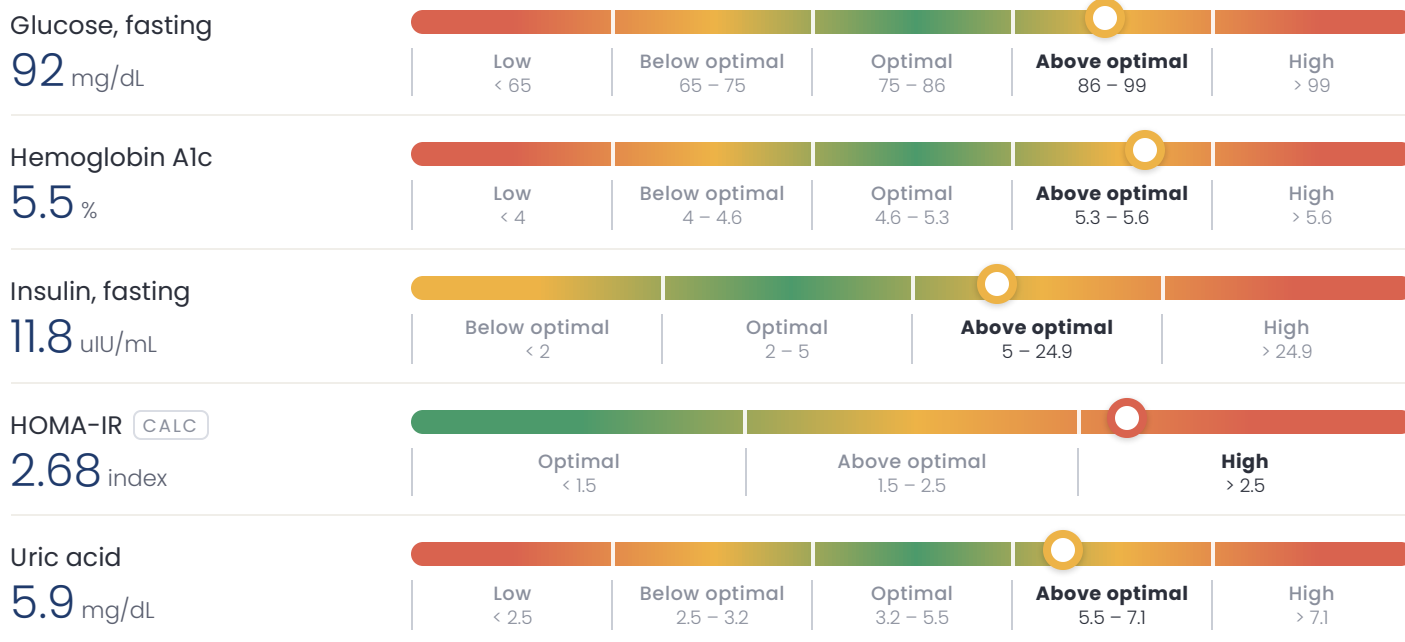
Larger red cells or a higher homocysteine can point to B12 or folate needs not being fully met. Check B12, folate and MMA together.

YOUR RESULTS

Blood test results

Each marker shows where your result falls. The green middle is optimal; amber is outside optimal but still inside the lab's range; red is outside the lab's range. The numbers under each bar are the ranges used.

BLOOD SUGAR & METABOLISM



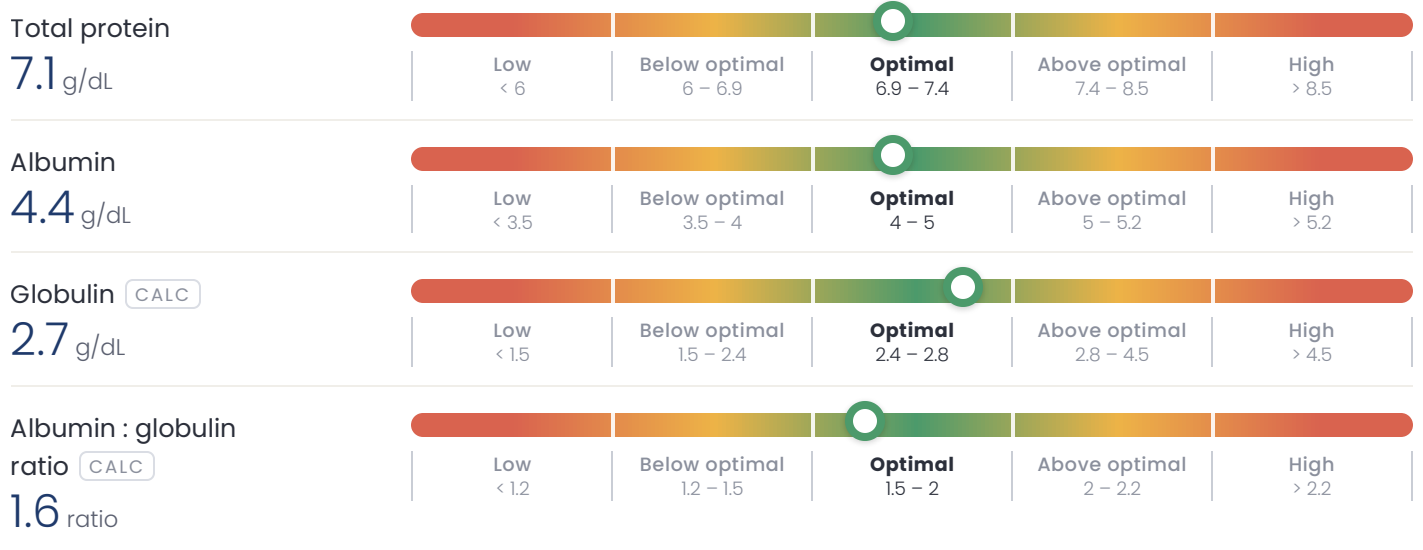
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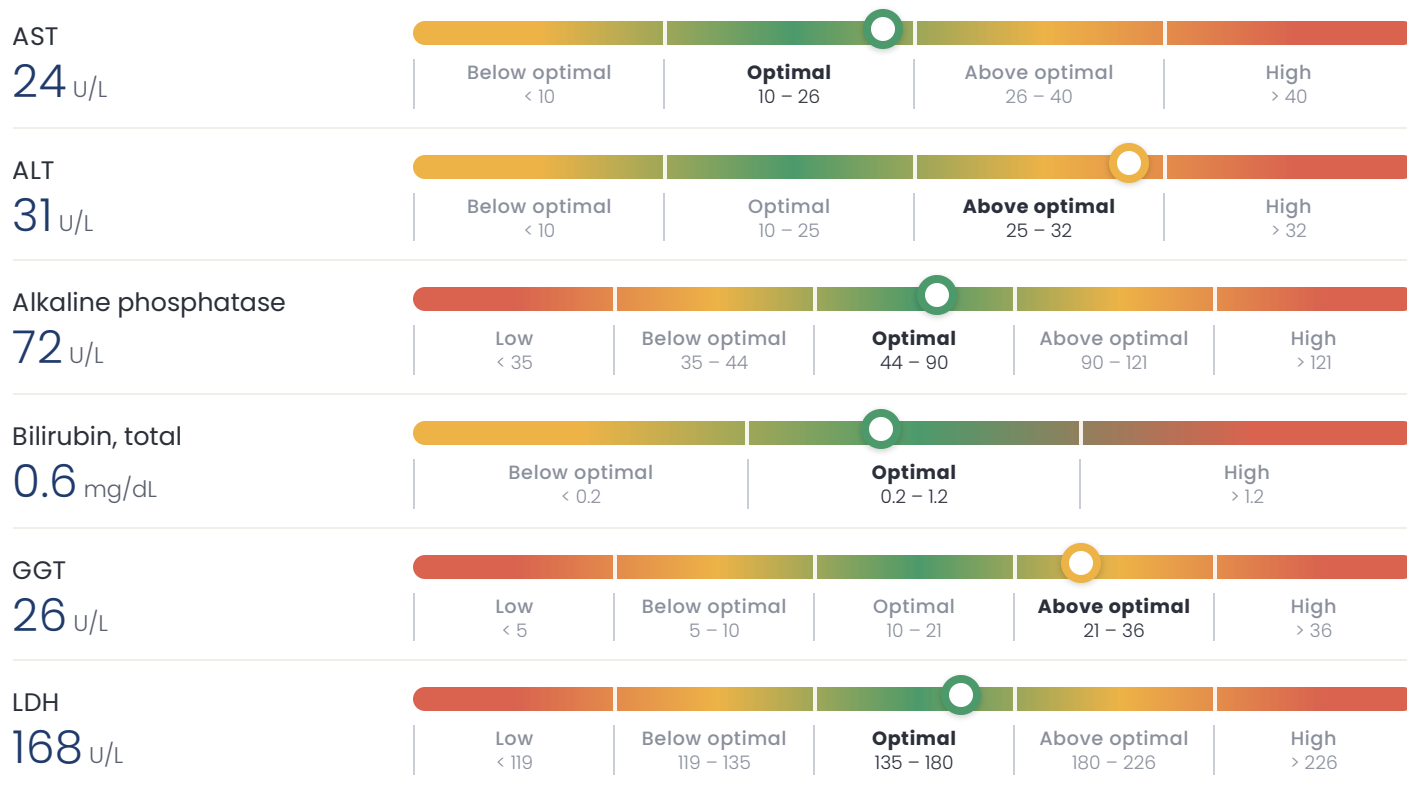


ELECTROLYTES & MINERALS



PROTEINS, LIVER & PANCREAS



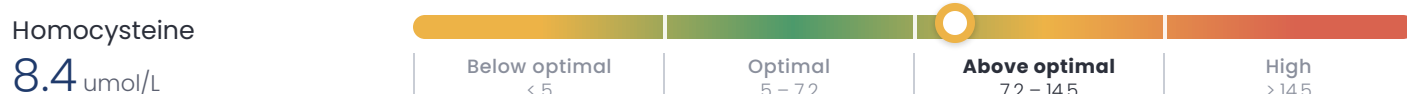


LIPIDS & CARDIOVASCULAR





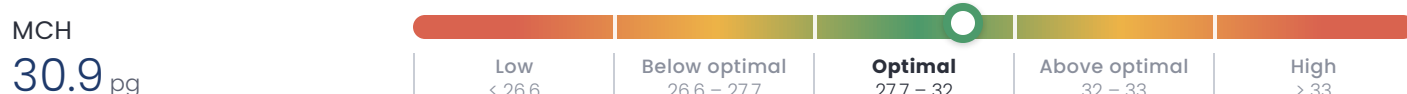
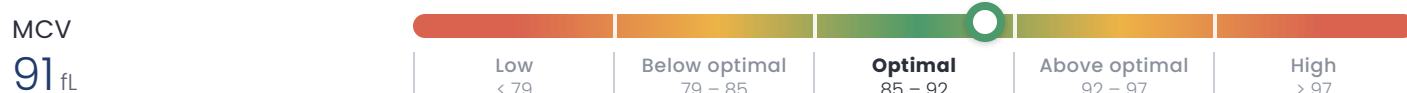
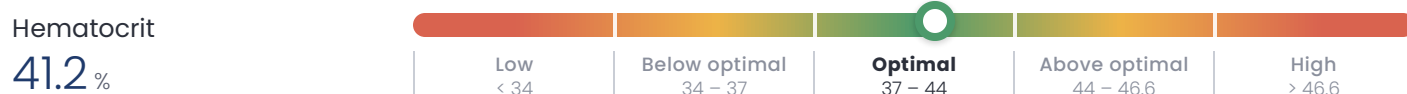
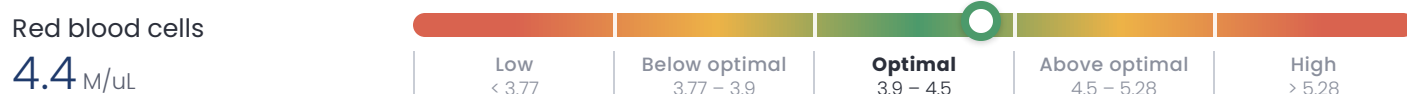
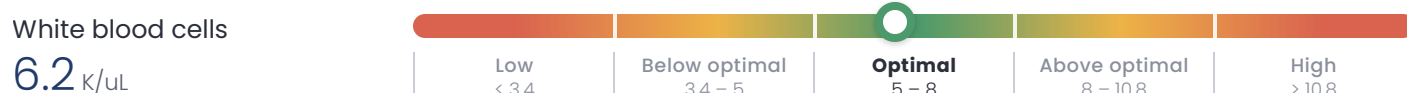
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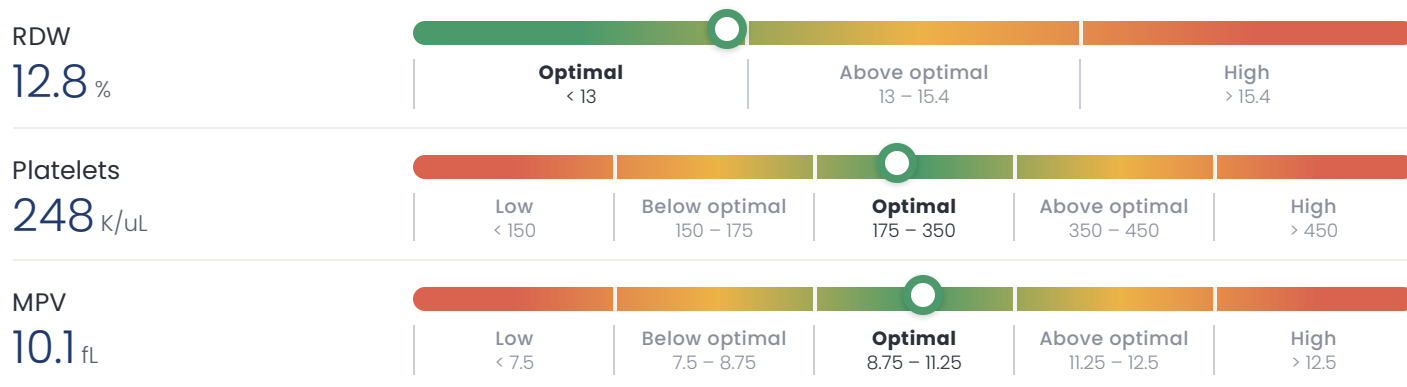


ANA screen
Negative

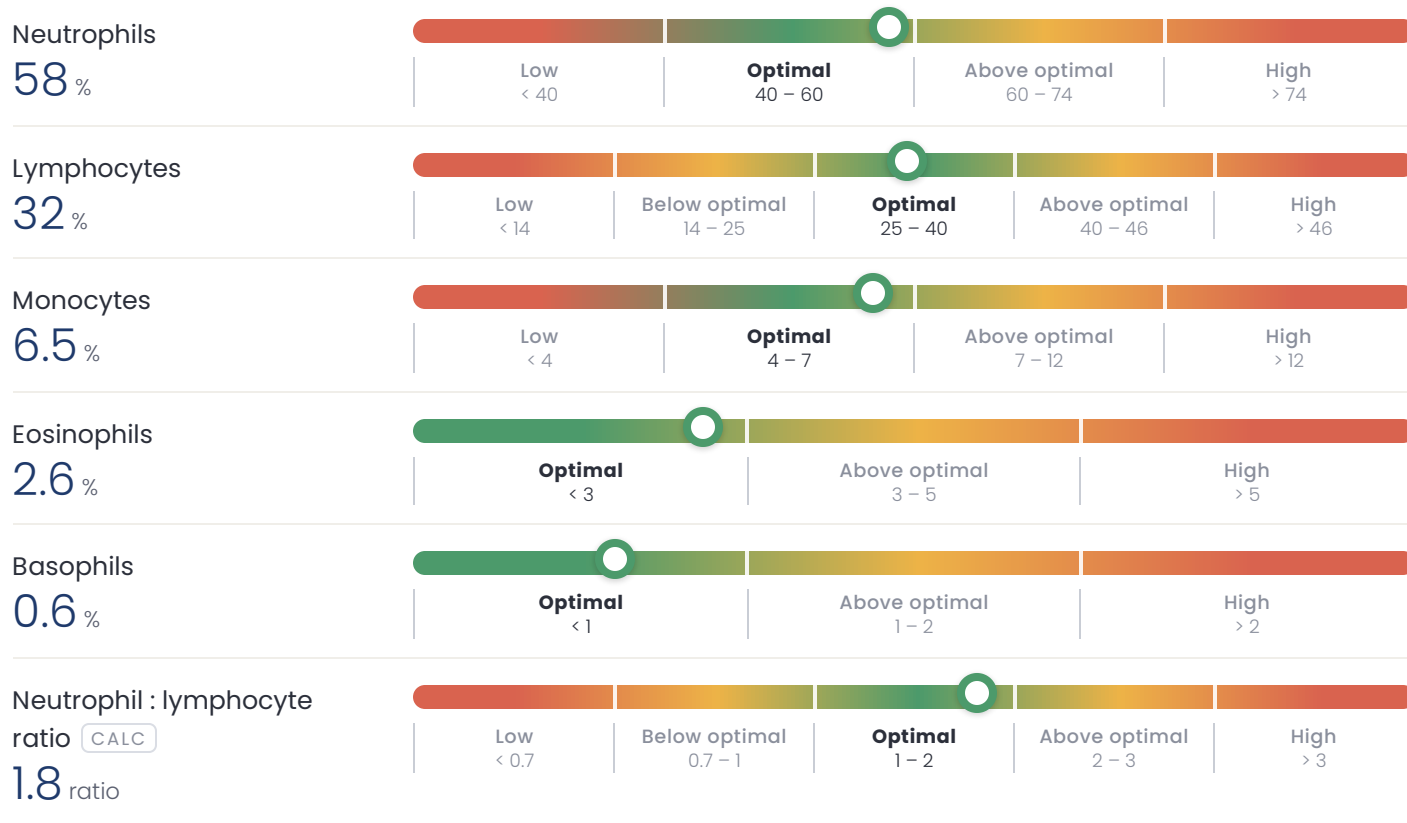
● Negative · expected result

COMPLETE BLOOD COUNT

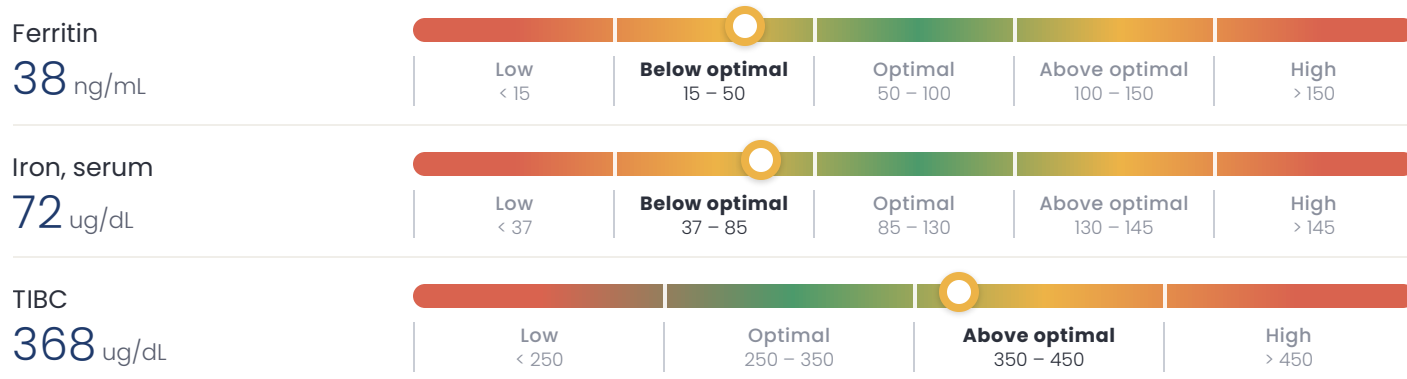


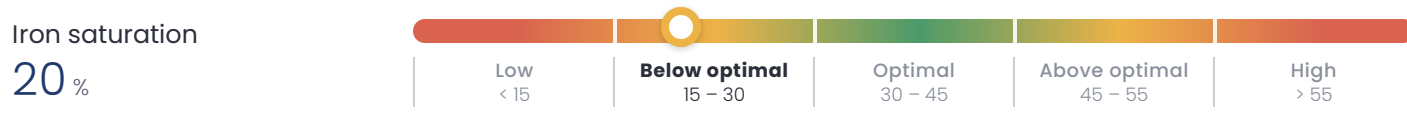


WHITE CELL DIFFERENTIAL

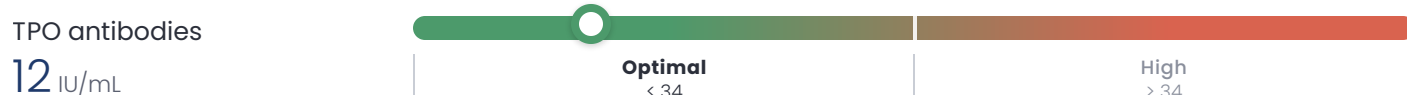
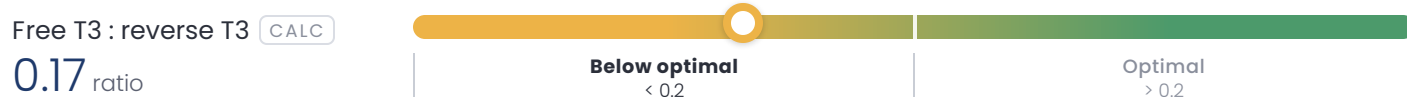
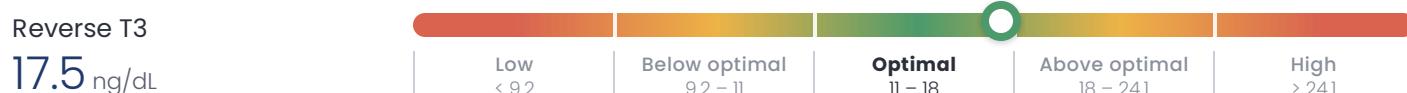
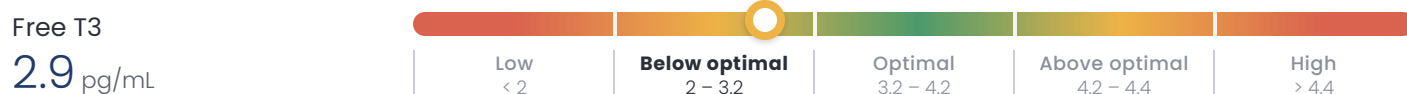
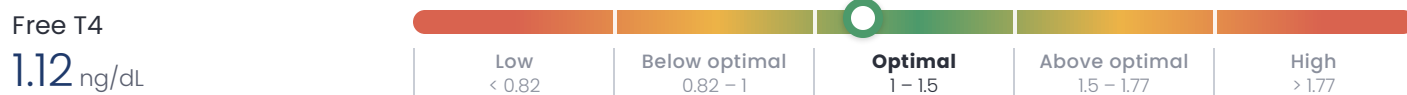
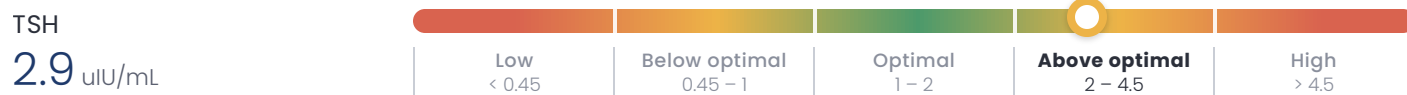


IRON & ANEMIA

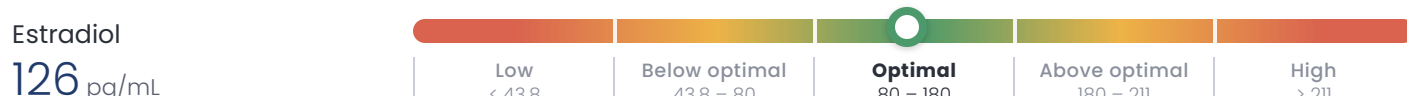
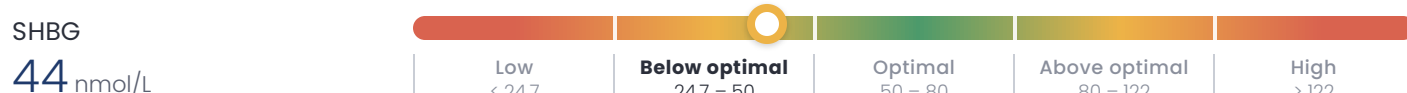
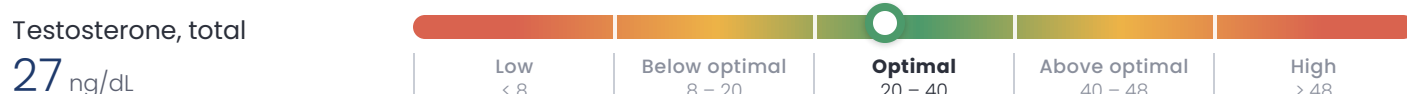
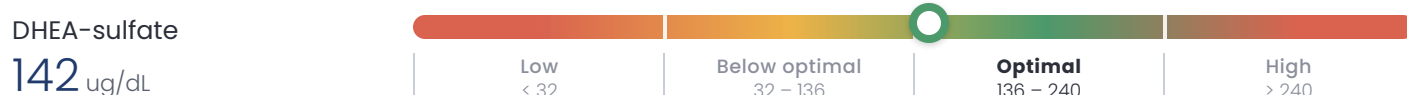
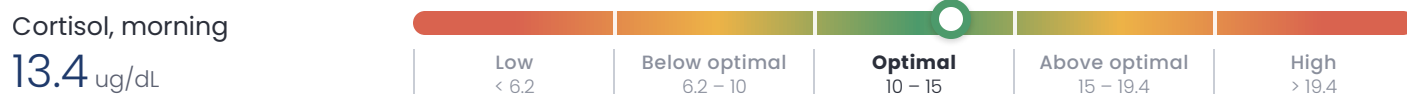


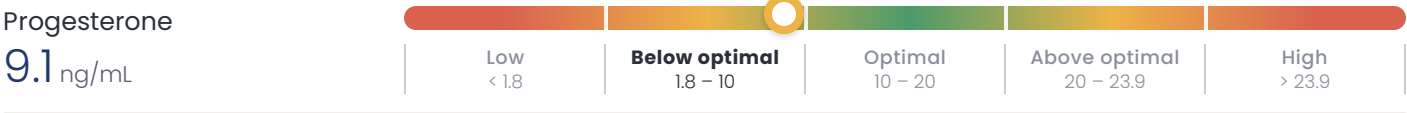


THYROID

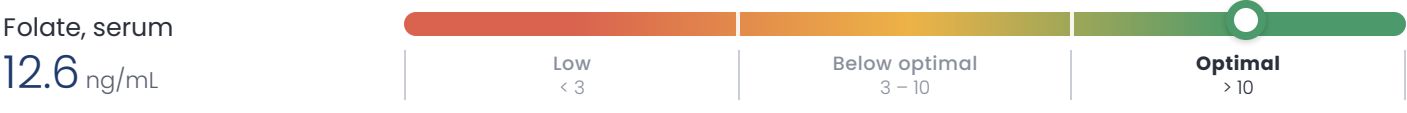
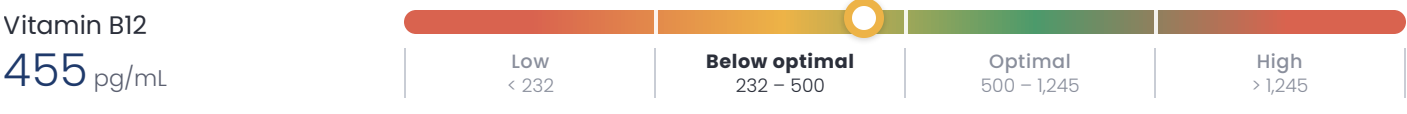
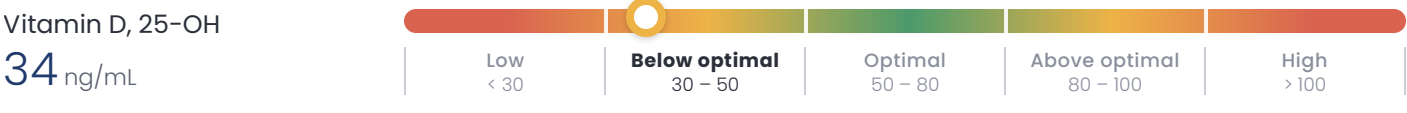


ADRENAL & SEX HORMONES





VITAMINS & NUTRIENTS



Outside the optimal range

28 markers fall outside the optimal target. Each one is explained on the pages that follow.

Marker	Result	Optimal	Lab range	Status
BLOOD SUGAR & METABOLISM				
Glucose, fasting	92 mg/dL	75 – 86	65 – 99	● Above optimal
Hemoglobin A1c	5.5 %	4.6 – 5.3	4 – 5.6	● Above optimal
Insulin, fasting	11.8 uIU/mL	2 – 5	< 24.9	● Above optimal
HOMA-IR	2.68 index	< 1.5	< 2.5	● High
Uric acid	5.9 mg/dL	3.2 – 5.5	2.5 – 7.1	● Above optimal
PROTEINS, LIVER & PANCREAS				
ALT	31 U/L	10 – 25	< 32	● Above optimal
GGT	26 U/L	10 – 21	5 – 36	● Above optimal
LIPIDS & CARDIOVASCULAR				
Total cholesterol	211 mg/dL	150 – 200	100 – 200	● High
LDL cholesterol	128 mg/dL	< 100	< 130	● Above optimal
HDL cholesterol	46 mg/dL	55 – 85	> 50	● Low
Triglycerides	168 mg/dL	< 100	< 150	● High
Non-HDL cholesterol	165 mg/dL	< 130	< 160	● High
Triglyceride : HDL ratio	3.7 ratio	< 1.5	< 3	● High
Cholesterol : HDL ratio	4.6 ratio	< 3.5	< 4.4	● High
Apolipoprotein B	104 mg/dL	< 80	< 90	● High
INFLAMMATION & IMMUNE				
hs-CRP	2.6 mg/L	< 1	< 3	● Above optimal
Homocysteine	8.4 umol/L	5 – 7.2	< 14.5	● Above optimal
IRON & ANEMIA				
Ferritin	38 ng/mL	50 – 100	15 – 150	● Below optimal
Iron, serum	72 ug/dL	85 – 130	37 – 145	● Below optimal

Marker	Result	Optimal	Lab range	Status
TIBC	368 ug/dL	250 – 350	250 – 450	● Above optimal
Iron saturation	20 %	30 – 45	15 – 55	● Below optimal
THYROID				
TSH	2.9 uIU/mL	1 – 2	0.45 – 4.5	● Above optimal
Free T3	2.9 pg/mL	3.2 – 4.2	2 – 4.4	● Below optimal
Free T3 : reverse T3	0.17 ratio	> 0.2	—	● Below optimal
ADRENAL & SEX HORMONES				
SHBG	44 nmol/L	50 – 80	24.7 – 122	● Below optimal
Progesterone	9.1 ng/mL	10 – 20	1.8 – 23.9	● Below optimal
VITAMINS & NUTRIENTS				
Vitamin D, 25-OH	34 ng/mL	50 – 80	30 – 100	● Below optimal
Vitamin B12	455 pg/mL	500 – 1,245	232 – 1,245	● Below optimal

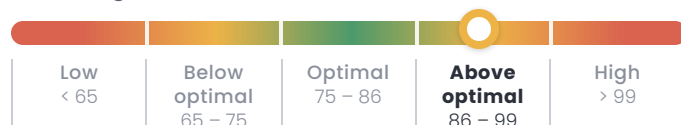
Out of optimal range

These markers fall outside the optimal target. Each one includes what the marker measures and what a result in this direction can point to. Read them together with the patterns on the summary page.

BLOOD SUGAR & METABOLISM

Glucose, fasting

92 mg/dL

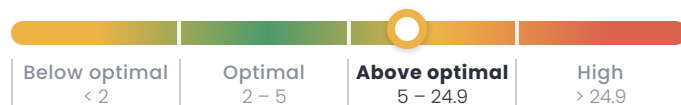


Fasting glucose is the amount of sugar in the blood after an 8–12 hour fast. It is a single snapshot, so stress, poor sleep or a recent illness can nudge it up.

A fasting glucose above optimal suggests the body is working harder to keep blood sugar in check. Values that creep upward over time, even inside the lab's normal range, often travel with rising insulin and are an early sign of insulin resistance.

Insulin, fasting

11.8 uIU/mL

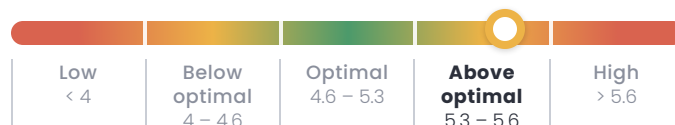


Fasting insulin shows how much insulin the pancreas needs to release to keep blood sugar normal while fasting.

An elevated fasting insulin is often the earliest blood sign of insulin resistance, appearing years before glucose or A1c rise. The pancreas is producing extra insulin to overcome cells that are responding less well. Nutrition, strength training, sleep and weight loss where needed all improve this number.

Hemoglobin A1c

5.5 %

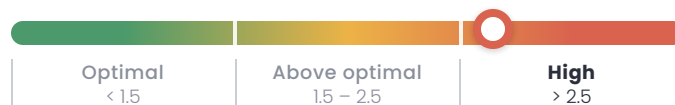


Hemoglobin A1c reflects average blood sugar over the past two to three months by measuring how much sugar has attached to red blood cells.

An A1c above optimal means average blood sugar has been running higher than ideal. A result of 5.7–6.4% falls in the prediabetes range and 6.5% or higher meets the criteria for diabetes. Small improvements here meaningfully lower long-term risk.

HOMA-IR

2.68 index

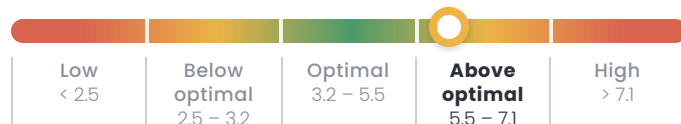


HOMA-IR is calculated from fasting glucose and fasting insulin (glucose × insulin ÷ 405). It combines both into a single estimate of insulin resistance.

A HOMA-IR above 1.5 suggests developing insulin resistance, and above 2.5 is a strong signal. It often responds within weeks to changes in meal composition, movement and sleep.

Uric acid

5.9 mg/dL



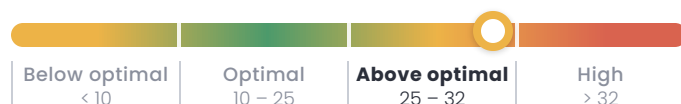
Uric acid is a breakdown product of purines from food and normal cell turnover, cleared mainly by the kidneys.

Elevated uric acid is linked to gout, insulin resistance, high blood pressure and fatty liver. High intake of fructose, sugary drinks and alcohol raises it, as does dehydration.

PROTEINS, LIVER & PANCREAS

ALT

31 U/L

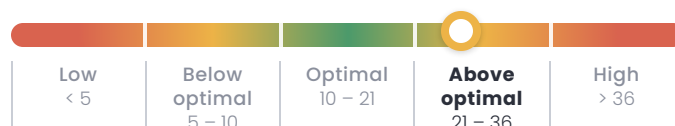


ALT is the most liver-specific enzyme. The American College of Gastroenterology defines a healthy ALT as 19–25 U/L for women and 29–33 U/L for men.

A mildly elevated ALT, even inside many labs' normal ranges, is most often linked to fat building up in the liver along with insulin resistance. Alcohol, some medications and supplements, and recent hard exercise can also raise it. Reducing added sugar and alcohol and losing excess belly weight typically bring it down.

GGT

26 U/L



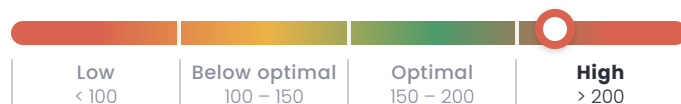
GGT is a liver and bile duct enzyme that is also a sensitive marker of oxidative stress.

A higher GGT can reflect alcohol intake, fatty liver, some medications or bile flow problems. It is also an independent marker of cardiometabolic risk.

LIPIDS & CARDIOVASCULAR

Total cholesterol

211 mg/dL

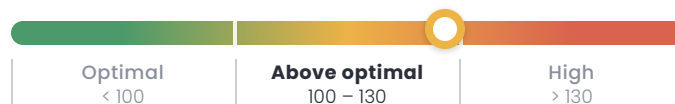


Total cholesterol is all the cholesterol carried in the blood. It is most useful alongside its parts: LDL, HDL and triglycerides.

A high total cholesterol is interpreted through ApoB, LDL and HDL. It tends to rise with age and after menopause.

LDL cholesterol

128 mg/dL

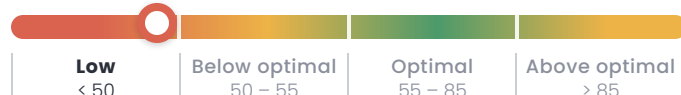


LDL cholesterol is the cholesterol carried in LDL particles, which can enter artery walls and form plaque.

An LDL above 100 is above optimal, and 160 or higher is a risk-enhancing factor in the 2018 AHA/ACC guideline. ApoB gives a more direct count of plaque-forming particles.

HDL cholesterol

46 mg/dL



HDL helps return cholesterol from the tissues to the liver.

A low HDL usually travels with insulin resistance and high triglycerides. Below 40 in men or 50 in women is one of the criteria for metabolic syndrome. Regular movement, strength training and replacing refined carbohydrates with healthy fats raise it.

Non-HDL cholesterol

165 mg/dL



Non-HDL cholesterol is total cholesterol minus HDL. It captures all plaque-forming cholesterol, including remnant particles.

A non-HDL above 130 means more cholesterol is being carried in plaque-forming particles. It often rises along with triglycerides.

Cholesterol : HDL ratio

4.6 ratio



Total cholesterol divided by HDL is a traditional estimate of cardiovascular risk.

A higher ratio means less of the total cholesterol is carried as HDL. It improves as HDL rises and triglycerides fall.

Triglycerides

168 mg/dL



Triglycerides are fats in the blood, driven largely by sugar, refined carbohydrates and alcohol.

Triglycerides above 100 often signal insulin resistance, and 175 or higher is a risk-enhancing factor in the AHA/ACC guideline. Reducing sugar, refined carbohydrates and alcohol and adding fatty fish typically lowers them quickly.

Triglyceride : HDL ratio

3.7 ratio

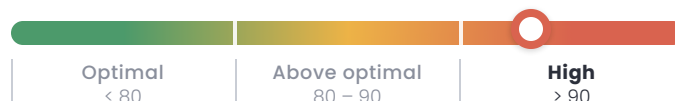


Triglycerides divided by HDL is a simple, free estimate of insulin resistance.

A ratio above 1.5 suggests developing insulin resistance, and above 3 is a strong signal, often accompanied by smaller, denser LDL particles.

Apolipoprotein B

104 mg/dL



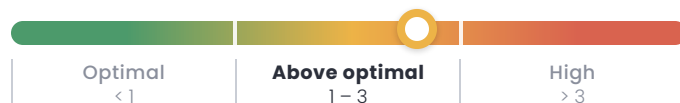
There is one ApoB protein on each plaque-forming particle, so ApoB counts those particles directly.

An ApoB above 80 means more plaque-forming particles are circulating; 130 or higher is a risk-enhancing factor in the AHA/ACC guideline. ApoB is often high with insulin resistance even when LDL looks acceptable.

INFLAMMATION & IMMUNE

hs-CRP

2.6 mg/L



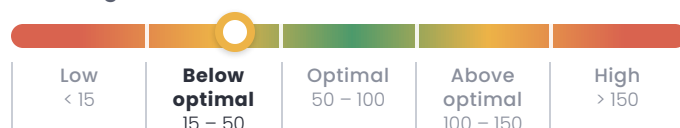
High-sensitivity CRP is a liver protein that rises with inflammation anywhere in the body.

An hs-CRP of 1–3 mg/L is average cardiovascular risk and above 3 is high risk (AHA/CDC). Common drivers are excess abdominal fat, insulin resistance, poor sleep, a recent illness or injury, and gum disease. Above 10 usually reflects an acute illness; repeat it once you are well.

IRON & ANEMIA

Ferritin

38 ng/mL

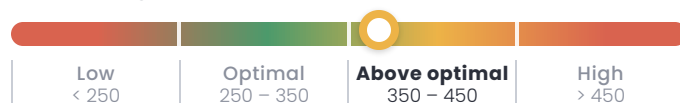


Ferritin reflects the body's stored iron. It also rises with inflammation, so it is read alongside hs-CRP.

A low ferritin means iron stores are running down, often before anemia appears. Fatigue, hair shedding, cold intolerance and restless legs are common. The American Gastroenterological Association uses below 45 ng/mL to define iron deficiency in anemia. The cause, such as heavy periods, diet or absorption, matters as much as the number.

TIBC

368 ug/dL

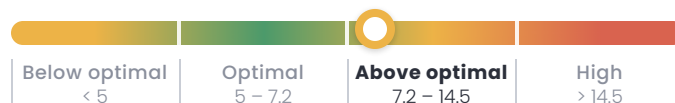


TIBC reflects the blood's capacity to carry iron. It rises when the body needs more iron.

A higher TIBC suggests the body is seeking more iron, as with low iron stores, pregnancy or oral estrogen.

Homocysteine

8.4 umol/L

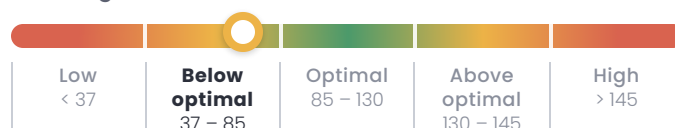


Homocysteine is an amino acid that is recycled using vitamins B12, folate and B6.

An elevated homocysteine suggests B-vitamin needs are not being fully met, and is linked to blood vessel and brain health. Metformin and acid-blocking medications can lower B12 and raise it.

Iron, serum

72 ug/dL

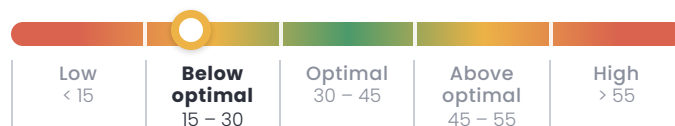


Serum iron is the iron circulating at the moment of the blood draw. It swings with recent meals and time of day.

A low serum iron, especially with a low ferritin or saturation, suggests iron is running low.

Iron saturation

20 %



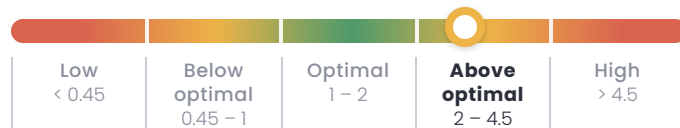
Iron saturation is the percentage of iron-carrying capacity that is filled with iron.

A saturation below 20% suggests iron deficiency, especially with a low ferritin.

THYROID

TSH

2.9 uIU/mL



TSH is the pituitary gland's signal asking the thyroid to make more hormone. It rises when the thyroid is underperforming.

A TSH above 2.0, even within the lab's range, can mean the thyroid needs extra prompting to keep up, especially with fatigue, feeling cold, weight gain or hair loss. Free T3, free T4 and thyroid antibodies complete the picture. Low iron, selenium and iodine status can contribute.

Free T3 : reverse T3

0.17 ratio



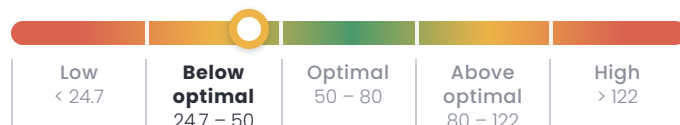
Free T3 (pg/mL) divided by reverse T3 (ng/dL) is a functional estimate of how much T4 is converted to active rather than inactive hormone.

A low ratio suggests more T4 is being converted to the inactive form, which can accompany stress, illness, calorie restriction or nutrient shortfalls.

ADRENAL & SEX HORMONES

SHBG

44 nmol/L

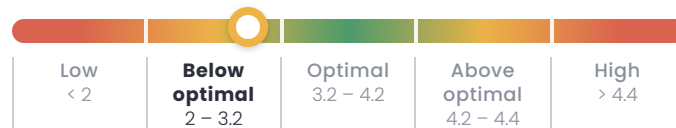


SHBG binds sex hormones and keeps them inactive. It is made by the liver and is strongly influenced by insulin.

A low SHBG is a strong marker of insulin resistance and fatty liver, because high insulin suppresses its production.

Free T3

2.9 pg/mL

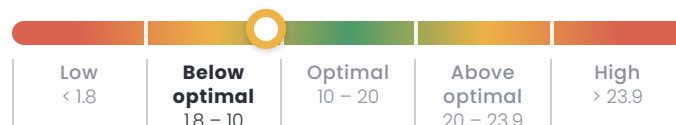


Free T3 is the active thyroid hormone that drives metabolism, energy and body temperature.

A lower free T3 suggests less active hormone is reaching the tissues. Common contributors include low iron, selenium or zinc, chronic stress, calorie restriction and illness.

Progesterone

9.1 ng/mL



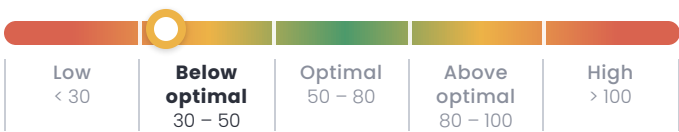
Progesterone balances estrogen and supports sleep and mood. It rises after ovulation, so it is best tested about 7 days after ovulation (day 19–22 of a 28-day cycle).

A lower mid-luteal progesterone can mean ovulation did not occur that cycle, or reflect perimenopause or chronic stress. A value above about 3 ng/mL in the luteal phase indicates ovulation.

VITAMINS & NUTRIENTS

Vitamin D, 25-OH

34 ng/mL

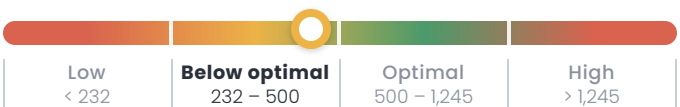


Vitamin D supports bone, immune and muscle function. 25-OH vitamin D reflects the body's stores.

A vitamin D below 50 is below the functional target used in this report. Sun exposure, fatty fish, eggs and, if your provider agrees, a supplement can raise it; retest in about three months.

Vitamin B12

455 pg/mL



Vitamin B12 is needed for nerves, red blood cells and methylation.

A B12 in the low-normal range can still reflect a functional shortfall, especially with a high MCV or homocysteine. Older adults, vegans and people taking metformin or acid blockers are at higher risk. Methylmalonic acid (MMA) helps confirm.

Your personalized plan

I built this plan from your lab results and the answers you gave about your body, activity, sleep, stress and how you've been feeling. It follows the same food-first approach I use with my own patients.

The good news is that there are a lot of things on your labs that look very good. Your kidney filtration and blood counts are all reassuring.

The biggest things that stood out to me are three areas that can have a surprisingly large effect on how you feel:

1. Your blood sugar and insulin are starting to work harder than they should.
2. Your cholesterol particles are higher than ideal.
3. Your triglycerides are higher than ideal.

There are also a few things we want to improve or monitor, including low iron stores, thyroid markers, liver enzymes, B12, folate and homocysteine, inflammation, vitamin D, stress, cycle hormones, and sleep.

The goal over the next couple of months is to correct the foundations, food, movement, sleep and stress, and see how much your numbers and your energy improve before we add anything complicated.

Your Blood Sugar Is Starting to Work Harder

Your fasting glucose was 92, A1C was 5.5%, fasting insulin was 11.8, and HOMA-IR was 2.68. None of these would be called diabetes, but together they tell me your body is having to make extra insulin to keep your blood sugar normal. This is the earliest stage of insulin resistance, and it's the stage where food and movement work best.

Your triglycerides were 168 and your HDL was 46. That combination fits the same picture and usually improves right along with your blood sugar.

Your waist measurement is 55% of your height. I like to see it under 50%, because belly fat is the kind most closely tied to insulin resistance. It's also a great number to track, often better than the scale.

I want you building every meal around protein and vegetables first, keeping carbohydrates to smaller portions that are always paired with protein, fat and fiber, and taking a 10–15 minute walk after your biggest meals.

I don't want you grazing all day. Three solid meals, with a protein snack only if you're truly hungry, gives insulin a chance to come back down between meals.

This may also be part of the sugar or carb cravings, afternoon energy crash, and weight gain around the middle you mentioned.

Your Daily Nutrition Goals

Use these as general daily targets rather than numbers you have to hit perfectly:

- Protein: 135–160 grams
- Carbohydrates: 110–135 grams
- Fat: 60–70 grams
- Calories: approximately 1,600–1,750 calories to start

These are based on your height, weight, age and activity level (lightly active), with a moderate reduction for fat loss. Your calorie needs can change depending on activity, exercise, hunger and your goals, so I don't want you treating 1,750 as a maximum. If you're hungry, losing weight faster than about 1.5 lb a week, exercising more, or feeling poorly, we may need to increase food.

For fat loss, a steady 1–1.5 lb per week is the target. Faster isn't better; it usually costs muscle and slows your metabolism.

Because your blood sugar is working harder, your carbohydrates are set a little lower and your fat a little higher than usual.

The number I care about most right now is protein. An easy way to reach 135–160 grams is:

- Breakfast: 40–50 g
- Lunch: 40–50 g
- Dinner: 40–50 g
- Snacks: 10–20 g

You mentioned you rarely eat breakfast. When you do eat in the morning, make it protein-forward (eggs, Greek yogurt, a protein shake) rather than toast, cereal or a pastry, which spike blood sugar.

Keep starchy carbohydrates (rice, bread, potatoes, pasta, tortillas) to about a fist-sized portion per meal, and fill the rest of the plate with vegetables and protein.

Breakfast Ideas

Option 1 – Veggie Egg Scramble

- 3 eggs
- Spinach, peppers and onions
- ½ avocado
- Salsa
- Small handful of berries

Option 2 – Greek Yogurt Bowl

- 1 cup plain Greek yogurt
- ½ cup berries
- 1 tablespoon chia or ground flax
- Small handful of walnuts

Option 3 – Protein Smoothie

- Protein powder
- Unsweetened almond milk
- ½ cup frozen berries
- Handful of spinach
- 1 tablespoon almond butter

Option 4 – Breakfast Plate

- 2 eggs
- 2–3 oz turkey sausage
- Sautéed vegetables
- Small piece of fruit

A protein shake is completely fine when you're busy. I'd rather have you drink a good protein shake than skip breakfast or eat something that doesn't give you enough protein.

Lunch Ideas

Option 1 – Big Protein Salad

- 4–5 oz chicken, salmon or steak
- Mixed greens and colorful vegetables
- Chickpeas or ½ cup beans
- Olive oil and lemon or vinegar
- Pumpkin seeds or avocado

Option 3 – Lettuce-Wrap or Open-Face Sandwich

- Turkey or chicken
- One slice of sourdough or a lettuce wrap
- Cheese, tomato, cucumber
- Side of vegetables and hummus

Option 2 – Burrito Bowl (lighter on rice)

- 4 oz chicken or lean beef
- ¼–½ cup rice or ½ cup beans
- Fajita peppers and onions
- Lettuce, salsa, guacamole

Option 4 – Leftovers

Leftovers are great. Fill half the plate with vegetables, a palm or two of protein, then a small portion of starch.

Dinner Ideas

Option 1 – Salmon & Vegetables

- 4–5 oz salmon
- Two cups of roasted broccoli, Brussels sprouts or asparagus
- Small sweet potato or ½ cup quinoa
- Olive oil

Option 2 – Sheet-Pan Chicken

- 4–5 oz chicken thighs
- Roasted cauliflower, peppers and onions
- ½ cup roasted potatoes
- Olive oil and herbs

Option 3 – Taco Night

- 4 oz lean beef or turkey
- 1–2 corn tortillas or a taco salad
- Lettuce, tomato, salsa
- Avocado
- Black beans on the side

Option 4 – Stir-Fry

- 4–5 oz chicken, shrimp or beef
- Lots of vegetables
- Coconut aminos or a little soy sauce
- ½ cup rice or cauliflower rice

Snacks

Snacks are an easy place to increase your protein. Instead of crackers or chips, try:

- Greek yogurt + berries
- Cottage cheese + cucumber or fruit
- Hard-boiled eggs
- Turkey and cheese roll-ups
- Jerky + an apple
- Hummus + vegetables
- Handful of nuts + string cheese
- Protein shake

- Celery or apple + peanut butter

Your Cholesterol

Your LDL was 128, ApoB was 104, and HDL was 46. ApoB counts the particles that can actually build plaque, so it's the number I watch most closely.

Most of the improvement here comes from the same changes we're making for blood sugar: less refined carbohydrate and sugar, more soluble fiber (oats, beans, lentils, chia, ground flax), olive oil, nuts and fatty fish 2–3 times a week.

Triglycerides and Omega-3s

Your triglycerides were 168; I like to see them under 100. Sugar, refined starches and alcohol are the biggest drivers, and they come down quickly when those come out. Omega-3s from fatty fish (salmon, sardines, mackerel) help too.

Your Iron Stores Are Low

Your ferritin was 38, iron saturation 20%, and hemoglobin 13.6. Low iron stores are one of the most common reasons for fatigue, hair shedding, feeling cold and restless legs, often before anemia shows up.

Eat iron-rich foods with vitamin C (beef, lamb, lentils and spinach with peppers or citrus), and keep coffee, tea and calcium at least 1–2 hours away from those meals. Just as important, we need to know why it's low. Heavy periods, diet and absorption are the most common reasons.

This may also be part of the fatigue you mentioned.

Your Thyroid

Your TSH was 2.9, free T3 2.9, and free T4 1.12. I like to see TSH between 1 and 2.

Stress, calorie intake, nutrition, illness and other factors can influence how the body processes thyroid hormones. That's another reason I don't want you dieting aggressively or undereating. Let's improve your nutrition, stress management and vitamin D first and then reassess.

This may also be part of the fatigue and weight gain around the middle you mentioned.

Your Liver Enzymes

Your ALT was 31, AST 24, and GGT 26. I like to see ALT under 25.

Mildly elevated liver enzymes most often mean fat is starting to build up in the liver, which is the liver's version of insulin resistance. Alcohol, added sugar and especially fructose drive this. I'd like you to take a break from alcohol for the next 8–12 weeks, cut sugary drinks and sweets, and eat cruciferous vegetables (broccoli, cauliflower, Brussels sprouts, cabbage) most days.

This may also be part of the weight gain around the middle you mentioned.

B12, Folate and Homocysteine

Your B12 was 455, folate 12.6, and homocysteine 8.4. Together these suggest your body could use more support with B12 and folate.

Eat dark leafy greens daily, along with eggs, fish and quality meat. If you take metformin or an acid blocker, let me know, because both lower B12.

This may also be part of the fatigue you mentioned.

Inflammation

Your hs-CRP was 2.6. I like to see it under 1.0.

The most common drivers are extra weight around the middle, blood sugar strain, poor sleep and gum disease. Fill your plate with colorful vegetables, cook with olive oil, eat fatty fish 2–3 times a week, cut back on processed and fried foods, and protect your sleep.

Vitamin D

Your vitamin D was 34, which is one nutrient I'd like to improve. I like to see it between 50 and 80.

A reasonable starting point is approximately 5,000 IU of vitamin D3 daily with food, and we'll recheck it in about 3 months.

Stress & Sleep

Your morning cortisol was 13.4 and DHEA-S 142, which tells me your stress response deserves some attention.

You rated your stress as high most days. Chronic stress raises blood sugar, drives cravings, disrupts sleep and can slow thyroid hormone activation, so it isn't a side issue; it's part of the plan.

You said you're sleeping about 6–7 hours a night. I'd like to see 7–9. Even one short night raises blood sugar and hunger hormones the next day, so protecting sleep makes every other part of this plan easier.

I'd like you to give yourself 20–30 minutes of lower stimulation before bed. That could mean putting the phone away, lowering the lights, taking a warm shower, reading, or writing down everything that's running through your head and what needs to get done tomorrow.

Waking during the night is often a blood sugar dip or alcohol wearing off. Eat a balanced dinner with enough protein, avoid alcohol within 3 hours of bed, and if you wake hungry, try a small protein snack in the evening.

You mentioned about 4 caffeinated drinks a day (coffee, tea, energy drinks and soda added together). Caffeine stays in your system for 6–8 hours, so work down to 1–2 cups and keep it before noon.

You can also spend 5 minutes doing slow breathing, with a slow, longer exhale. It doesn't have to be complicated. We're giving your nervous system a period every day where it isn't being constantly stimulated.

This may also be part of the afternoon energy crash and fatigue you mentioned.

Your Cycle Hormones

Your progesterone was 9.1. If this was drawn about a week after ovulation, I'd like to see it a little higher. Stress and sleep have a big effect on progesterone, so the habits in this plan matter here too. Let's recheck on cycle day 19–22 to confirm.

Hydration Is One of Our Biggest Priorities

You're currently drinking around 40 oz of fluids per day, and I want to improve that.

Let's gradually work toward 85+ oz of fluids per day, with more if you're exercising, sweating or spending time in the heat.

Don't feel like you need to go from 40 oz to 85 oz tomorrow.

- Week 1: 55–60 oz/day
- Week 2: 70–75 oz/day
- Week 3 onward: 85+ oz/day

One easy strategy is:

- Morning: 20–24 oz
- Late morning: 16–20 oz
- Afternoon: 20–24 oz
- Evening: 16–20 oz

Start drinking before you feel thirsty instead of trying to catch up at the end of the day.

Electrolytes

If you want electrolytes to go with your water, I recommend Redmond Re-Lyte, particularly on active days, hot days or days when you're sweating more. You can order it here and use the code DRK for a discount:

<https://living.redmond.com/products/re-lyte-hydration>

Soda and Sugary Drinks Are One of Our Biggest Priorities

You mentioned about 2 regular sodas a day. A single 12 oz can of soda has about 39 grams of sugar (close to 10 teaspoons), and a 20 oz bottle has about 65 grams.

Liquid sugar hits your bloodstream faster than anything you eat. It spikes insulin, gets turned into triglycerides and fat in the liver, and the fructose in it raises uric acid. That lines up with your fasting glucose (92), A1C (5.5%), fasting insulin (11.8), triglycerides (168), uric acid (5.9), and liver enzymes, and cutting sugary drinks is often the single fastest way to move those numbers.

Don't feel like you need to quit all at once. Drop one drink every week until you're at zero:

- Week 1: 1 a day
- Week 2: none

Good swaps: sparkling water with lime or a splash of juice, unsweetened iced tea, or water with Re-Lyte on active days. If it's the caffeine you're after, switch to unsweetened coffee or tea before noon.

You also add sugar, syrup or flavored creamer to your coffee or tea. Flavored creamers often have 5 grams of sugar per tablespoon, and most people pour 2–4. Switch to half-and-half, whole milk or an unsweetened creamer, and add cinnamon or vanilla for flavor.

Your Digestion

You mentioned bloating or gas. Digestion affects how well you absorb the nutrients in this plan, so it's worth working on alongside everything else.

Start with the basics: eat sitting down and slowly, chew well, and stop at about 80% full.

For bloating, keep a simple food and symptom journal for two weeks. Common triggers are dairy, wheat, beans, onions and garlic, sugar alcohols and carbonated drinks. Look for patterns rather than cutting everything at once.

If you have trouble swallowing, blood in your stool, black stools or weight loss you can't explain, please see your primary care provider right away.

Your Supplements (in Phases)

I only like to start about four supplements at a time, so we'll do this in phases. Start Phase 1 now and add the next phase in about 6–8 weeks if we still need it.

Phase 1 – Start Now

1. Diaxinol (Ortho Molecular) – 2 capsules daily with meals. Alpha lipoic acid, cinnamon extract, chromium, biotin and vanadium to support insulin sensitivity and healthy blood sugar.
2. Bergamot BPF (Ortho Molecular) – 2 capsules daily. Bergamot polyphenols to support healthy cholesterol and lipid levels.
3. Orthomega 820 (Ortho Molecular) – 1 softgel daily (820 mg EPA + DHA). Omega-3s for triglycerides, inflammation and insulin sensitivity.
4. Reacted Iron (Ortho Molecular) – 1 capsule daily (29 mg as bisglycinate), away from coffee, tea and calcium. A gentle, well-absorbed iron to rebuild ferritin.

Phase 2 – Weeks 6–8

1. Thyrotain (Ortho Molecular) – 4 capsules daily. Tyrosine, selenium, zinc and botanicals to support thyroid hormone production and T4-to-T3 conversion.
2. Hepato-Synergy (Apex Energetics) – As directed on the label (one packet). Liver detoxification, methylation and glutathione support in one daily packet.
3. Methyl B Complex (Ortho Molecular) – 1 capsule daily. Active B12 (methylcobalamin) and folate (5-MTHF) to lower homocysteine and support methylation.
4. Turmero Active (Apex Energetics) – As directed on the label. Liposomal curcuminoids to support a healthy inflammatory response and liver detoxification.

Phase 3 – After Retesting

1. Vitamin K2 with D3 (Ortho Molecular) – 1 capsule daily with a meal (5,000 IU D3 + 45 mcg K2). Vitamin D with K2 to bring vitamin D into the 50–80 ng/mL range.
2. Adapten-All (Ortho Molecular) – 2 capsules once or twice daily (morning and midday). Rhodiola, eleuthero, schisandra, ashwagandha and licorice to support a healthy stress response.
3. Cerenity (Ortho Molecular) – 3 capsules in the evening. L-theanine, GABA, 5-HTP and taurine to calm the nervous system and support sleep.
4. Progestaid (Apex Energetics) – As directed on the label. Nutritional support for the menstrual cycle and luteal phase.

How to Take Them

Start one new supplement every 3–4 days rather than all at once, so you can tell how each one agrees with you. Take them with food unless noted below.

- Diaxinol – with meals, split between breakfast and dinner.
- Bergamot BPF – with meals.
- Orthomega 820 – with a meal that has some fat; taking it with dinner helps avoid fishy burps.
- Reacted Iron – apart from coffee, tea, dairy and calcium, ideally with a vitamin C food like berries or citrus.
- Thyrotain – in the morning.
- Hepato-Synergy – with a meal.
- Methyl B Complex – in the morning with breakfast (B vitamins can be energizing).
- Turmero Active – with a meal.
- Vitamin K2 with D3 – with your largest meal, since it needs fat to absorb.
- Adaptin-All – in the morning and midday, not at night.
- Cerenity – in the evening, 30–60 minutes before bed.
- Progestaid – with food, as directed on the label.

Before starting any supplement, check with your pharmacist or prescriber if you take prescription medications. Stop anything that doesn't agree with you.

A few safety notes:

- Diaxinol – if you ever start a diabetes medication, tell your prescriber you take this; together they can push blood sugar too low.
- Bergamot BPF – if you start a cholesterol medication, tell your prescriber you take this.
- Orthomega 820 – stop it a week before any surgery or procedure, and don't combine it with blood thinners unless your prescriber approves.
- Reacted Iron – only take iron while your labs show low iron stores, keep it away from coffee, tea and calcium, and store it out of reach of children.
- Thyrotain – it contains iodine and ashwagandha. Skip it if you have Hashimoto's or thyroid antibodies, take thyroid medication, or become pregnant.
- Hepato-Synergy – if you have a known liver condition, check with your provider first.
- Methyl B Complex – it contains biotin, which can throw off some lab tests. Stop it 3 days before your next blood draw.
- Turmero Active – skip it if you take a blood thinner or have gallbladder problems.
- Vitamin K2 with D3 – don't use it with warfarin (because of the K2), and recheck vitamin D in about 3 months so you don't overshoot.
- Adaptin-All – it contains licorice, which can raise blood pressure. Skip it if you have high blood pressure or become pregnant. Ashwagandha can shift thyroid labs.
- Cerenity – it contains 5-HTP. Don't combine it with antidepressants, migraine triptans or tramadol.
- Progestaid – not for use in pregnancy; check with your provider if you use birth control or HRT.

You can order these through my Fullscript dispensary, which carries professional-grade brands and ships to your door: <https://us.fullscript.com/s/mkennington/shop>

Exercise

You told me your days are lightly active, so the biggest win is simply moving more often. I'm not looking for an extreme exercise program.

Start with a 10-minute walk after your biggest meals and build toward 8,000+ steps a day over the next month. Add 2 strength-training sessions per week for about 20–30 minutes.

A basic strength workout can include:

- Squats
- Lunges or step-ups
- Rows
- Chest press or push-ups
- Hip hinges/RDLs
- Basic core work

Strength training matters even more while losing fat: it tells your body to keep muscle while the fat comes off.

Labs That Would Give Us Better Answers

Your report covered a lot, but a few tests that weren't included would fill in important parts of the picture. Next time you test, consider adding:

- Magnesium, RBC – a better read on magnesium stores than the standard blood test.
- Omega-3 index – shows whether you're getting enough omega-3s from fish or supplements.
- Methylmalonic acid – confirms whether B12 is truly low at the tissue level.

You can order these through my Fullscript lab store: <https://us.fullscript.com/j/mkennington>

Your Main Goals

I know this looks like a lot of information, but the actual plan is very simple.

For the next 8–12 weeks, focus on:

- 135–160 grams of protein per day.
- About 1,600–1,750 calories a day to start.
- 85+ oz of fluids per day.
- Protein-forward breakfast; don't skip meals.
- Protein and vegetables first; smaller portions of starch.
- 10–15 minute walk after your biggest meals.
- Work down to zero regular soda and sugary drinks.
- No alcohol for now, and cut back on sweets.
- 7–9 hours of sleep, with a 20–30 minute wind-down before bed.
- Walk after meals and strength train twice per week.
- Take Diaxinol.
- Take Bergamot BPF.
- Take Orthomega 820.
- Take Reacted Iron.

The biggest thing I want you to understand is that your labs are telling us about these changes early, while they're still very easy to turn around.

Let's give your body consistent nutrition and movement for the next couple of months and see how your energy and numbers respond. Then repeat the important labs so you can see what changed and make decisions based on what your body actually needs rather than guessing or adding unnecessary supplements.

If you'd like me to personally go over your results and fine-tune this plan with you, you can book a Lab Review Visit at <https://drkennington.com>

-Mark Kennington DC | MSFN

Want a second set of eyes on your labs?

Book a Lab Review Visit and Dr. Kennington will go over your results with you and fine-tune this plan.

drkennington.com

Optimal targets are narrower ranges associated with lower long-term risk or best function. Where a clinical guideline sets a threshold, the target follows it: American Diabetes Association Standards of Care (glucose, A1c), 2018 AHA/ACC cholesterol guideline (LDL, ApoB, triglycerides), National Lipid Association 2024 (Lp(a)), AHA/CDC statement on inflammation (hs-CRP), KDIGO 2024 (kidney), American College of Gastroenterology (ALT), American Gastroenterological Association (ferritin) and Endocrine Society guidelines (testosterone, vitamin D). Other targets come from functional blood chemistry references and are educational, not diagnostic cutoffs.

For more on what each marker means and what you can do on your own, see *The Labs Your Doctor Didn't Order*, available at drkennington.com.