METABOLIC FUNCTION *LAB GUIDE*

THE OPTIMAL RANGES I LOOK FOR

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MARKER	IDEAL RANGE	WHAT IT TELLS YOU
BLOOD SUGAR & INSULIN		
Fasting glucose	**< 90 mg/dL** Ideally 70–90	Your blood sugar after fasting. Useful, but a lagging marker — one of the last things to go wrong.
Hemoglobin A1c	**< 5.4%**	Your average blood sugar over ~3 months. Also a lagging marker.
Fasting insulin	**< 5 µIU/mL**	The one that matters most — it rises years before glucose does, so it's your earliest warning.
HOMA-IR	**< 1.2**	Combines glucose and insulin into one number for how insulin-resistant you are. Catches trouble early.
Triglyceride / HDL ratio	**< 2:1**	A downstream sign of insulin resistance you can read off a basic lipid panel.
Uric acid	**< 6 mg/dL**	Climbs with metabolic dysfunction — an often overlooked marker.
KIDNEY		
Cystatin C	**0.5–1 mg/L**	A marker of how well your kidneys filter. Unlike creatinine, it isn't skewed by how much muscle you carry, creatine supplementation, your training, etc., so it often gives a cleaner read on kidney function.
LIVER		
ALT	**10–25 U/L**	Your liver enzymes. Rising levels — especially GGT — are often the first sign that fat is building up in your liver, which goes hand in hand with insulin resistance.
AST	**10–25 U/L**	
GGT	**10–15 U/L**	
VISCERAL FAT & GLUCOSE TRACKING		
Waist-to-height ratio	**< 0.5**	Divide your waist by your height. Over 0.5 flags visceral fat — the dangerous fat around your organs that actually drives insulin resistance.
DEXA (visceral fat)	By mass: **under 1,000 g** By area: **under 100 cm²**	The gold-standard scan for measuring visceral fat directly. It gives you an exact number to track, where the waist ratio is just an estimate. (Thresholds vary by lab, sex, and body size, so read it in context.)
Continuous glucose monitor (CGM)	Baseline: **< 100 mg/dL ideally 70–90** Post-meal peak: **< 140 mg/dL** Troughs: **stay > 70 mg/dL** Recovery: **baseline in 2–3 h**	A CGM shows how your blood sugar actually behaves all day — not just one fasted snapshot. Big spikes, crashes, or a baseline that won't come down point to insulin resistance well before a standard fasting test would catch it. Glucose shouldn't crash below 70 after a meal — reactive dips drive afternoon crashes, shakiness, and cravings.

FULL PANEL

See the Metabolic Health Lab List for every marker I run and how to prep for the draw.

Not sure what your labs are telling you?
That's what we figure out together.

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DISCLAIMER

The ranges in this guide are the optimal ranges I personally look for — they are not standard laboratory reference ranges, and they are not a diagnosis or a treatment recommendation.

"Optimal" reflects where I aim to see a marker for pursuing better metabolic health; it is not the same as a clinical "normal," and being outside these ranges does not by itself mean something is wrong.

This material is for educational and informational purposes only. It is not medical advice, and it is not a substitute for care from a qualified, licensed healthcare provider. Nothing here is intended to diagnose, treat, cure, or prevent any disease.

Always consult your physician or another licensed healthcare professional before making changes to your diet, supplements, medications, or exercise, before ordering or interpreting any lab tests, and before acting on anything in this guide. Do not disregard or delay seeking professional medical advice because of something you read here.

Lab results must be interpreted in the context of your full history, symptoms, and other markers by a qualified professional. Individual needs vary, and no guide can account for your specific situation.