



New Client Lab Guide

Understanding the Testing That Reveals Your Root Causes

Essential & Comprehensive Panels | Functional Testing | Condition-Specific | Where to Order

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WHY WE TEST

Test, don't guess

Symptoms tell us **that** something is wrong; laboratory data helps reveal **why**. In functional health, we don't just check whether a value falls inside a broad "normal" reference range — we look at where you sit within an **optimal** range, and how your markers relate to one another. A pattern of borderline results that each look "fine" in isolation can, together, tell a clear story about metabolism, inflammation, gut function, or hormone balance.

The key difference between conventional and functional medicine testing can be summarized simply:

- **Conventional medicine** typically orders tests when a disease is already present or strongly suspected — the goal is diagnosis.
- **Functional medicine** uses testing proactively to detect early imbalances before they develop into chronic disease — the goal is prevention and root-cause identification.

Most of the advanced tests in this guide are not part of routine annual physicals. You may need to request them specifically from your physician, or order them directly through a consumer lab service. Either way, bring your results to our consultation and we will review them together.

How to use this guide

- **Start with the Essential Panel** if budget is a concern — it covers the fundamentals and often reveals the biggest clues.
- **Choose the Comprehensive Panel** for the fullest functional picture, especially with long-standing or complex concerns.
- **Review Section 4** (Advanced Functional Testing) and share relevant tests with your physician — or order them directly.
- **Add a condition-specific panel** that matches your primary concern.
- **Already have labs?** Send anything from the past 12 months — there is no need to repeat recent testing.

Please note: This guide is educational and is not medical advice or an order for testing. Some direct-to-consumer options are not available in every state. Your physician can order most of these tests, and insurance may cover them when medically indicated.



START HERE

Budget-Friendly Essential Panel

These core markers deliver the most insight per dollar. Ordered directly through consumer lab services, this panel commonly costs \$100–\$250 total. Draw fasting (8–12 hours, water only), ideally in the morning.

Test	Why it matters
CBC with differential	Screens red and white blood cells and platelets — flags anemia, infection, immune stress, and nutrient deficiency patterns (B12, folate, iron).
Comprehensive Metabolic Panel (CMP)	Kidney and liver function, electrolytes, blood glucose, and protein status — the metabolic foundation.
Fasting insulin + glucose	Together these reveal insulin resistance years before blood sugar rises — a driver of weight gain, fatigue, and cravings.
Hemoglobin A1c	Your 3-month average blood sugar; tracks metabolic health over time.
Lipid panel	Cholesterol and triglycerides; the triglyceride-to-HDL ratio is a useful insulin-resistance clue.
TSH	First-pass thyroid screen; low energy, weight changes, and cold intolerance warrant a closer look.
Vitamin D, 25-OH	Influences immune balance, mood, bone, and hormone health; deficiency is extremely common.
hs-CRP	A sensitive marker of systemic inflammation — the common thread in most chronic conditions.
Ferritin + iron panel	Iron storage and transport; explains many cases of fatigue, hair loss, and poor exercise tolerance.



THE FULL PICTURE

Comprehensive Functional Medicine Panel

Includes everything in the Essential Panel, plus the markers below for a deeper view of thyroid physiology, methylation, nutrients, hormones, and cardiometabolic risk.

Test	Why it matters
Full thyroid panel: Free T3, Free T4, TPO & Tg antibodies, Reverse T3	TSH alone misses many thyroid problems. Free hormones show what is active; antibodies detect autoimmune thyroiditis (Hashimoto's); Reverse T3 reflects stress and conversion issues.
Homocysteine	Methylation and B-vitamin status; elevated levels relate to cardiovascular and cognitive risk.
Vitamin B12 & folate	Energy production, nerve health, and red blood cell formation.
RBC magnesium	A better reflection of tissue magnesium than serum; involved in 300+ enzymatic reactions including energy (ATP) production.
Omega-3 index	Balance of anti-inflammatory omega-3 fats in cell membranes.
Uric acid & GGT	Early metabolic-stress and liver/oxidative-stress markers.
Advanced lipids: ApoB, Lp(a)	Particle-based cardiovascular risk assessment — more precise than standard cholesterol.
Hormone panel: Estradiol, Progesterone, Total & Free Testosterone, DHEA-S, SHBG, AM Cortisol	Maps sex-hormone and adrenal patterns behind low libido, sleep problems, mood shifts, PMS/perimenopause, and low drive.



GOING DEEPER

Advanced Functional Testing

The tests below go beyond what most conventional physicians routinely order. You can request them from your doctor or order many directly through consumer lab services. Bring any results to your consultation and we will review them together.

Metabolic & Nutrient Testing

Test	Why it matters	How it differs
Fasting Insulin & HOMA-IR	Detects early insulin resistance before fasting glucose and A1c rise — a root cause of weight gain, fatigue, and metabolic syndrome.	Conventional medicine often waits until diabetes develops before intervening.
Magnesium RBC	Intracellular magnesium is crucial for energy, heart, muscles, and nerves. Deficiency is common but often missed.	Conventional tests check serum magnesium — only 1% of total body magnesium — which is not an accurate reflection.
Omega-3 Index	Measures the ratio of omega-3 to omega-6 fats in cell membranes — a key marker of inflammation and cardiovascular health.	Rarely checked in conventional medicine despite strong links to heart and brain health.
Homocysteine	High levels indicate B12, folate, or B6 deficiency and are linked to heart disease and cognitive decline.	Not routinely tested unless there is a strong suspicion of B-vitamin deficiency.
MTHFR Mutation Test	Identifies genetic variations affecting detoxification, mental health, methylation, and cardiovascular risk.	Tested only in rare cases conventionally; used proactively in functional medicine.
Vitamin D: 25-OH & 1,25-D	Essential for immune function, inflammation, and hormone health. Low levels linked to chronic disease.	Conventional doctors often check only 25-OH D3; the active form (1,25-D) adds important clinical context.

Gut & Microbiome Testing

Test	Why it matters	How it differs
Comprehensive Stool Analysis (GI-MAP, GI Effects, Gut Zoomer)	Assesses gut microbiome balance, digestion, absorption, inflammation markers, and infections — a detailed snapshot of gut health.	Conventional stool tests check only for major infections such as C. difficile or parasites.



Test	Why it matters	How it differs
SIBO Breath Test	Identifies small intestinal bacterial overgrowth (SIBO) — a major and commonly missed cause of bloating, gas, and IBS-type symptoms.	Rarely ordered unless a GI specialist is involved.
Zonulin & Intestinal Permeability	Measures gut barrier function ('leaky gut') linked to autoimmune conditions, inflammation, and food sensitivities.	Not tested in conventional medicine unless celiac disease is specifically suspected.



Advanced Cardiovascular Testing

Test	Why it matters	How it differs
Lp(a) — Lipoprotein A	A genetically determined cardiovascular risk factor not detected by standard cholesterol panels. Elevated Lp(a) significantly raises heart attack and stroke risk.	Conventional cholesterol panels do not include Lp(a) unless specifically requested.
NMR Lipid Profile / ApoB (CardiolQ)	Counts the actual number of atherogenic particles — a more precise cardiovascular risk measure than LDL cholesterol alone.	Standard cholesterol tests do not analyze particle number or size, leading to underestimation of risk.
Fibrinogen	A clotting factor linked to cardiovascular disease and stroke risk; elevated in chronic inflammation.	Not routinely tested unless there is a known clotting disorder.
LDL Particle Size	Differentiates between small, dense LDL (dangerous) and large, buoyant LDL (less harmful) — the same total LDL can carry very different risk.	Standard cholesterol tests do not analyze particle size.

Hormone & Adrenal Testing

Test	Why it matters	How it differs
DUTCH Test (Dried Urine Hormone Test)	Measures cortisol patterns throughout the day, estrogen metabolism pathways, progesterone, testosterone, and their metabolites — a comprehensive hormone map.	More detailed and clinically informative than a single blood hormone test.
4-Point Cortisol & DHEA (Saliva)	Assesses adrenal function and chronic stress patterns throughout the day.	Conventional medicine tests cortisol only once in the morning, missing the daily rhythm and dysfunction patterns.
SHBG (Sex Hormone Binding Globulin)	Helps assess how much testosterone and estrogen are actually available to tissues — total hormone levels can be misleading without it.	Not routinely tested unless fertility issues are present.

Autoimmune & Allergy Testing



Test	Why it matters	How it differs
Food Sensitivity Testing (IgG, IgA Panels)	Detects delayed food sensitivities (reactions occurring hours to days after exposure) that contribute to inflammation, headaches, brain fog, and gut symptoms.	Conventional doctors test only for IgE (immediate) allergies such as peanuts or shellfish.
ANA, Thyroid Antibodies (TPO, Tg), Anti-CCP, RF	Identifies early autoimmune activity — including Hashimoto's thyroiditis, rheumatoid arthritis, and lupus — before symptoms fully develop.	Conventional doctors typically wait until symptoms are well-established before testing.

Toxin & Heavy Metal Testing

Test	Why it matters	How it differs
Heavy Metal Panel (Lead, Mercury, Arsenic, Cadmium, Aluminum)	Detects toxic metal accumulation that can impair brain function, immune response, thyroid, and energy production.	Rarely ordered unless there is known occupational or environmental exposure.
Organic Acids Test (OAT)	A urine-based metabolic snapshot evaluating mitochondrial energy production, neurotransmitter metabolites, gut dysbiosis markers, and detoxification capacity.	Not available or routinely used in conventional medicine.



TAILORED TO YOU

Condition-specific recommendations

Add the panel matching your primary concern to the Essential or Comprehensive Panel above.

Weight loss & metabolic syndrome

Add these tests	What they reveal
Fasting insulin, leptin, HOMA-IR calculation	Quantifies insulin resistance — the usual engine of stubborn weight.
ApoB, triglyceride/HDL ratio	True cardiometabolic risk beyond the standard lipid panel.
ALT/AST + GGT	Screens for fatty-liver patterns common in metabolic syndrome.

Thyroid concerns

Add these tests	What they reveal
Full thyroid panel (TSH, Free T3, Free T4, Reverse T3)	Distinguishes production, conversion, and stress-related patterns.
TPO & thyroglobulin antibodies	Detects Hashimoto's — the most common cause of low thyroid in the U.S.
Ferritin, Vitamin D, selenium/iodine status	Cofactors the thyroid needs to make and use hormone.

Autoimmune conditions

Add these tests	What they reveal
ANA with reflex, hs-CRP, ESR	Screens autoimmune activity and overall inflammatory load.
Vitamin D, homocysteine	Immune-modulating nutrients frequently low in autoimmunity.
Comprehensive stool analysis	Gut integrity and microbiome triggers often underlie immune imbalance.
Celiac panel (tTG-IgA + total IgA)	Gluten-driven autoimmunity is a common hidden contributor.



Hormone optimization (men & women)

Add these tests	What they reveal
Total & Free Testosterone, SHBG, Estradiol	The active-hormone picture behind energy, mood, muscle, and libido.
DHEA-S & AM Cortisol	Adrenal output and stress-axis balance.
LH/FSH; Progesterone (women, days 19-21)	Clarifies where in the hormonal axis an imbalance originates.
PSA (men over 40, baseline)	Prostate baseline before any testosterone-support strategies.

Digestive disorders

Add these tests	What they reveal
Comprehensive stool analysis (GI-MAP or similar)	Pathogens, dysbiosis, digestion/absorption, and gut immune markers.
Celiac panel; H. pylori testing	Two of the most commonly missed digestive root causes.
SIBO breath test	Small-intestinal bacterial overgrowth — a frequent driver of bloating and IBS-type symptoms.
Ferritin, B12, Vitamin D, zinc	Malabsorption fingerprints: low nutrients despite a decent diet.

Cancer support clients (alongside oncology care)

Add these tests	What they reveal
CBC, CMP, hs-CRP	Monitors resilience, organ function, and inflammatory load during treatment.
Vitamin D, ferritin, albumin/prealbumin	Nutritional reserves that support treatment tolerance and recovery.
Fasting insulin & glucose, HbA1c	Metabolic terrain — blood-sugar control supports overall wellness during care.
Omega-3 index	Anti-inflammatory fat status relevant to appetite, muscle, and recovery.

Integrative cancer wellness support is always coordinated **alongside** — never instead of — your oncology team.



GETTING TESTED

Where to obtain affordable testing

Most of the tests in this guide — including many of the advanced functional panels — can be ordered directly online without a physician's order, at a fraction of hospital pricing.

Service	Details
Quest (questhealth.com)	Order many tests yourself online; draw at any Quest Diagnostics location nationwide. Transparent pricing.
Labcorp OnDemand (ondemand.labcorp.com)	Self-ordered testing with draws at Labcorp locations nationwide.
Ultralab Tests (ultralabtests.com)	Discounted Quest-network testing; frequent sales make comprehensive panels very affordable.
DirectLabs (directlabs.com)	Discounted panels through major national laboratories.
Function Health (functionhealth.com)	Membership program with 100+ biomarkers tested twice yearly and detailed results dashboards.
Your physician + insurance	Most tests here can be ordered by your doctor; insurance may cover them when medically indicated — often the cheapest route of all.

Tips for accurate results

- Fast 8-12 hours (water and necessary medications only) and draw in the **morning** — cortisol before 9 a.m.
- Avoid biotin supplements for 72 hours before testing — they can distort thyroid and hormone assays.
- Skip intense exercise for 24 hours beforehand; it can elevate liver enzymes and inflammatory markers.
- Cycling women: draw hormone panels on days 19-21 of your cycle when possible.
- Always download and save PDF copies of your results, and send them to us before your consultation.

Ready for your consultation?

Once your results arrive, email them to stan@rootrestorehealth.com or upload them through your secure client portal, then book your consultation at rootrestorehealth.com. We will review everything together and build your personalized wellness roadmap.

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