EXECUTIVE PERFORMANCE ADVISORY

The Executive *Performance Panel*

12 Biomarkers Every High Performer Should Track

And What Your Doctor Is Not Telling You

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INTRODUCTION

What Your Lab Results Are Not Telling You

Your annual bloodwork came back normal. Your doctor said everything looks good. You left the office with a clean bill of health and came back to the office still running on five hours of sleep, fighting through afternoon fog, and wondering why recovery takes twice as long as it used to.

This is not a coincidence. It is a measurement problem.

Standard laboratory reference ranges are built on population averages that include sedentary adults, metabolically compromised individuals, and people decades older than you. "Normal" means you are not sick enough to require immediate medical intervention. It says nothing about whether you are operating at the level your role demands.

There is a meaningful gap between the threshold at which a physician flags a concern and the threshold at which a high-performing executive experiences measurable degradation. That gap is where most executives live, and it is where this panel operates.

The 12 markers in this report were selected based on three criteria: documented impact on cognitive performance, physical output, and longevity; frequent underuse or misinterpretation in standard care; and direct actionability through targeted intervention. Every clinical claim in this report is supported by peer-reviewed evidence, referenced throughout.

This report is not a substitute for clinical care. It is a framework for a more precise conversation with your physician and a more informed understanding of where your biology may be limiting your output.

HOW TO USE THIS REPORT

For each marker: the standard laboratory range, the evidence-based optimal range, the clinical rationale with citations, what to specifically request from your physician, and red flags requiring follow-up. Bring this report to your next physical. Numbers in brackets refer to the full reference list on the final page.

12 Markers Across 4 Systems

HORMONAL PANEL	01. Testosterone (Total) / 02. Free Testosterone / 03. Cortisol (AM)
METABOLIC PANEL	04. Thyroid (TSH + Free T3 + Free T4) / 05. Fasting Insulin / 06. HbA1c
INFLAMMATION PANEL	07. hsCRP (High-Sensitivity CRP) / 08. Homocysteine
ENERGY AND RECOVERY	09. Ferritin / 10. Vitamin D (25-OH) / 11. Omega-3 Index
CARDIOVASCULAR	12. ApoB (Apolipoprotein B)

01 HORMONAL PANEL

Testosterone (Total)

STANDARD RANGE	OPTIMAL RANGE	STATUS
300 - 1000 ng/dL	600 - 900 ng/dL	REVIEW WITH PHYSICIAN

WHY IT MATTERS

Testosterone governs muscle synthesis, fat metabolism, drive, and cognitive clarity. The standard reference range was constructed from population averages that include sedentary and metabolically compromised adults. A reading of 310 ng/dL is "normal" by laboratory standards and functionally inadequate for high output. Research by Bhasin et al. (2018) established that symptomatic hypogonadism occurs across a wide range of total testosterone values, and that clinical thresholds must account for individual variation and symptom burden, not population distribution alone [1]. Travison et al. (2007) documented a population-level decline in testosterone levels over recent decades independent of aging, underscoring that current reference ranges may reflect a declining baseline rather than an optimal one [2].

References: [1], [2]

WHAT TO ASK YOUR PHYSICIAN

Request total AND free testosterone. Free testosterone is the bioavailable fraction your cells actually use.

RED FLAGS

- ! Below 400 ng/dL with fatigue, mood changes, or reduced libido
- ! Low normal with elevated SHBG

02 HORMONAL PANEL

Free Testosterone

STANDARD RANGE	OPTIMAL RANGE	STATUS
9 - 30 ng/dL	15 - 25 ng/dL	REVIEW WITH PHYSICIAN

WHY IT MATTERS

Total testosterone measures what is circulating. Free testosterone measures what is biologically available. Sex hormone-binding globulin (SHBG) binds testosterone and renders it inactive at the cellular level. Vermeulen et al. (1999) established the mathematical relationship between total testosterone, SHBG, and free testosterone, demonstrating that calculated free testosterone is a reliable proxy for the bioavailable fraction [3]. Antonio et al. (2016) confirmed that low free testosterone is independently associated with hypogonadal signs and symptoms even when total testosterone falls within the standard range [4]. Kumari et al. (2011) demonstrated a dose-response relationship between sleep quality and free testosterone levels, implicating recovery as a direct modulator of this marker [5].

References: [3], [4], [5]

WHAT TO ASK YOUR PHYSICIAN

Run alongside SHBG. The ratio of free to total testosterone is as informative as either value alone.

RED FLAGS

- ! Below 12 ng/dL regardless of total testosterone value
- ! High total testosterone with low free fraction

03 STRESS AND ADRENAL PANEL

Cortisol (AM)

STANDARD RANGE	OPTIMAL RANGE	STATUS
6 - 23 mcg/dL	14 - 20 mcg/dL (AM)	REVIEW WITH PHYSICIAN

WHY IT MATTERS

Cortisol follows a diurnal rhythm: elevated in the morning to support wakefulness and alertness, declining through the day to permit recovery. Tsigos and Chrousos (2002) detailed the hypothalamic-pituitary-adrenal axis response to chronic stress, showing that sustained activation progressively flattens the diurnal curve and impairs both cognitive performance and anabolic hormone production [6]. Adam et al. (2006) demonstrated in a population-based sample that disrupted cortisol dynamics correlate with reduced emotional regulation and cognitive efficiency [7]. Leproult and Van Cauter (2011) showed that even one week of sleep restriction significantly suppressed testosterone levels via cortisol pathway dysregulation [8].

References: [6], [7], [8]

WHAT TO ASK YOUR PHYSICIAN

Ask for a 4-point salivary cortisol panel to assess the full diurnal curve. A single AM serum draw is insufficient.

RED FLAGS

- ! Morning cortisol below 10 or above 22 mcg/dL
- ! Flat diurnal curve with no meaningful morning peak

04 METABOLIC PANEL

Thyroid (TSH + Free T3 + Free T4)

STANDARD RANGE	OPTIMAL RANGE	STATUS
TSH: 0.5 - 4.5 mIU/L	TSH: 1.0 - 2.0 | Free T3: upper third of range	REVIEW WITH PHYSICIAN

WHY IT MATTERS

TSH is a pituitary signal, not a direct measure of thyroid tissue function. Garber et al. (2012) noted that TSH alone fails to capture peripheral thyroid hormone activity and that Free T3, the metabolically active form, must be measured to assess functional status [9]. Bianco and Kim (2006) established that impaired deiodinase activity, the enzyme responsible for converting T4 to active T3, can produce functional hypothyroidism with a normal TSH [10]. Celi et al. (2011) demonstrated in a randomized controlled crossover trial that optimizing T3 levels produced measurable improvements in metabolic rate, mood, and cognitive performance independent of TSH normalization [11].

References: [9], [10], [11]

WHAT TO ASK YOUR PHYSICIAN

Request TSH, Free T3, Free T4, and reverse T3 as a complete panel. Standard thyroid testing covers only TSH.

RED FLAGS

- ! TSH above 2.5 with fatigue, cold intolerance, or cognitive slowing
- ! Low Free T3 despite normal TSH

05 METABOLIC PANEL

Fasting Insulin

STANDARD RANGE	OPTIMAL RANGE	STATUS
2 - 25 uIU/mL	Below 8 uIU/mL	REVIEW WITH PHYSICIAN

WHY IT MATTERS

Reaven (1988) first described the insulin resistance syndrome, demonstrating that hyperinsulinemia precedes glucose dysregulation by years and that fasting insulin is a superior early indicator of metabolic risk [12]. Tabak et al. (2012) confirmed that the prediabetic state, defined by insulin resistance rather than glucose elevation, begins a decade or more before formal diagnosis [13]. Abbasi et al. (2002) established that elevated fasting insulin independently predicts coronary heart disease risk in non-diabetic individuals, independent of lipid panels and blood pressure [14]. Most standard panels do not include fasting insulin. Requesting it explicitly provides a window into metabolic function that no other routine test offers.

References: [12], [13], [14]

WHAT TO ASK YOUR PHYSICIAN

Ask for fasting insulin alongside fasting glucose. Calculate HOMA-IR using the formula: (fasting glucose x fasting insulin) / 405.

RED FLAGS

- ! Fasting insulin above 10 uIU/mL
- ! HOMA-IR above 1.5 in a high-performing adult

06 METABOLIC PANEL

HbA1c

STANDARD RANGE	OPTIMAL RANGE	STATUS
Below 5.7%	4.8 - 5.3%	REVIEW WITH PHYSICIAN

WHY IT MATTERS

HbA1c reflects average blood glucose over 90 days. Selvin et al. (2010) demonstrated in a large prospective cohort that cardiovascular risk increases in a continuous, graded fashion beginning well below the diabetic threshold, with meaningful risk elevation observable at 5.5% [15]. Cowie et al. (2009) documented the prevalence of undiagnosed prediabetes using HbA1c criteria, confirming that millions of adults accumulate glycemic damage for years before receiving any clinical diagnosis [16]. Yaffe et al. (2012) showed in a prospective study of older adults without dementia that higher HbA1c predicted greater 9-year cognitive decline, independent of diabetes status [17]. The optimal range for executive function and longevity sits below 5.4%.

References: [15], [16], [17]

WHAT TO ASK YOUR PHYSICIAN

Pair HbA1c with fasting glucose and fasting insulin for a complete metabolic picture. HbA1c alone does not capture insulin dynamics.

RED FLAGS

- ! Above 5.5% in any high-performing adult under 60
- ! Year-over-year upward trend even within normal range

07 INFLAMMATION PANEL

hsCRP (High-Sensitivity CRP)

STANDARD RANGE	OPTIMAL RANGE	STATUS
Below 3.0 mg/L	Below 0.8 mg/L	REVIEW WITH PHYSICIAN

WHY IT MATTERS

Ridker et al. (2002) demonstrated in a landmark prospective study that hsCRP outperformed LDL cholesterol as a predictor of first cardiovascular events in apparently healthy adults [18]. Libby, Ridker, and Maseri (2002) established inflammation as a primary mechanism of atherosclerosis progression, not merely a consequence, positioning hsCRP as a marker of active disease process rather than incidental finding [19]. Danesh et al. (2004) confirmed in a meta-analysis that even modest elevations in CRP within the "normal" range carry independently elevated cardiovascular risk [20]. Standard lab flagging at 3.0 mg/L identifies high risk. The optimal zone for longevity-focused executives is below 0.8.

References: [18], [19], [20]

WHAT TO ASK YOUR PHYSICIAN

Specify high-sensitivity CRP when ordering. Standard CRP assays lack the resolution to detect low-grade chronic inflammation.

RED FLAGS

- ! Above 1.5 mg/L without acute illness or injury
- ! Persistently elevated with no identified inflammatory source

08 INFLAMMATION PANEL

Homocysteine

STANDARD RANGE	OPTIMAL RANGE	STATUS
Below 15 umol/L	Below 8 umol/L	REVIEW WITH PHYSICIAN

WHY IT MATTERS

Selhub (1999) characterized homocysteine metabolism and its dependence on B-vitamin cofactors, establishing the biochemical basis for nutritional intervention [21]. Smith et al. (2010) published a randomized controlled trial demonstrating that B-vitamin supplementation in patients with mild cognitive impairment significantly slowed brain atrophy rates in those with elevated homocysteine at baseline, a finding with direct implications for executive cognitive preservation [22]. Refsum et al. (2006) documented in a large community cohort that homocysteine elevation above 10 umol/L is associated with increased risk of cognitive decline, cardiovascular disease, and all-cause mortality [23]. This marker is rarely included in standard panels and represents one of the highest-leverage, lowest-cost interventions when elevated.

References: [21], [22], [23]

WHAT TO ASK YOUR PHYSICIAN

If homocysteine is elevated, follow up with methylmalonic acid and active B12 to assess functional B12 status independent of serum B12.

RED FLAGS

- ! Above 10 umol/L
- ! Above 7 umol/L in any individual with cardiovascular or cognitive risk factors

09 ENERGY AND RECOVERY PANEL

Ferritin

STANDARD RANGE	OPTIMAL RANGE	STATUS
12 - 300 ng/mL (men)	75 - 150 ng/mL	REVIEW WITH PHYSICIAN

WHY IT MATTERS

Ferritin is the primary iron storage protein and a critical determinant of oxygen transport, mitochondrial function, and cognitive energy. Beard (2001) established the mechanism by which iron insufficiency impairs neuronal function and muscle metabolism at the cellular level, independent of anemia [24]. Vaucher et al. (2012) demonstrated in a randomized controlled trial that non-anemic women with low ferritin experienced significant fatigue reduction with iron supplementation, confirming that the functional threshold for ferritin is substantially higher than the anemia threshold [25]. The standard lower bound of 12 ng/mL reflects the threshold for iron deficiency anemia. Performance begins to degrade well above that level.

References: [24], [25]

WHAT TO ASK YOUR PHYSICIAN

Run ferritin alongside serum iron and total iron-binding capacity (TIBC) for a complete iron status assessment.

RED FLAGS

- ! Below 50 ng/mL with unexplained fatigue or reduced exercise capacity
- ! Above 200 ng/mL without investigation for hemochromatosis or chronic inflammation

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ENERGY AND RECOVERY PANEL

Vitamin D (25-OH)

STANDARD RANGE	OPTIMAL RANGE	STATUS
30 - 100 ng/mL	55 - 75 ng/mL	REVIEW WITH PHYSICIAN

WHY IT MATTERS

Vitamin D functions as a steroid hormone, regulating gene expression across more than 1,000 target sequences. Holick (2007) documented the scope of vitamin D deficiency and its consequences for immune regulation, bone density, and metabolic function [26]. Pilz et al. (2011) demonstrated in a randomized controlled trial that vitamin D supplementation in deficient men produced significant increases in testosterone levels, establishing a direct link between this marker and hormonal performance [27]. Garland et al. (2009) compiled global evidence linking vitamin D insufficiency to elevated cancer risk across multiple organ systems [28]. The standard sufficient threshold of 30 ng/mL represents the level at which severe deficiency disease is prevented. The performance and longevity target is 55 to 75 ng/mL.

References: [26], [27], [28]

WHAT TO ASK YOUR PHYSICIAN

Request 25-OH Vitamin D (calcidiol) specifically. Retest 90 days after beginning supplementation to confirm response.

RED FLAGS

- ! Below 40 ng/mL in any adult, regardless of symptoms
- ! Above 100 ng/mL without clinical supervision

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ENERGY AND RECOVERY PANEL

Omega-3 Index

STANDARD RANGE	OPTIMAL RANGE	STATUS
Above 4% (deficiency threshold)	8 - 12%	REVIEW WITH PHYSICIAN

WHY IT MATTERS

The Omega-3 Index, introduced by Harris and Von Schacky (2004), measures EPA and DHA as a percentage of total red blood cell fatty acids and established the relationship between this measure and cardiovascular mortality risk [29]. Yurko-Mauro et al. (2010) demonstrated in a randomized controlled trial that DHA supplementation in older adults with age-related cognitive decline produced significant improvements in learning and memory [30]. Mozaffarian and Wu (2011) compiled comprehensive evidence that omega-3 fatty acids reduce cardiovascular risk through multiple independent mechanisms including triglyceride reduction, anti-inflammatory signaling, and plaque stabilization [31]. Most executives without targeted supplementation test below 5%, placing them at significantly elevated risk by this measure.

References: [29], [30], [31]

WHAT TO ASK YOUR PHYSICIAN

OmegaQuant offers a validated direct-to-consumer Omega-3 Index test if your physician does not routinely order it.

RED FLAGS

- ! Below 6%
- ! No dietary fish intake and no EPA/DHA supplementation

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CARDIOVASCULAR PANEL

ApoB (Apolipoprotein B)

STANDARD RANGE	OPTIMAL RANGE	STATUS
Below 130 mg/dL	Below 80 mg/dL	REVIEW WITH PHYSICIAN

WHY IT MATTERS

ApoB quantifies the number of atherogenic lipoprotein particles directly. Sniderman et al. (2011) conducted a meta-analysis confirming that ApoB is a superior predictor of cardiovascular risk compared to LDL cholesterol or non-HDL cholesterol [32]. Pencina et al. (2014) demonstrated that applying updated cholesterol guidelines reclassified risk for millions of patients, and that particle number measures such as ApoB changed clinical decision thresholds significantly [33]. The Emerging Risk Factors Collaboration (2009) confirmed in a large prospective analysis that ApoB adds independent predictive value beyond traditional lipid panels [34]. Two individuals can have identical LDL cholesterol and dramatically different cardiovascular risk based on particle number. ApoB resolves that ambiguity. It must be ordered separately from a standard lipid panel.

References: [32], [33], [34]

WHAT TO ASK YOUR PHYSICIAN

Request ApoB specifically. It is not included in a standard lipid panel. Also request Lp(a) if family history of cardiovascular disease is present.

RED FLAGS

- ! Above 100 mg/dL
- ! High LDL cholesterol with unknown ApoB particle number

YOUR NEXT STEP

From Panel to Protocol

This panel is a diagnostic instrument. Its value is proportional to what you do with the data. A result outside the optimal range is not a verdict. It is a variable. Variables can be moved.

The most common mistake executives make after running a panel like this is addressing each marker in isolation. Testosterone optimization without addressing cortisol and insulin is incomplete. Inflammation reduction without identifying the source is temporary. These systems interact, and interventions must be sequenced accordingly.

The second most common mistake is bringing these results to a physician trained to manage disease rather than optimize performance. That conversation often ends with "your levels are fine." If that has been your experience, the issue is not your biology. It is the clinical framework being applied to it.

A structured advisory engagement begins with this panel and builds a coherent, evidence-based intervention strategy from the results. Every modifiable variable gets addressed. Every system that is underperforming gets sequenced into a protocol. The outcome is not a number on a lab report. It is sustained output at a level most executives have not experienced in years.

APPLY FOR PRIVATE ADVISORY

Engagements are limited to a small number of clients at any given time. Advisory begins with a private strategy consultation to evaluate fit, review your current panel, and identify the highest-leverage intervention for your specific profile.

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Peer-Reviewed Sources

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