HERITAGE HAVENS

NUTRITION & PEPTIDE WELLNESS COHORT

Hormone Panel Guide

How to interpret your hormone labs — optimal ranges, patterns, and what to do with your results

Nutrition & Peptide Wellness Cohort · Month 4

Standard hormone panels test for deficiency and disease — not optimization. This guide teaches you to read your results with functional medicine eyes, understanding the difference between 'normal' and 'optimal' and what your specific pattern means for your health.

For educational purposes only. Not medical advice. Consult your licensed healthcare provider before beginning any protocol.

Important: Lab reference ranges are population-based averages — they include sick people. 'Normal' is not the same as 'optimal.' Always review your results with a qualified practitioner.

THYROID

Thyroid Panel — The Metabolism Master

The thyroid regulates metabolic rate in every single cell of your body. A basic TSH test alone is insufficient — it misses conversion problems, receptor resistance, and autoimmune thyroid disease that can be present for years before TSH moves.

Marker	Lab Normal Range	Functional Optimal	Low Means	High Means
TSH	0.5–4.5 mIU/L	0.5–2.0 mIU/L	Hyperthyroid (TSH low = pituitary backing off)	Hypothyroid (pituitary pushing harder to get response)
Free T4	0.8–1.8 ng/dL	1.1–1.6 ng/dL	Low thyroid hormone production	Elevated — can indicate resistance or excess
Free T3	2.3–4.2 pg/mL	3.2–4.2 pg/mL	Poor conversion T4→T3; active hypothyroidism	Hyperthyroid — check with symptoms
Reverse T3	9.2–24 ng/dL	< 15 ng/dL	N/A	Blocking active T3 receptors — functional hypothyroidism
TPO Antibodies	< 35 IU/mL	< 15 IU/mL	N/A	Autoimmune thyroid attack — Hashimoto's likely
TgAb Antibodies	< 1 IU/mL	Undetectable	N/A	Autoimmune thyroid — Hashimoto's or Graves'

Pattern to know: Normal TSH + Low Free T3 = conversion problem. Your body is making T4 but not converting it to the active T3 hormone. Common causes: low selenium, zinc, iron; high cortisol; liver dysfunction.

SEX HORMONES

Estrogen, Progesterone & Testosterone

Sex hormones fluctuate throughout the menstrual cycle. The most informative timepoints are Day 3 of your cycle (follicular baseline) and Day 19–22 (luteal peak). Post-menopausal women: any day is appropriate.

Marker	When to Test	Functional Optimal	Pattern of Concern
Estradiol (E2)	Day 3 + Day 19-22	Day 3: 25–75 pg/mL; Day 21: 100–300 pg/mL	Estrogen dominance: high E2 relative to progesterone
Progesterone	Day 19–22 only	Day 21: > 10 ng/mL (ideally 15–25)	Low progesterone = estrogen dominance even with normal E2
E:P Ratio	Calculated	Progesterone : Estradiol > 100 (pg/mL units)	Ratio < 100 = estrogen dominance pattern
Total Testosterone	Any day	50–100 ng/dL (women)	Low: fatigue, low libido, muscle weakness
Free Testosterone	Any day	1.0–8.5 pg/mL (women)	Low free T with normal total = high SHBG binding
SHBG	Any day	40–120 nmol/L	High SHBG: lowers free testosterone and estrogen
DHEA-S	Morning	125–380 μg/dL (women)	Low: adrenal insufficiency, aging, chronic stress
LH	Day 3	2–15 mIU/mL	Elevated Day 3 LH suggests diminished ovarian reserve

Signs of Estrogen Dominance

- Heavy, painful, or prolonged periods
- PMS — mood swings, irritability, bloating
- Weight gain around hips and thighs
- Fibrocystic breasts or uterine fibroids
- Anxiety and sleep disruption before period
- Fatigue especially in the second half of cycle

Root Causes of Estrogen Dominance

- Low progesterone (most common cause)
- Poor liver estrogen clearance (methylation issues)
- Excess body fat — adipose tissue converts androgens to estrogen
- Xenoestrogen exposure (plastics, pesticides, conventional meat)
- Gut dysbiosis — estrobolome imbalance recirculates estrogen
- Chronic stress — cortisol competes with progesterone synthesis

ADRENAL & STRESS

Cortisol & Adrenal Function

Cortisol follows a diurnal rhythm — highest in the morning (6–8am), declining through the day. A single fasted AM cortisol is the most practical test. A 4-point saliva cortisol (AM, noon, PM, late evening) gives a more complete picture.

Marker	Test Timing	Optimal Range	Concern Pattern
Cortisol (serum)	Fasted, 7–9am	10–18 µg/dL AM	Low AM: adrenal fatigue/HPA dysregulation
DHEA-S	Morning	125–380 µg/dL (F)	Low DHEA-S with low cortisol = adrenal exhaustion
4-Point Saliva Cortisol	AM/Noon/PM/PM	High-low-lower-lowest (curve)	Flat curve: HPA dysregulation; Inverted: adrenal exhaustion
ACTH Stimulation Test	Clinical setting	Per lab with stimulation	For suspected Addison's or adrenal insufficiency

INSULIN & METABOLIC

Metabolic Hormone Panel

Marker	Optimal Range	Clinical Note
Fasting Insulin	2–6 µIU/mL	Most labs don't flag until >25 — but >10 indicates resistance
Fasting Glucose	70–85 mg/dL	Trending 90+ indicates metabolic dysfunction before 'prediabetes' label
HbA1c	4.5–5.2%	3-month average; lab 'normal' extends to 5.6 — functionally this is already elevated
HOMA-IR	< 1.0	Calculate: (fasting glucose × fasting insulin) ÷ 405
Leptin	4–9 ng/mL (women)	High leptin + weight gain = leptin resistance, not just deficiency
IGF-1	150–300 ng/mL	Monitor during any GH peptide protocol — stay in mid-range, not maxed

INTERPRETING RESULTS

How to Read Your Full Panel — Common Patterns

The Exhausted Pattern

Lab Pattern: TSH high-normal or elevated + Low Free T3 + Low morning cortisol + Low DHEA-S + Low progesterone

Response: Chronic stress has downregulated the entire HPA-HPT axis. Priority: adrenal support, stress reduction, sleep optimization, adaptogenic herbs.

Estrogen Dominance Pattern

Lab Pattern: Normal or high estradiol + Low progesterone + High SHBG + Low free testosterone + Heavy or irregular periods

Response: Support liver detoxification, reduce xenoestrogen exposure, support progesterone through diet and sleep, consider DIM supplementation.

Metabolic Resistance Pattern

Lab Pattern: Fasting insulin > 10 + HbA1c > 5.3 + High triglycerides + Low HDL + Leptin elevated

Response: Reduce refined carbohydrates, prioritize protein and resistance training, address sleep, consider berberine or metformin with provider.

Optimal Hormonal Pattern

Lab Pattern: All markers in functional optimal ranges + Energy stable + Sleep restorative + Cycle regular + Body composition stable

Response: Maintain current nutritional, lifestyle, and sleep practices. Retest every 6–12 months or when symptoms arise.

When to Retest

- Initial panel: before starting any protocol (Month 1 of cohort)
- Follow-up: Month 3 (midpoint) and Month 6 (outcome)
- Thyroid: every 3 months if on thyroid support or actively managing Hashimoto's
- Sex hormones: every 6 months or when symptoms change
- Cortisol: every 3 months if adrenal support is in progress
- IGF-1: every 6–8 weeks during any GH peptide protocol