



UNDERSTANDING MEN'S HORMONE HEALTH

A Guide to Testosterone and Other Key
Hormones, Natural Support, BHRT, and
Nutrition and Lifestyle for Optimal Vitality



INDEPENDENT[™]
MEDICAL ALLIANCE

Hormonal Health: More Than Just Testosterone

Why It Matters

Hormones govern more than just sex drive—they influence mood, motivation, metabolism, energy, muscle strength, sleep, cognitive clarity, and even cardiovascular health. In men, subtle shifts in hormone levels—especially testosterone, DHEA, and cortisol—can have profound effects long before they reach disease-level dysfunction.

Unfortunately, many men are told their “labs look normal” even when they’re experiencing textbook symptoms of hormone imbalance: fatigue, brain fog, belly fat, low libido, and emotional flatness. Functional medicine asks a deeper question: What’s optimal, not just normal?

This chapter explores how male hormones interact, what labs to test (and how to interpret them), and how nutrition, sleep, stress, strength training, and smart supplementation can help recalibrate the body’s hormonal terrain.



Understanding Testosterone: Deficiency vs Optimal Function

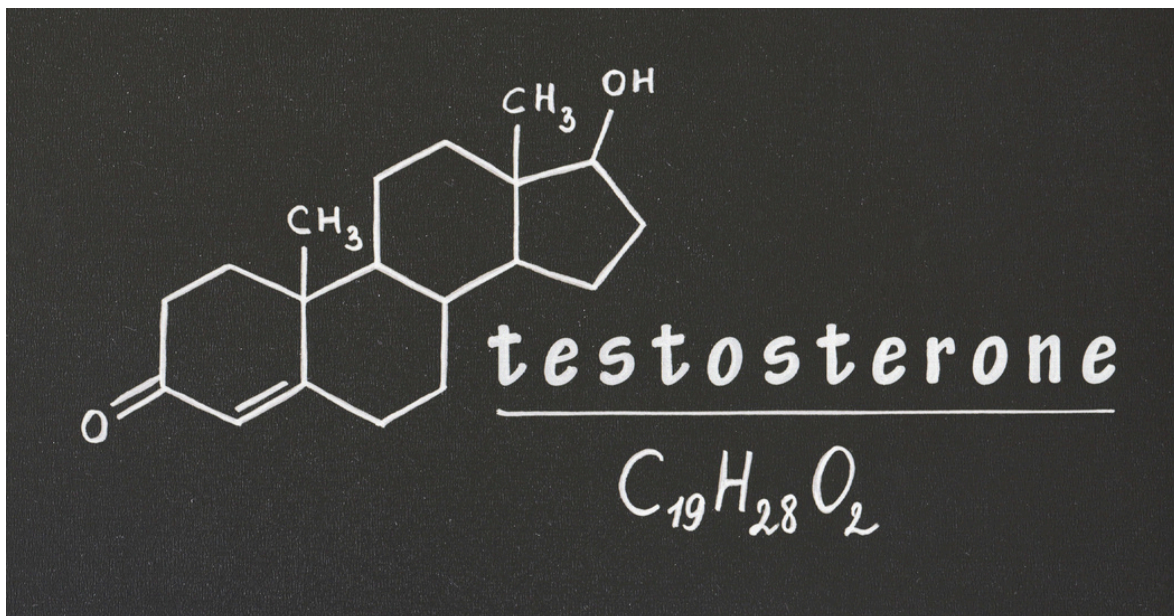
Testosterone is the principal male androgen responsible for:

- Libido and sexual performance
- Muscle mass and strength
- Bone density and physical endurance
- Mood stability and confidence
- Red blood cell production
- Fat distribution and metabolic efficiency

Symptoms of Low Testosterone

- Low libido or erectile changes
- Loss of morning erections
- Difficulty building or maintaining muscle
- Weight gain (especially abdominal fat)
- Depressed mood or increased irritability
- Poor recovery from workouts
- Fatigue or low motivation ("flatness")
- Trouble concentrating or remembering things

Men may experience significant symptoms even within the "normal" lab range, especially if free testosterone is low or SHBG is high.



Beyond T: Other Hormones That Matter

DHEA (Dehydroepiandrosterone)

DHEA is a precursor to testosterone and estrogen, produced by the adrenal glands. It supports:

- Libido and energy
- Resilience to stress
- Immune function and mood stability
- Cognitive performance

DHEA levels decline with age and chronic stress. Low levels are associated with fatigue, mood changes, and poor recovery. Supplementation may be beneficial in low levels, especially in men over 40.

Cortisol

This stress hormone helps regulate:

- Blood sugar
- Inflammation
- Circadian rhythm
- Energy during the day

When chronically elevated (from poor sleep, overtraining, or unresolved stress), cortisol can suppress testosterone production, promote belly fat storage, and lead to “wired but tired” symptoms.

When depleted (adrenal fatigue or HPA axis dysregulation), men may feel burnt out, foggy, and chronically fatigued.



Beyond T: Other Hormones That Matter

Melatonin

Best known for regulating sleep, melatonin also:

- Acts as a potent antioxidant
- Supports mitochondrial function
- Modulates immune activity

Poor melatonin production (from light exposure at night or shift work) can interfere with recovery, testosterone release during sleep, and overall resilience.

Estrogen in Men

Men produce estrogen too—mainly through aromatization of testosterone in fat tissue. Some estrogen is necessary for:

- Bone health
- Libido
- Brain function

But excess estrogen (often from abdominal fat or exposure to estrogen-mimicking toxins like BPA or phthalates) can cause:

- Gynecomastia
- Erectile dysfunction
- Mood swings
- Increased prostate risk
- Suppression of testosterone

Optimal hormonal health is about balance—testosterone to estrogen ratio, not just one number.



Recommended Hormone Lab Testing

For Serum Bloodwork (Basic & Accessible):

- Total Testosterone
- Free Testosterone (via equilibrium dialysis or calculated)
- SHBG (sex hormone binding globulin)
- Estradiol (sensitive assay)
- DHEA-S
- Cortisol (AM fasting)
- FSH, LH (to assess pituitary function)
- Prolactin (if libido is low or testosterone suppressed)

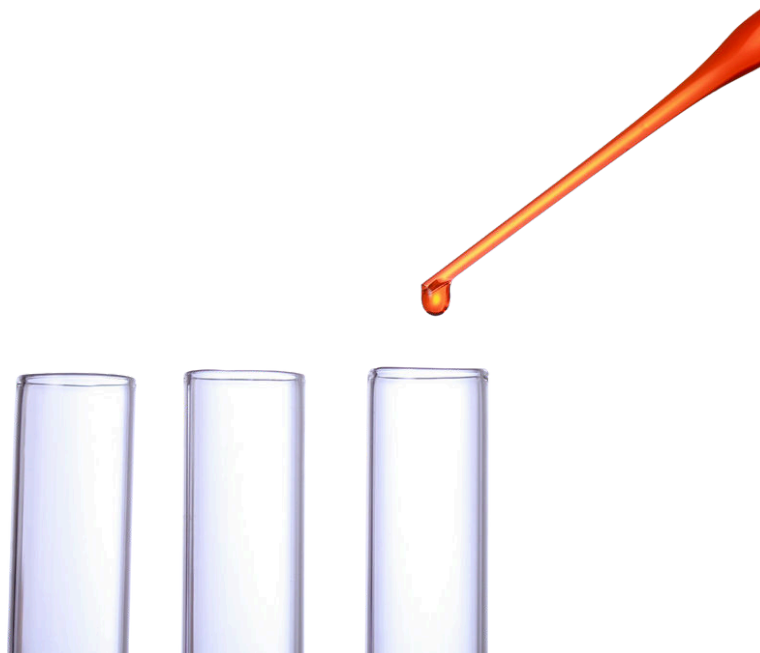
For Advanced Functional Testing (Optional):

- DUTCH Complete (urine panel): offers full view of sex hormones, cortisol patterns, and metabolite detox pathways
- Salivary cortisol panel: can reveal daily cortisol rhythm
- Thyroid panel (TSH, Free T3/T4, reverse T3): often interacts with hormone health
- Metabolic markers: fasting insulin, HbA1c, lipids, hs-CRP

Hormone Health Symptom Tracker

Common signs that hormone balance may need attention:

- Low libido
- Erectile changes or lack of morning erections
- Fatigue or low motivation
- Difficulty building muscle
- Weight gain, especially around the midsection
- Sleep disturbances
- Feeling emotionally flat or irritable
- Brain fog or reduced memory
- Hair thinning
- Depression or apathy
- Poor recovery from workouts



Lifestyle Factors That Influence Hormones

Sleep

- Most testosterone is released during deep sleep, especially early morning hours.
- Men with poor sleep (less than 6–7 hours) often show reduced total and free testosterone.
- It is important to address sleep apnea, reduce screen exposure, and protect circadian rhythm.

Strength Training

- Weight training (especially compound lifts) can increase testosterone and growth hormone levels.
- Overtraining, however, may suppress testosterone—balance intensity with recovery.

Fat Mass and Aromatase

- Excess body fat—especially around the abdomen—acts as an estrogen factory through increased aromatase enzyme activity.
- Reducing body fat helps restore testosterone dominance and reduces estrogen-related symptoms.

Stress

- Chronic stress → chronically elevated cortisol → suppressed testosterone, disrupted DHEA, poor melatonin output.
- Incorporate regular stress-modulating practices: breathwork, nature walks, meditation, cold/hot therapy, etc.



Natural Support for Male Hormonal Health

In addition to foundational lifestyle shifts—like strength training, sleep optimization, and stress reduction—certain nutrients and botanical extracts can support healthy testosterone production, androgen balance, and stress resilience.

Zinc

Zinc is one of the most important minerals for male reproductive health. It's essential for testosterone synthesis, spermatogenesis, immune function, and prostate maintenance. It also inhibits the aromatase enzyme, helping prevent the conversion of testosterone into estrogen. Many men are deficient due to poor soil quality, high stress, alcohol use, or GI malabsorption.

Typical dose: 15–30 mg/day (as picolinate, citrate, or glycinate). Consider balancing with copper at 1–2 mg/day for long-term use.

Boron

Boron is a trace mineral that helps increase free testosterone by reducing SHBG (sex hormone-binding globulin). It also supports bone density, cognition, and vitamin D metabolism. Some studies show boron may modestly reduce estrogen in men with elevated levels.

Dose: 3–10 mg/day; often taken in chelated or glycinate form.

Tongkat Ali (*Eurycoma longifolia*)

This Malaysian root extract supports endogenous testosterone production by stimulating luteinizing hormone (LH) and reducing cortisol. It's used traditionally to enhance libido, energy, and athletic performance and has research backing for sperm count and erectile function support.

Dose: 200–400 mg/day, standardized to 1–2% eurycomanone.

Ashwagandha (*Withania somnifera*)

Ashwagandha is a clinically studied adaptogen that helps reduce cortisol, increase testosterone, and improve semen parameters. It's especially useful for men with adrenal depletion or stress-induced hormonal suppression.

Dose: 300–600 mg/day (KSM-66 for physical performance; Sensoril for stress).



Natural Support for Male Hormonal Health

Maca (*Lepidium meyenii*)

Maca is a Peruvian root traditionally used to support libido and stamina. It doesn't directly increase testosterone but appears to modulate the hypothalamic-pituitary-gonadal (HPG) axis, improving energy, sexual desire, and mood—particularly in men with stress-related sexual dysfunction.

Dose: 1,500–3,000 mg/day of gelatinized maca for best absorption.

Shilajit (Purified Asphaltum)

Used in Ayurvedic medicine, shilajit is a mineral-rich resin shown to increase total testosterone, sperm count, and mitochondrial function. It's also a potent fulvic acid source, supporting detox and nutrient uptake.

Dose: 250–500 mg/day (standardized to fulvic acid content). Ensure heavy metal testing and purification in sourcing.

Fenugreek (*Trigonella foenum-graecum*)

Fenugreek seed extract may help support free testosterone and sexual performance by modulating SHBG and promoting insulin sensitivity. It's often used in male libido blends.

Dose: 300–600 mg/day (standardized to fenuside or protodioscin content).

Nettle Root (*Urtica dioica*)

Stinging nettle root is a natural aromatase and SHBG modulator. It may help increase free testosterone availability and reduce prostate inflammation. It's commonly paired with saw palmetto for urinary and hormonal benefits.

Dose: 300–500 mg/day or in combination formulas.

Cordyceps sinensis

This medicinal mushroom supports energy, libido, and performance by enhancing oxygen utilization and adrenal resilience. Some studies show mild increases in testosterone and improved fertility markers.

Dose: 1–3 grams/day (mycelium or fruiting body extract).

Vitamin D3 + K2

Vitamin D acts more like a hormone than a vitamin, influencing testosterone production, immune function, and bone metabolism. Deficiency is strongly linked with hypogonadism.

Dose: 2000–5000 IU/day of D3 with 100–200 mcg/day of K2 (MK-7), ideally after confirming levels via lab testing.



When to Consider Bioidentical Hormone Therapy (BHRT)

Natural and lifestyle-based approaches to hormone optimization—through sleep, exercise, stress reduction, and targeted supplementation—are often the first and most appropriate interventions for men with mild to moderate hormonal shifts. But for some men, especially those with clinically confirmed testosterone deficiency, these foundational strategies may not be enough. When symptoms persist and testosterone levels remain suboptimal despite best efforts, bioidentical hormone replacement therapy (BHRT) may be a legitimate and transformative next step.

When BHRT May Be Appropriate

Bioidentical testosterone therapy may be considered when:

- Laboratory testing confirms low total and/or free testosterone, particularly with:
 - Total T < 350 ng/dL (depending on lab range and symptoms)
 - Free T < 9–10 ng/dL (often more relevant than total T)
 - Low LH and FSH indicating primary or secondary hypogonadism
- Symptoms are persistent and significantly impair quality of life:
 - Low libido, erectile dysfunction
 - Fatigue, depression, apathy
 - Muscle loss or weight gain despite exercise
 - Poor recovery, low motivation, and emotional "flatness"
- Lifestyle and nutraceutical interventions have been optimized, but failed to fully resolve symptoms
- There is a clear goal to restore function, vitality, and long-term healthspan under medical supervision



Potential Benefits of Bioidentical Hormone Therapy (BHRT)

When properly prescribed, monitored, and paired with lifestyle support, BHRT may offer profound improvements in:

- Energy, motivation, and stamina — especially in midlife or post-andropause
- Libido and erectile function, by restoring androgen signaling and nitric oxide pathways
- Mood and cognitive function, especially in men with anxiety, depression, or memory decline
- Muscle mass and fat distribution, supporting body recomposition and metabolic function
- Bone mineral density, reducing risk of fractures in aging men
- Cardiovascular health, particularly when testosterone is optimized—not excessively elevated—and paired with anti-inflammatory and metabolic care

Emerging research suggests that testosterone, when maintained in optimal (not supraphysiologic) ranges, does not increase cardiovascular risk when used responsibly in healthy men. In fact, low testosterone has been associated with higher rates of cardiovascular events, diabetes, and mortality.



BHRT Considerations

Despite its benefits, BHRT is not a “set-it-and-forget-it” therapy. It requires informed decision-making, education, and consistent follow-up.

Key considerations include:

- Fertility suppression: Exogenous testosterone suppresses the hypothalamic-pituitary-gonadal axis, often reducing sperm production. Men seeking fertility preservation may require HCG or other adjuncts.
- Estrogen conversion: Some men aromatize testosterone to estradiol excessively, leading to symptoms like water retention, mood swings, or gynecomastia. Estradiol should be monitored.
- DHT (dihydrotestosterone): Testosterone can convert to DHT, which in excess may contribute to acne, hair loss, or prostate irritation.
- Hematocrit/hemoglobin elevation: Testosterone stimulates red blood cell production, which can lead to thickened blood (erythrocytosis). Labs should monitor hematocrit and hemoglobin routinely to reduce stroke or clot risk.
- PSA and prostate health: Though testosterone does not cause prostate cancer, it may stimulate growth of existing prostate tissue. PSA and DRE should be part of regular follow-up in men over 45–50 years of age.
- Liver metabolism (if using oral forms): Oral testosterone (non-methylated) is rarely used due to hepatic strain—topical gels/creams and injectables are the preferred routes.



Forms of BHRT

Forms of Testosterone Therapy

- Topical (gel or cream): Easy to apply daily; steady absorption but may cause transfer to others if not applied correctly
- Injectable (cypionate or enanthate): Given weekly or bi-weekly; more cost-effective and reliable, though levels can spike/trough
- Pellets: Implanted under the skin every 3–6 months; convenient, but harder to adjust dose
- Nasal or buccal: Fast-absorbing, shorter-acting; useful in specific cases

Your provider should help determine the best route based on lifestyle, goals, and absorption.

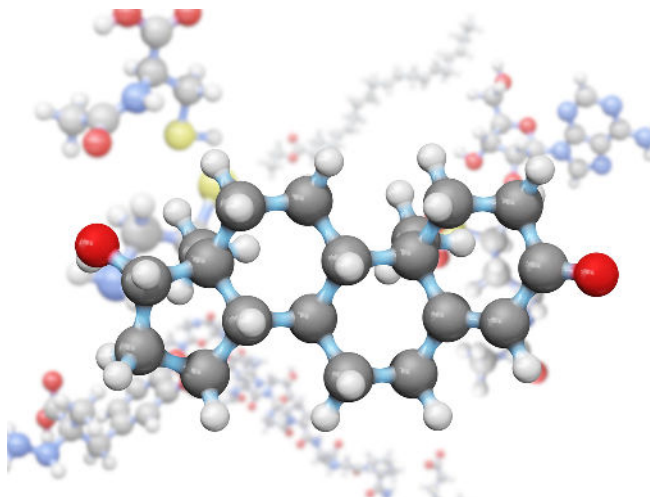
Compounded vs Conventional BHRT

Compounded testosterone formulations—often used in functional medicine—can offer customized dosing, cleaner excipients, or multi-hormone blends (e.g., testosterone + DHEA).

However:

- They must be sourced from high-quality compounding pharmacies
- Potency and absorption can vary—monitoring is essential
- Insurance coverage may be limited compared to FDA-approved brands

In many cases, conventional testosterone (e.g., AndroGel®, testosterone cypionate injections) is clinically sufficient—but some men prefer compounded options for better tolerability or personal preference.



Lab Monitoring Schedule for Men on BHRT

Marker	Frequency
Total and Free Testosterone	Every 3-6 months
Estradiol (sensitive assay)	Every 3-6 months
DHT (if symptoms)	Every 6-12 months
CBC (Hematocrit/Hemoglobin)	Every 3-6 months
PSA + DRE (age dependent)	Annually
SHBG	Annually
Lipids, glucose, insulin	Every 6-12 months
Liver enzymes	Every 6-12 months

BHRT Should Always Be Paired With Lifestyle Support

Testosterone replacement is not a shortcut. Without restorative sleep, resistance training, anti-inflammatory nutrition, and stress regulation, testosterone will only take you so far. When paired with the right foundation of daily habits, however, BHRT can help restore vitality, performance, and purpose—especially for men navigating midlife or recovering from chronic burnout.

Diet for Hormonal Health

Hormones are built, activated, and cleared using the raw materials provided by food. A nutrient-dense, anti-inflammatory diet is foundational to hormonal balance in men—supporting testosterone production, detoxifying excess estrogens, and regulating blood sugar and cortisol.

Core Dietary Principles:

- Prioritize protein: Include 20–30 grams per meal from sources like grass-fed beef, wild fish, pastured eggs, and legumes to support testosterone and muscle maintenance.
- Emphasize healthy fats: Avocados, olive oil, ghee, nuts, seeds, and cold-water fish provide the cholesterol backbone needed for hormone synthesis.
- Balance blood sugar: Include fiber-rich vegetables and healthy fats with each meal to avoid insulin spikes that impair testosterone production.
- Load up on cruciferous vegetables: Broccoli, kale, arugula, and Brussels sprouts support estrogen metabolism through compounds like DIM and sulforaphane.
- Reduce endocrine disruptors: Limit processed foods, alcohol, and plastic-packaged meals, which can introduce xenoestrogens and inflammation.
- Support the gut–liver axis: A healthy microbiome and efficient liver detoxification (with nutrients like choline, B6, and magnesium) help eliminate excess hormones and inflammatory byproducts.

Simple, consistent eating patterns rooted in whole, seasonal foods support not just hormone levels, but also energy, cognition, and emotional resilience.



Reclaiming Hormonal Resilience

Hormonal health isn't about chasing one number—it's about restoring the natural rhythm, resilience, and feedback loops of the male body. Testosterone matters, but so do cortisol, DHEA, melatonin, and even estrogen—in the right balance, at the right time. The path forward is rarely “just take a pill”—it's a systemic reset that starts with how you sleep, move, eat, breathe, and recover.

Whether you're rebuilding after burnout, preparing for healthy aging, or simply trying to feel like yourself again, supporting hormone health is a gateway to vitality, clarity, and confidence.





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