WOMEN'S HEALTH · HORMONE OPTIMIZATION

Women's Hormone Guide

A clear look at the three hormones that shape how you feel and perform, what optimal actually looks like, and how to know where yours stand.

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PRECISION · OPTIMAL RANGES · ROOT CAUSE

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What is inside

You pay attention to your body. You train, you read, you track what you can, and you want the inputs that move the needle most.

Your sex hormones are among the most powerful of those inputs, and among the least measured. Most women are handed a single number, told it is normal, and sent on their way.

Normal is a wide range built around disease. Optimal is a narrower target built around how a body actually performs. The two are not the same, and the gap between them is where most of the opportunity sits.

This is a clear briefing on the three hormones that govern much of how you feel, think, and perform, what optimal looks like for each, and how they can be measured precisely enough to act on.

Three hormones, working as a system

There are three hormones at the center of how a woman feels and functions: estrogen, progesterone, and testosterone. Estrogen and progesterone are the best known, and they run as a balanced pair. Estrogen itself comes in three forms, of which estradiol is the most potent and does most of the work.

Testosterone is the one most often left out of the conversation. Women make far less of it than men, but it matters nearly as much to mood, drive, strength, and sexual health. Leaving it unmeasured leaves a third of the picture blank.

The three work as a system. Estrogen and progesterone oppose each other in some places and reinforce each other in others, and testosterone runs alongside both. The balance among them, not the level of any one alone, is what holds the system steady.

Where they oppose each other

Estrogen holds fluid. Progesterone releases it. Estrogen drives water retention, often in the breasts and abdomen. Progesterone is a natural diuretic. It lowers the number of estrogen receptors, especially in the breasts and uterus, and blocks aldosterone, a hormone that holds water.

Estrogen builds the uterine lining. Progesterone caps it. Estrogen thickens the lining, which can mean heavier bleeding. Progesterone halts that growth and keeps blood loss in check.

Estrogen activates. Progesterone calms. Estrogen stimulates the alert, sympathetic side of the nervous system. Left unopposed, it can read as wired or anxious. Progesterone stimulates the calming, parasympathetic side and steadies mood and sleep.

Where they work together

Estrogen drives female physiology. Estradiol shapes the breasts and pelvis, brings blood supply and color to the skin, supports vaginal lubrication and the voice, and triggers ovulation. The sharp drop in estrogen at the end of the cycle is what starts a period.

Estriol protects tissue. Estriol has a narrower role. It thickens and moistens the mucous membranes of the vagina, bladder, and eyes, which keeps those tissues resilient.

Progesterone governs the second half of the cycle. Progesterone readies the uterus, turns the lining secretory after ovulation, and supports a steady, calm baseline. Its rhythm across the month is part of what a single untimed lab draw misses.

Testosterone drives more than libido. Testosterone supports sex drive and sexual sensitivity, but it also feeds mood, assertiveness, motivation, muscle, and bone. When it runs low, the effects read as a broad flattening, not only a change in the bedroom. Much of a woman's testosterone is built from precursors like DHEA, which is part of why the picture is worth measuring rather than guessing.

> *A point on form. The synthetic progestins in many conventional prescriptions do not behave like the progesterone your body makes. Many are androgen-derived and can hold fluid rather than release it. The molecule matters, not just the label, which is why what gets prescribed deserves scrutiny.*

What optimal looks like

A healthy young woman produces these hormones in a consistent rhythm. Those production levels are a useful anchor for what an optimized adult range looks like, distinct from the wide reference band a lab calls normal.

HORMONE	HEALTHY YOUNG-ADULT PRODUCTION (AGES 18 TO 30)
Estradiol	60 to 200 micrograms a day, higher in the second half of the cycle
Progesterone	1 to 2 milligrams a day in the first half, rising to 20 to 40 milligrams in the second half
Testosterone	About 250 micrograms a day, far less than a man makes but central to how a woman functions

Reading your hormonal signature

Because each hormone does a different job, a shortfall in one produces a different signature than a shortfall in another. These clusters are not a diagnosis. They are a way to read what your body may be signaling, and to know what is worth measuring.

An estrogen-dominant shortfall (low estrogen)

Estrogen tends to decline first and most steeply over time. When it runs low, the signal often reads as:

- Hot flushes and night sweats, often worse at night
- Sleep that fragments, energy that drops by afternoon
- Flatter mood, lower drive, slower recall
- Vaginal dryness and reduced comfort with intimacy
- More frequent bladder irritation
- Drier skin and finer lines
- Cycles that lengthen, lighten, or stop

A progesterone shortfall (relative estrogen excess)

Progesterone is the balancing partner. When it falls and estrogen runs unopposed, the signal flips almost to the opposite:

- Premenstrual tension, irritability, or anxiety
- Tender, swollen breasts before the cycle
- Bloating and a distended abdomen
- Heavier or more painful cycles
- A wired, tense quality that disrupts sleep
- Breast or ovarian cysts, or fibroids

A testosterone shortfall

Testosterone is the one most often overlooked. It declines earlier and faster in women than most expect. When it runs low, the signal is broad:

- Low sex drive and reduced sexual sensitivity
- Flat mood, anxiety, or a loss of assertiveness and drive
- Fatigue that worsens with activity, low stamina
- Muscle that is harder to build or hold, and reduced strength
- A sense of motivation and confidence quietly fading

Recognizing more than one of these at once is common, because the hormones interact. Which one is actually driving your physiology is a measurable question, and the answer is what makes a precise plan possible.

The inputs you control

Hormone levels are not fixed. Several inputs move them, and for an optimizer these are the levers worth understanding before reaching for anything else.

- **Training load.** Intense, prolonged physical demand can draw down sex hormones, testosterone included. The dose and recovery matter, and the right amount is individual.
- **Stress and nervous-system load.** Sustained stress suppresses the pituitary signals that tell the body to produce estrogen, progesterone, and testosterone. Managing it is a direct hormonal input, not a soft one.
- **Nutrition.** What you eat shapes hormone production and clearance. The specifics are individual and are best set against your own data rather than a generic rule.

Why levels shift over time

You are born with every egg you will ever have, between one and two million. About 300,000 remain by puberty, and roughly 600 are lost each month with none replaced. The eggs are the body’s main source of estrogen and progesterone, so as their number falls, production falls with it.

Testosterone follows its own decline, and it starts early. By around age 40 a woman's testosterone is often less than half what it was at 21. None of this is failure. It is a predictable trajectory, and a measurable one.

Knowing where you are on that trajectory, early and precisely, is what turns it from something that happens to you into something you can plan around.

What can be measured, and how deep

These hormones and their metabolites can be measured directly and tracked over time. This is the part most care skips, and it is where precision lives.

Estradiol is read alongside its metabolites: estrone, estriol, 2-OH-estrone, 4-OH-estrone, 16-alpha-OH-estrone, and the methoxy forms. How your body processes estrogen, not just how much you have, is part of the picture.

Progesterone is read through its level and its metabolite pregnanediol, and against estradiol, since the ratio between them is often more informative than either number alone.

Testosterone takes more than one number. Total testosterone shows production, free testosterone and the ratio to SHBG show how much actually reaches your cells, and DHEA shows the raw material your body builds testosterone from. Reading these together is what separates a real picture from a single misleading value.

Timing the draw matters too. When a test is taken changes what it shows. If you still cycle, estradiol and progesterone are best read in the second half of the cycle, about a week before your period, when progesterone peaks. Testosterone is best drawn in the morning, when it runs highest. These are details a thorough workup gets right and a routine one often misses.

Read against optimal physiology rather than a disease-based reference range, and tracked over time rather than caught in a single draw, these markers move from a vague normal to an accurate read of how your system is actually running.

How optimization actually works

If testing shows a gap worth closing, the goal is simple to state: bring what is low back toward optimal, using the form closest to what your body makes, in the rhythm your physiology runs on.

It takes time, and that is normal. Finding your optimal is not one prescription. It is a cycle of measure, adjust, and measure again. Expect the first few months to be about dialing in, with the clearest results building over six months to a year. Hormones move slowly, and a careful plan respects that.

A word on the worry about hormones

Many women carry a hesitation about hormone therapy, and it usually traces to headlines from one large study in the early 2000s. Those findings have since been read with far more nuance, especially for women who begin near the menopause transition.

There is an inconsistency worth naming. Synthetic hormones in birth control pills have been prescribed freely for decades. Bioidentical hormones, identical in structure to what your body already makes, are often met with more suspicion than that. The reaction and the evidence do not line up.

None of this settles your individual case, and it is not meant to. It is the reason to measure deeply and decide on your own data, in a real conversation with a physician, rather than on a decades-old headline.

The principles behind a plan

A few principles shape every plan, whatever the specifics turn out to be.

Bioidentical, by preference. Hormones identical in structure to your own are the default. Transdermal estradiol and micronized progesterone behave like the real thing. Many older synthetic versions do not, and some carry risks worth avoiding when a cleaner option exists.

Estrogen is paired with progesterone. The two are balanced by design, so they are restored as a pair, not in isolation. This holds even when the case looks like it is only about one of them.

Route and rhythm matter as much as dose. How a hormone enters the body changes how it acts. Through the skin, estrogen avoids the first pass through the liver that oral forms take, and progesterone often follows the same logic. And your hormones were never meant to sit flat all month, so a thoughtful plan often follows a cycle. The right amount is individual, and some women need less than others.

Testosterone is restored carefully, and balanced. When testosterone is low, it can be brought back toward optimal, but it is the most individual of the three and is always balanced against estrogen and progesterone. The dose is small, the form and placement matter, and it is raised gradually with monitoring. Done well, the effects on energy, mood, drive, and strength build over months.

Application technique is real. With transdermal hormones, where and how they are applied changes how much actually reaches you. Spread thin over a large area, rubbed in well, they form a steady reservoir under the skin. Done carelessly, the same dose can spike and fade by afternoon. The details are coachable, and they matter.

> *Hormone therapy has real contraindications and individual risks, and testosterone for women in particular is an area where careful, individualized medical judgment matters most. The right plan depends on your history, your goals, and your labs. That is the work of a clinical relationship, which is why this guide describes the principles rather than prescribing a regimen.*

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My focus is reading your biology against what optimal looks like, not just what is average, and giving you the time and the data to make an informed decision about your own health.

The next step

If you want to know where your hormones actually stand, the work starts with measuring deeply and reading the results against what optimal looks like for you.

A free Precision Call is where we scope that. You bring your goals and your questions. I bring the testing, the interpretation, and the time to walk you through what the data means so you can decide your direction with full information.

Book a free Precision Call **Website**

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This guide is general education, not a diagnosis or a promise of outcomes. Your biology is individual, and it deserves to be measured and interpreted as such.