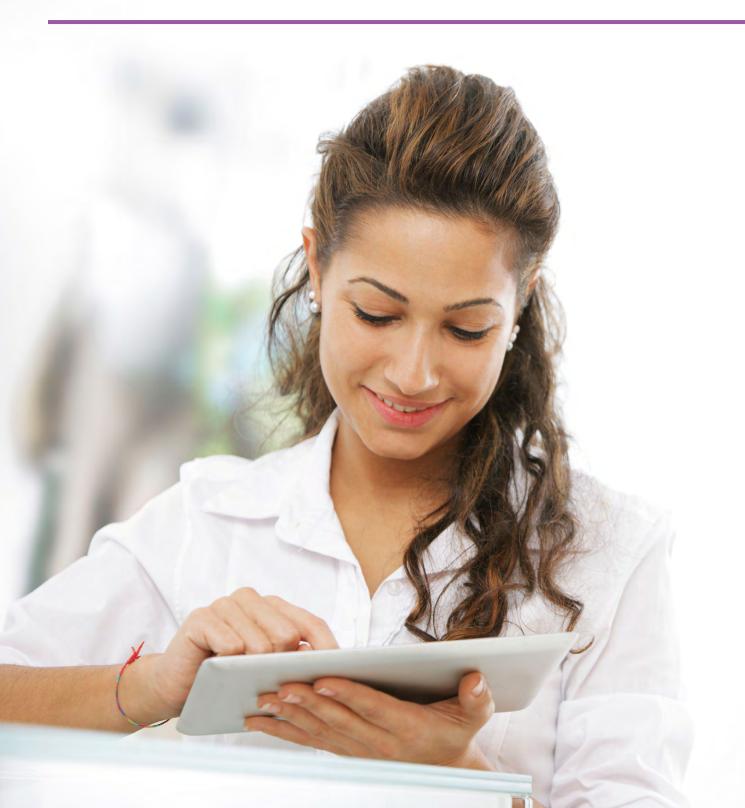
DR. MARIZA Snyder

# HORMONE LAB TESTING CHECKLIST & REFERENCE GUIDE





### IN ORDER TO DEMYSTIFY HORMONE TESTING, THERE ARE THREE TRUTHS YOU NEED TO KNOW:

- 1. Women's hormone testing generally focuses on **ONLY** sex, adrenal, and thyroid hormones.
- 2. There is **NO ONE** comprehensive test that will get you everything that you need.
- **3.** "Normal" ranges for test results may not be **YOUR** normal.

When you're dealing with symptoms of hormone imbalance (weight gain, hot flashes, fatigue, low sex drive, and much more), it's important to get your hormones tested so you know what you need to change.

Unfortunately, there are many options for hormone testing and trying to figure out which tests you actually need can be overwhelming.

Today, I'm going to show you which types of hormone tests I recommend, as well as the exact ranges I always look for when evaluating results.

If you are ready to dive in further and figure out what is going on with your hormones BEFORE you request your labs, I have created a quick Hormone Quiz that can help you easily identify the most common hormonal imbalances.

### CLICK HERE TO TAKE THE HORMONE QUIZ NOW.

My recommended testing focuses on three areas: sex hormones, adrenal hormones, and thyroid hormones.

## WHY FOCUS ON SEX, ADRENAL, AND THYROID HORMONES?

They control the majority of the hormonal work of the body and are deeply interconnected. When we have an accurate picture of what is happening in those three areas, we can begin to understand what is happening in your body when considering symptoms, issues, and other concerns.

\*Be sure to always discuss your hormone testing options and results with your trusted healthcare provider, who will take into consideration your entire health history in addition to these test results.

**PART 1:** 

### **TYPES OF HORMONE TESTS**

There are actually three different methods of hormone testing that I recommend to my patients: blood, saliva, and urine.

To get the most comprehensive results for your situation, you may need to choose a combination of tests to fit your specific needs.

### **BLOOD TESTING**



### HORMONES THAT CAN BE TESTED VIA BLOOD:

Thyroid, sex, adrenal.

### **USAGE:**

Blood tests are wonderful for showing you a quick snapshot in time: they reveal your hormone levels at the exact instant that you took your blood test. This works well for things like a CBC (Complete Blood Count), and thyroid testing. It allows us to test a wide range of thyroid hormones for a specific look at active levels. If we notice discrepancies, then we can go back and order more blood testing to see where and when levels are varying.

### **DRAWBACKS:**

The drawback to blood testing for thyroid levels is that it is hard to tell the difference between bound and free hormone levels. Free levels are very relevant when we look at how much of a hormone is available for use in your body, a level that many doctors overlook. Drawbacks to blood testing for other hormones (such as adrenal and sex), include the fact that these levels often fluctuate throughout the day. Since a blood test is only a snapshot in time, you won't know what your hormones did during the rest of the day, so this leaves out some data.

### **SALIVA TESTING**



### HORMONES THAT CAN BE TESTED VIA SALIVA:

Sex, adrenal

### **USAGE:**

Saliva tests are great for measuring hormone levels over a period of time. For example, I prefer saliva testing for cortisol (am adrenal hormone), because your cortisol levels fluctuate greatly during the course of the day. With saliva testing, you can take samples at multiple times throughout the day to get a better picture of your daily cortisol patterns.

### **DRAWBACKS:**

The drawbacks to saliva testing lie in the fact that the convenience of DIY opens it up to human error. You have to follow the instructions explicitly, avoiding eating, teeth brushing, mouth washing, gum chewing, etc. in order to have accurate results. They can also be altered if you are using prescribed topical hormones, so don't choose this test if you fall in that category. Plus, these tests are only available for steroid hormones (adrenal and sex hormones), not thyroid hormones, so you will have to combine this method with a blood test for thyroid hormones in order to get a complete picture.

### **URINE TESTING (DUTCH)**



### HORMONES THAT CAN BE TESTED VIA THE DUTCH:

Sex, adrenal

### **USAGE:**

An amazing gain in testing is the more recent DUTCH test (Dried Urine Test for Comprehensive Hormones), which uses samples ofurine throughout the day to test for a comprehensive panel of hormonal levels. You simply soak a pad with pee and then let it dry before sending it in. It collects a huge amount of data, including sex and adrenal hormones. It also tests for the metabolites of these hormones, which are markers to show you how well your body is (or isn't) breaking down key hormones such as estrogens, progestogens, androgens, cortisol and melatonin.

### **DRAWBACKS**:

The DUTCH test is expensive and the results are complicated. Even if you can do individual collection of multiple samples, the results still need to be interpreted by a medical professional. But the sheer quantity of the results often make it worth it, especially for your metabolite levels.

Your trusted healthcare provider should look for any discrepancies in these levels and also take into consideration the results of these levels in relation to your hormonal levels and any other tests that you request.

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### **PART 2:**

### **RECOMMENDED TESTS AND IDEAL RANGES**

As you know, my recommended testing focuses on three types of hormones: thyroid, adrenal, and sex.

Below you will find a complete list of markers that I recommend for each of these areas, along with reference ranges and my notes about each one.

Please note: If you are comparing your test results with the recommended ranges below, please keep the following in mind:

- "Normal" ranges may not be your normal. Though the medical community has developed what is accepted as a "normal" range, that doesn't take into account your unique history and genetic makeup. What is "normal" on paper may not be normal for you.
- If you fall close to either the bottom or the top of the listed hormone ranges, there may be an underlying issue. This is best explored with a trusted medical practitioner who knows your specific history and situation.
- Some hormones are dependent on others. For example, a low normal in one area with an abnormal level in another may indicate the precursor of a developing issue. Again, you will likely need the help of a trusted medical worker to spot and treat these.

LET'S TAKE A LOOK AT
MY MOST RECOMMENDED TESTS....

### CBC COMPLETE BLOOD COUNT



Most blood tests begin with what is called a CBC, or a Complete Blood Count, to breakdown and evaluate the blood cells in your body to get an accurate picture of your bodily levels. It looks at the following:

### **RBCs (Red Blood Cells)**

4 million to 5 million cells/mcL

These carry oxygen and filter carbon dioxide. A stable number helps keep your body fueled, while too low signifies anemia.

### **Platelets**

140,000 to 450,000 cells/mcL

These help your blood to clot.

### **Hct (Hematocrit)**

between 36%-44%

This is the percentage of red blood cells to total blood. A low scores mean you need iron, while a high score indicates dehydration or other issues.

### **WBCs (White Blood Cells)**

4,500 to 10,000 cells/mcL

These help your body fight infection. High levels indicate inflammation or infection; low levels show your immune system is compromised.

### Hb or Hbg (Hemoglobin)

12-15 gm/dL

This is a protein that holds oxygen.

### **MCV (Mean Corpuscular Volume)**

between 80-95

This is the average size of your RBCs (red blood cells). Larger than normal cells indicate vitamin or folate deficiencies, while smaller indicate a form of anemia.

### **SEX HORMONES**



Because your hormonal levels fluctuate through each phase of your menstrual cycle, these levels are listed as ranges within each of these phases.

Your test results should indicate which phase you are in if you aren't sure yourself. For more information on the phases of your menstrual cycle and how to support your hormones through each, *check out my article here.* 

### **Estrone (E1)**

This greatly influences tissue growth; protects the heart, blood vessels, and brain; may contribute estrogen-dominant issues to and is often considered procarcinogenic. Metabolites are either good or bad depending on individual nutritional standing: levels fluctuate depending on menstrual stage.

< 200 pg/mL Luteal Phase <150 pg/mL Early Follicular Phase 100 - 250 pg/mL Follicular Phase 3 - 32 pg/mL Post-menopausal <150 pg/mL Nonpregnant

### **Estradiol (E2)**

This is the strongest and purest estrogen in the body that helps witheverythingfrombloodvessels to cholesterol to skin health to brain function to immune system support. It must be properly balanced with progesterone and other estrogens to avoid estrogen dominence effects on sensitive female reproductive organs.

27 - 246 pg/mL Luteal Phase 0 - 246 pg/mL Follicular Phase 0 - 30 pg/mL Postmenopausal (untreated)

0 - 93 pg/mL Postmenopausal (treated)

0 - 102 pg/mL Oral Contraceptives

### Estriol (E3)

This is the unconjugated, normally weak form of estrogen that increases during pregnancy. It opposes growth of cancerous cells and protects breast, lung, and digestive tissues. It also can aid in alleviation of some menopausal symptoms, and boasts anti-inflammatory and gut-protective qualities.

< 0.08 ng/mL Non-pregnant

### **Progesterone**

This balances estrogenthroughout the body while supporting the reproductive system and affecting bone, skin, and brain health. It also affects mood and is necessary for cortisol balance as well as thyroid balance for a regulated metabolism.

0.72 - 17.8 ng/mL Luteal Phase 0.33 - 1.2 ng/mL Follicular Phase 0 - 1.0 ng/mL Postmenopausal 0.34-0.92ng/mLOralContraceptives

### **Testosterone**

This is a powerful steroid hormone that contributes to bone health, libido, and muscle mass. It helps with normal hormonal balance, converts to estrogen, and is regulated by LH and FSH. It is important to measure both total and free testosterone to find out what is available in the body.

### **Total Testosterone**

0 - 73 ng/dL Ovulating0 - 43 ng/dL PostmenopausalFree Testosterone0.3 - 1.9 ng/dL

## FSH (Follicle-Stimulating Hormone)

This triggers estrogen production in the body and is used to denote ovarian function. Levels increase during ovulation and during ovarian failure, so it is also used to gauge menopause status.

1.2 - 90 mIU/mL Luteal Phase 2.8 - 11.3 mIU/mL Follicular Phase 21.7-153.0mIU/mLPostmenopausal (untreated)

9.7 - 11.0 mIU/mL Postmenopausal (treated)

0 - 4.9 mIU/mL Oral Contraceptives

### **SHBG (Sex Hormone Binding LH (Luteinizing Hormone)** Globulin)

This is a protein produced by liver that binds estrogen the and testosterone within the bloodstream to assist with keeping levels balanced.

18 - 144 nmol/L Normal Range



This triggers ovulation and pairs with FSH to promote fertility. It increases mid-cycle to stimulate release of progesterone the and regulates ovarian estrogen production. It is influenced by levels of prolactin, and high levels are normal during menopause

0 - 14.7 mIU/mL Luteal Phase 1.1 - 11.6 mIU/mL Follicular Phase 11.3-39.8mIU/mLPostmenopausal 0-8.0mIU/mLOralContraceptives

### **ADRENAL HORMONES**



### **Cortisol**

Levels of this hormone indicate how well your body handles stress. These levels fluctuate throughout the day and should be measured in the morning via blood, and then 4x throughout the day via saliva.

- Serum Cortisol in AM: Levels of this glucocorticoid hormone (released from adrenal cortex) show how well you handle stress. 10-20 mcg/dL
- · Four Diurnal Cortisol: (Tested 4x day via saliva) - 3.1 - 22.4 ng/dL

### **DHEA-S** (Dehydroepiandrosterone sulfate)

This is the most abundant sex hormone in body, as it is the main precursor to both estrogen and testosterone. Levels affected by menstruation. This hormone affects the immune system, cognition, and bone health. It also prevents aging.

35 - 430 ng/dL



### **Androstenedione**

This is a steroid hormone that influences testosterone levels in the bloodstream. It promotes muscle growth and supports natural levels of testosterone and estrogen.

0.3 - 3.3 ng/mL

### **IGF-1 (Insulin-like Growth Factor)**

As the prime mediator of growth hormone (GH), IGF-1 is produced primarily by the liver. It promotes cell growth in the body, including bones, muscles, nerves, skin, and other organs.

57 - 241 ng/mL

### **Prolactin**

This keeps other hormones in balance by inhibiting their production. Prolactin also regulates metabolization of calcium, helps regulate inflammation and metabolic processes, and stimulates breast milk production in lactating women.

1.9 - 23.1 ng/mL

### **THYROID HORMONES**



### T3 (Triiodothyronine)

This is the active form of the thyroid hormone, which affects nearly every physiological process in your body, from heart rate and body temperature to growth and metabolism

100 - 180 ng/dL

### Reverse T3 (RT3)

Here is another inactive form of thyroid hormone. High levels indicate adrenal issues or increased inflammation.

9.0 - 21.0 ng/dL

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### Free T3

T3 is the active form of thyroid hormone, and free T3 shows what is unbound and available in your bloodstream. It has major impacts on your metabolism and most important level to keep balanced.

2.5 - 4.4 pg/mL

## **TPOAb**(Thyroid Peroxidase Antibody)

This is a thyroid antibody in blood, indicating the immune system is attacking the thyroid and signifying an autoimmune disorder.

0 - 20 IU/mL

## TSH (Thyroid-Stimulating Hormone)

This helps us to see how the brain communicates with the thyroid.

0.500 - 2.00 uIU/mL

### This antibody

**AntiTg Antibody** 

This antibody is not normally found in bloodstream. It rises well before problems with other thyroid hormones and indicates the presence of an autoimmune thyroid problem.

< 90 IU/mL

### Thyroxine (T4)

This is the main thyroid hormone in its inactive form, for storage. It must be converted to T3 by liver and kidneys.

6.0 - 12.0 ug/dL

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### Free T4 (Thyroxine)

T4 is the storage form of the thyroid hormone. After being triggered by TSH, T4 converts to T3 (the active form of the thyroid hormone).

1.00 - 1.50 ng/dL

### **ADDITIONAL TESTS**



In addition to the standard tests listed above, I also recommend that you get results for these blood tests listed below. These markers are highly involved with your hormonal health.

### Fasting Insulin/Glucose

This test is used to diagnose pre-diabetes (100-125 mg/dL), diabetes (>126 mg/dL), and metabolic syndrome. Insulin resistance influences cholesterol, blood glucose levels, and blood pressure. You must fast for at least 8 hours prior to the test

<90 mg/dL

### **Hemoglobin A1C**

Hemoglobin with glucose attached to it to help evaluate your average glucose levels. Pre-diabetes ranges from 5.7-6.4% while diabetes is anything greater than 6.4%.

4.8-5.6%

### **HDL** (Cholesterol)

This is "good cholesterol" that promotes heart health by helping to remove the harmful LDL cholesterol from the bloodstream by transporting it to the liver for excretion from the body.

>39 mg/dL

### 25-Hydroxy Vitamin D

This vitamin helps the body absorb and allocate calcium for bone growth, as well as support other bodily functions.

30.0 - 100.0 ng/mL

### Vitamin B12

This vitamin promotes nerve and blood health as well as DNA production. It also prevents anemia and keeps blood balanced.

>150 ng/dL

### **Folate**

This natural form of vitamin B9 is needed for synthesis of DNA and other genetic material as well as for cellular health.

2-20 ng/mL

When you assess the test results, pay attention to the "normal ranges." Discuss them with your trusted health-care provider, and bear in mind that just because your number falls into the "normal" range, that doesn't mean that it's normal for you. Any number at the higher or lower end should be questioned.

### THE BOTTOM LINE

Only you and your trusted healthcare provider can decide what are the best tests for you.

However, below is a concise list of what I have recommended above:

### CBC (blood test)

### Thyroid tests (blood test):

Including TSH, Free T3, Free T4, Reverse T3, TPOAb, and AntiTgAb

### Adrenal tests (blood, saliva, and/or urine test):

Including Morning Serum Cortisol, 4 diurnal Saliva Cortisol tests, Free & Total Testosterone, and DHEA

### Sex Hormone Tests (blood, saliva, and/or urine test):

Including progesterone on day 21-23 (if cycling), and other preferred sex hormones like estrogen and testosterone

### Other Tests (blood test):

Including Fasting Insulin and Glucose, HDL, Hemoglobin Alc, IGF-1 (growth hormone), 25-hydroxy-vitaminD, Vitamin Bl2, and Folate



Together with your trusted healthcare provider, you can assess your results, taking into consideration your current age, lifestyle, and symptoms that you may be experiencing.

Trust yourself and your inclinations when having these important conversations with your healthcare providers.

Remember that YOU are in charge of your own healthcare and YOU are amazing!

With love, **Dr. Mariza Snyder** 

