

PCOS

LABS

GUIDE



PCOS *Diva*

IT IS CRUCIAL THAT CERTAIN TESTS ARE PERFORMED SO THAT YOU AND YOUR HEALTH CARE TEAM CAN ACCURATELY DIAGNOSE YOUR CONDITION AS WELL AS MONITOR PROGRESS.

Keep in mind that lab results may differ slightly from lab to lab. Try to use the same lab when comparing results over time. Most women with PCOS will have at least subtle lab abnormalities. These anomalies may indicate a problem with the hypothalamus, pituitary, ovary, and adrenals working together.

Generally, endocrine testing is best performed in the morning, soon after your period. Drawing blood later in the day may not catch early morning spikes of male hormone, prolactin, and adrenal hormones. Avoid these tests around ovulation or mid-cycle.^{1,2}

Many of these tests are looking for indicators of insulin resistance. Most women that have PCOS are also insulin resistant. People with insulin resistance often also have high blood pressure, high levels of triglycerides, and low HDL levels. Insulin resistance, aside from contributing to infertility, hair and skin problems, puts the woman with PCOS at much higher risk of developing heart disease and diabetes.³ Thus, testing for insulin resistance can help you make changes that will prevent serious health issues.

Pay special attention to thyroid testing. While many doctors do run thyroid labs, they run only the thyroid stimulating hormone (TSH) test which is easy to misinterpret and often reveals little about thyroid function.⁴ As a result, millions of people suffering from thyroid dysfunction are left undiagnosed. *If you do go to the doctor for thyroid testing, be sure to be tested for Free T3 (FT3), Reverse T3 (RT3), and the presence of two thyroid antibodies, TPOAb and TgAb.* The “Free” in front of T3 discloses what is unbound and usable by the body. Reverse T3 is just that — the opposite of T3; it blocks thyroid receptors, which can cause patients to be unresponsive to any thyroid hormone. There is some disagreement about what constitutes acceptable lab values, depending on the doctor and the lab. As a result of outdated ranges, borderline hypothyroid patients are often overlooked. The suggested thyroid ranges are from the Institute of Functional Medicine.

¹ Thatcher, PCOS 101.

² Futterweit, A Patient's Guide, 65.

³ Futterweit, A Patient's Guide, 38.

⁴ Grunewald, Jill, "Repair Your Thyroid," Experience Life, November 2012, <http://experiencelife.com/article/repair-your-thyroid/>.



LABS

Total Testosterone	Measures the amount of free and bound testosterone your body produces. This will be the most useful test for diagnosing PCOS.	Normal range is 8-48 ng/dL Ranges can vary by lab.
Free Testosterone	Free testosterone refers to the amount of testosterone that is unbound and actually active in your body.	Normal range is 1-6 pg/mL or < 21 pmol/L Ranges can vary by lab.
DHEA-S	DHEA-S is an androgen that is secreted by the adrenal gland. Typically elevated in adrenal androgen type of PCOS.	Reduces Naturally with Age. Normal: Up to age 29 < 380 µg/dL or 10.29 umol/L Up to age 39 <270 µg/dL or 7.29 umol/L Up to age 49 < 240 µg/dL or 6.48 umol/L
LH: FSH Ratio	Compares levels of LH and FSH to measure health of ovaries.	Normal ratio is 1:1, women with PCOS may have ratios of 2:1 or 3:1
Androgens or Sex Hormone Binding (SHBG)	Measures Total Testosterone and Sex Hormone Binding (SHBG). This may indicate adrenal contribution to PCOS. Correlates with insulin resistance.	Normal range (non-pregnant): 18-144 nmol/L
Liver Functioning Tests (LFT)	Monitors liver function (to include enzymes AST and ALT). This may indicate liver damage. Test is particularly important to women taking medication since all medication is filtered through the liver.	Normal result range AST 8 to 48 U/L ALT 7 to 55 units per liter (U/L)
High Sensitivity C-Reactive Protein (hsCRP)	Measures level of CRP (marker of inflammation).	Levels over 3 mg indicate increased cardiac risk
Fasting Insulin	Detects elevated insulin or insulin resistance.	Normal range is <10 IU/mL
Fasting Blood Glucose	Measures glucose (sugar) in your blood.	Normal range is 70-99 mg/dL; diabetes is diagnosed if levels are over 126 mg/dL
Fasting Glucose to Insulin Ratio	This is used to diagnose insulin resistance by comparing levels of glucose and insulin.	Ratio of less than 4:5 indicates insulin resistance
Hemoglobin A1C (HA1C)	Measures long term blood sugar levels over 3 months.	Level should be less than 6%
25 Hydroxy D	Measures levels of vitamin D.	Optimal level is 50-70 ng/ml,
B-12 Serum	Measures levels of vitamin D and B-12. Many women have depleted B-12, especially if taking Metformin.	Normal range is 300-900 pg/ml
Fasting Comprehensive Biochemical panel	This group of blood tests measures metabolism, salt and fluid balance, glucose, and liver enzymes. It is used to evaluate liver and kidney function.	

THYROID TESTING

Thyroid Stimulating Hormone(TSH)	This blood test assesses thyroid function, and is primarily looking for thyroid damage.	Optimal level is >0.5-2 IU/L
Free T3 (FT3) Free T4	Measures levels of T3 (hormone) in blood.	Optimal level is 5-7 pmol/L 15-23 pmol/L
Reverse T3 (RT3)	Measures the inactive form of the hormone T3.	Optimal level is 11-18 ng/dl
TPO and TG antibodies	Tests for Hashimotos thyroiditis	Optimal level is <2 IU/m

FASTING LIPID PROFILE INCLUDES

Total Cholesterol	Total amount of cholesterol in your body	Should be less than 200 mg/dL
High Density Lipoproteins (HDL)	Indicates level of “good” cholesterol.	Higher is better- ideal is over 55 mg/dL. Low levels of HDL increase risk of heart disease and stroke.
Low Density Lipoproteins (LDL)	Indicates level of “bad” cholesterol.	Should be less than 100 mg/dL. Higher LDL increase risk of heart disease and stroke.
Triglycerides (TG)	Measures the amount of fat in your blood.	Ideal level is less than 150 mg/dL

The labs suggested in this guide are a great starting place. Remember, we are all bio-individuals, and so, will all require unique testing regimens. In addition to the labs outlined here, your doctor may suggest also testing for Anti-Mullerain Hormone, Prolactin, Cortisol, Progesterone, Estrodiol, Androstenedione, and/or 17-OH Progesterone. Knowledge is power! Be proactive, educate yourself, and have open and on-going conversations with your medical team.

The views and recommendations shared by PCOS Diva LLC and pcosdiva.com, as well as the information contained in this Labs Guide are for general health information only and do not constitute, and are not intended to be a substitute for professional medical advice regarding an individual's specific health condition. The information is intended to provide accurate and helpful health information. The information is not intended as medical advice for individual problems or for making a diagnosis of a medical condition or an evaluation as to the risks and benefits of taking a particular drug or product.



YourLabwork

Become Your Own Health Detective

Knowledge is power! This mantra is at the heart of the PCOS Diva philosophy. It is critical for women with PCOS to have thorough lab testing and understand the results. The PCOS Diva Labs Guide helps you choose the labs you need and interpret the results.

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