

Women's Hormone Test Panel - Basic FINAL

Can I still get pregnant if I have irregular periods or problems with ovulation caused by reproductive hormone problems, like PCOS?

Yes, it is still possible to get pregnant. Early diagnosis, lifestyle changes, and treatment are important for your overall health, including your fertility. You can use this test to kickstart an informative conversation with your healthcare provider to identify next steps.

What is PCOS and can it be cured?

PCOS, or Polycystic Ovary Syndrome, is a common endocrine (hormone) disorder that affects about one in 15 women of reproductive age. Common signs and symptoms include androgen excess (abnormal hair growth and acne), menstrual irregularity, and metabolic dysfunction (obesity, insulin resistance, etc.) It is one of the most common causes of female infertility, affecting 6-12% (as many as 5 million) of reproductive-age women in the United States. There are currently no exact causes or known cures for PCOS, but with the help of your doctor, there are lifestyle changes and potential treatment options to help manage the condition.

Dehydroepiandrosterone (DHEA)

DHEA is an important precursor hormone, and is the most abundant circulating steroid present in the human body. Learn more about DHEA at You & Your Hormones, the public information website of the Society for Endocrinology.

Go to the You & Your Hormones website : <http://www.yourhormones.info/hormones/dehydroepiandrosterone.aspx>

Testosterone, the principal male sex hormone, is secreted primarily in the testes in men and the ovaries in women. Men typically have much higher levels than women. Testosterone plays a critical role in men's sexual function and well-being. With aging, testosterone levels decline. Identification of inadequate testosterone in an aging male by symptoms alone can be challenging; the signs and symptoms are non-specific, and might be confused with normal aging characteristics, such as loss of muscle mass and bone density, decreased physical endurance and loss of libido. There is no widely accepted definition of what is considered too low a level of testosterone that defines hypogonadism.

What does testosterone do?

Testosterone is an androgen steroid hormone and the principle male sex hormone. Testosterone plays a key role in the development of the male reproductive system and promotes secondary sexual characteristics. It is primarily secreted from the testes. In females, low levels of testosterone are secreted by the ovaries. Small amounts are also secreted by the adrenal gland in both genders.

Testosterone deficiency affects approximately 30% of men aged 40 to 79 years. There is a growing body of evidence that strongly associates deficiency with aging and common medical conditions including obesity, diabetes, and hypertension. Testosterone replacement therapy in hypogonadal men can lead to improvement of metabolic syndrome indicators and cardiovascular risk factors. Maintaining testosterone concentrations in the normal range also contributes to bone health, more lean muscle mass, and better physical and sexual function.

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What is total testosterone comprised of?

A total testosterone measurement is made up of free and bound testosterone. Circulating testosterone is primarily bound to carrier proteins like albumin and sex hormone binding globulin. Only a small percentage of total testosterone (~2%) remains unbound or "free". Sex hormone binding globulin binds testosterone with high affinity and acts as a reservoir for storage and transport. Albumin, on the other hand, binds testosterone with weak affinity. Free and albumin-bound fractions are available for immediate binding to an available receptor; therefore, the sum of free and albumin-bound testosterone is termed bioavailable testosterone.

Low Testosterone in Men

Testosterone is a hormone made by your body. This publication provides information related to low testosterone in men.

View more: <https://medlineplus.gov/ency/patientinstructions/000722.htm>

Follicle-stimulating Hormone (FSH)

The test for follicle-stimulating hormone (FSH), a hormone associated with reproduction and the development of eggs in women and sperm in men, measures the level of FSH in your blood or urine.

Luteinizing Hormone (LH)

The test for luteinizing hormone (LH), a hormone associated with reproduction and the stimulation of the release of an egg from the ovary (ovulation) in women

and testosterone production in men, measures the level of LH in your blood or urine.

The thyroid gland produces hormones that regulate or affect many bodily functions. Thyroid stimulating hormone (TSH) is the hormone which controls the thyroid gland function. An excess or deficiency of this hormone can affect energy levels, mood, and many functions. When the thyroid gland fails, due to primary disease of the thyroid, TSH levels increase. This condition is called primary hypothyroidism, meaning low functioning of the thyroid. In contrast, when the thyroid gland is overactive and producing too much thyroid hormone, the TSH level decreases. This is called primary hyperthyroidism, meaning excessive functioning of the thyroid. Both hypothyroidism and hyperthyroidism can be detected by the TSH test.

For pregnant women the reference ranges are:

First trimester 0.26-2.66

Second trimester 0.55-2.73

Third trimester 0.43-2.91

Question 1. What is TSH and how is it measured?

Thyroid stimulating hormone (TSH) is one of the most important hormones currently used to diagnose thyroid abnormalities. This glycoprotein is secreted by the pituitary and stimulates release of thyroxine (T4) and triiodothyronine (T3) from the thyroid gland. TSH release from the pituitary is controlled by thyrotropin releasing hormone (TRH) stimulation and negative feedback from free T3 and free T4.

Question 2. Does the time of day matter when sampling for TSH testing?

Yes. TSH concentration follows a diurnal rhythm. Typically, the peak occurs around midnight and the nadir (~50% of the peak value) around mid-day. Population-based reference intervals are generally obtained from subjects tested in the daytime, closer to the trough than to the peak. So, when evaluating a patient's serial TSH concentrations, differences in sample collection time should be considered.

Question 3. How variable is TSH?

TSH has moderate intraindividual variability and even more marked interindividual variability. The interindividual coefficient of variation is about 32%; consequently there is a wide population-based reference interval for TSH. Since the intraindividual variation is considerably less, comparing a specific patient's current TSH level with any past level may be more illuminating than comparing the patient's current TSH level to the reference interval. A difference of 0.7 mIU/L or greater is considered significant when evaluating a patient's serial TSH values.

Thyroid Screen - TSH

TSH refers to thyroid stimulating hormone. This hormone is produced in the pituitary gland and it acts on the thyroid gland in the front of your neck. Here it stimulates the production of thyroid hormones and their release into the blood. While high or low levels of TSH in the blood may indicate a thyroid disorder, additional tests may be ordered to better understand the specific medical condition. More information on TSH and screening for thyroid disorders may be found on WebMD by clicking here: <https://www.webmd.com/women/what-is-tsh-test#1>.

Thyroid Function Tests

The blood tests that are most widely used to evaluate thyroid function include those that measure TSH, T4, T3, free T4, and thyroid antibody levels. Read more about these tests in the brochure provided by the American Thyroid Association (ATA).

Download the brochure from the ATA website : http://www.thyroid.org/wp-content/uploads/patients/brochures/FunctionTests_brochure.pdf

Estrogen Blood Tests

Estrogen tests are used to detect a deficiency or excess in women and a hormone excess in men to help diagnose a variety of conditions associated with this imbalance.

Your Results

DHEA, UNCONJUGATED

Unit of Measure: ng/dL

Result: 819

No Historical Data

Adult Female Reference Ranges

Pre-Menopausal

Mid Follicular: 385-1143 ng/dL

Surge: 345-2030 ng/dL

Mid Luteal: 414-1295 ng/dL

Post-Menopausal 77-851 ng/dL

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics. It has not been cleared or approved by the FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

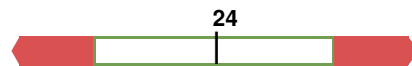
What is DHEA, Unconjugated?

DHEA is a hormone, produced in the adrenal gland, that helps make other hormones like testosterone and estrogen, and levels usually peak in early adulthood and slowly fall with age.

For women, testing DHEA levels helps doctors determine the source of androgens in hyperandrogenic conditions like PCOS when testosterone levels are normal.

TESTOSTERONE, TOTAL, MS

Desired Range: 2-45 ng/dL



No Historical Data

For additional information, please refer to <http://education.questdiagnostics.com/faq/TotalTestosteroneLCMSMSFAQ165>
(This link is being provided for informational/educational purposes only.)

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Nichols Institute Chantilly, VA. It has not been cleared or approved by the U.S. Food and Drug Administration. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

What is Testosterone?

Testosterone is an androgen steroid hormone associated with the development of sex characteristics, bone health, and sex drive. Androgens are sex hormones that signal the body to have “male” characteristics.

In men, it plays a key role in development of the male reproductive system that regulates sex drive and is essential for sperm production. Testosterone also promotes secondary sexual characteristics such as facial and chest hair, bone health, upper body muscle mass and strength, and regulates body fat distribution. It is primarily secreted from the testes. Low levels of testosterone are associated with aging and common medical conditions including diabetes, high blood pressure, and obesity. Abnormal levels of testosterone in the blood may cause changes in health and physical appearance.

In females, higher than normal levels of total testosterone can lead to hyperandrogenism and can be related to PCOS. Hyperandrogenism is when there is too much of an androgen in the body and can cause issues like extra facial and body hair growth for women.

Free Testosterone: Testosterone that is active and unbound to a protein (like SHBG or albumin)

Bioavailable Testosterone: Sum of free testosterone and testosterone bound to albumin

Total Testosterone: Sum of all testosterone in the bloodstream

FSH

Unit of Measure: mIU/mL

Result: 9.2

No Historical Data

Reference Range

Follicular Phase	2.5-10.2
Mid-cycle Peak	3.1-17.7
Luteal Phase	1.5- 9.1
Postmenopausal	23.0-116.3

What is FSH?

FSH is a hormone produced by the pituitary gland that stimulates the ovaries to produce eggs. It also controls the menstrual cycle. With aging and during the menopause transition, as estrogen levels decrease, FSH levels increase.

Excessive levels can indicate that you have begun the menopause transition. Irregular periods, hot flashes, sleep disturbances, and changes in the skin or hair can all be symptoms of high FSH levels.

Low levels of FSH may signal a pituitary disorder or problem with the hypothalamus but also occur if you are severely underweight, have had a recent rapid weight loss or your ovaries are not producing eggs (not ovulating).

LH

Unit of Measure: mIU/mL

Result: 6.9

No Historical Data

Reference Range	
Follicular Phase	1.9-12.5
Mid-Cycle Peak	8.7-76.3
Luteal Phase	0.5-16.9
Postmenopausal	10.0-54.7

What is LH?

Luteinizing hormone is another sex hormone produced by the pituitary gland that helps to control the menstrual cycle and triggers ovulation. Levels outside of typical range may cause irregular periods. As estrogen levels decrease with aging, LH levels increase.

High levels of LH may indicate the beginning of menopause, but can also occur from other conditions like ovarian failure or PCOS.

Low levels of LH may signal secondary ovarian failure which indicates your pituitary gland or hypothalamus is not working properly or may also occur if you have an eating disorder or malnutrition.

TSH W/REFLEX TO FT4

Unit of Measure: mIU/L

Result: 2.45

No Historical Data

Reference Range

> or = 20 Years 0.40-4.50

Pregnancy Ranges	
First trimester	0.26-2.66
Second trimester	0.55-2.73
Third trimester	0.43-2.91

ESTRADIOL

Unit of Measure: pg/mL

Result: 68

No Historical Data

Reference Range	
Follicular Phase:	19-144
Mid-Cycle:	64-357
Luteal Phase:	56-214
Postmenopausal:	< or = 31

Reference range established on post-pubertal patient population. No pre-pubertal reference range established using this assay. For any patients for whom low Estradiol levels are anticipated (e.g. males, pre-pubertal children and hypogonadal/post-menopausal females), the Quest Diagnostics Nichols Institute Estradiol, Ultrasensitive, LCMSMS assay is recommended (order code 30289).

Please note: patients being treated with the drug fulvestrant (Faslodex(R)) have demonstrated significant interference in immunoassay methods for estradiol measurement. The cross reactivity could lead to falsely elevated estradiol test results leading to an inappropriate clinical assessment of estrogen status. Quest Diagnostics order code 30289-Estradiol, Ultrasensitive LC/MS/MS demonstrates negligible cross reactivity with fulvestrant.

What is Estradiol?

Estradiol is the primary and most potent form of the hormone estrogen. Estrogen is first produced at puberty.

In women, estradiol levels fluctuate throughout the menstrual cycle during your reproductive years but begin to decline during the menopause transition. Most menopausal symptoms like hot flashes occur due to the drop in estrogen levels. A low level of estradiol may indicate the start of the menopause transition, or can indicate a problem where your hypothalamus causes your period to stop, commonly due to excessive exercise, stress, or undereating (hypothalamic amenorrhea). High levels of estradiol can occur from taking medications (estrogen replacement therapy), taking dietary supplements, or from medical conditions associated with an overproduction of estrogen hormones.

In men, estradiol is a steroid hormone that helps control erectile function, libido, and sperm production. As men age, they often make less testosterone, and so they produce less estradiol as well. Changes often attributed to testosterone deficiency might be partly or entirely due to the accompanying decline in estradiol. Elevated estradiol levels in males may result in breast tissue growth (gynecomastia), infertility, or erectile dysfunction.

PROLACTIN

Unit of Measure: ng/mL

Result: 15.9

No Historical Data

Reference Range	
Females	
Non-pregnant	3.0-30.0
Pregnant	10.0-209.0
Postmenopausal	2.0-20.0

What is Prolactin?

In women, prolactin is a hormone produced by the pituitary gland that is responsible for the development of certain breast tissues as well as lactation after giving birth. Levels are high in women who are pregnant or have recently given birth and are normally low all other times.

High levels of prolactin can cause irregular period and hot flashes, similar to menopausal symptoms. Low levels of prolactin are not uncommon, but if they are extremely low, be sure to consult with your doctor about how each of these hormone levels can affect one another. Testing prolactin levels can help your doctor determine if you may have other health issues or are in menopause.

In men, prolactin plays a role in regulating testosterone secretion, sperm production, and reproductive function. When a man has high levels of prolactin, a condition called hyperprolactinemia, it can interfere with the production of testosterone, which is necessary to produce sperm. This can result in a reduced sperm count or no sperm production at all, leading to infertility. It can also cause other symptoms, such as galactorrhea (production of breast milk in men) or reduced sex drive.

Next Steps

Still have questions about your questhealth.com results?

Contact the PWN care coordination team to schedule a session with a healthcare provider to discuss your results.

Monday - Friday / 9:00am - 5:30pm EST, Phone: (855) 205-6146

NOTE: PWN can only discuss results from tests purchased on questhealth.com

Performing Lab

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AMD Quest Diagnostics/Nichols Chantilly-Chantilly VA, 14225 Newbrook Dr, Chantilly, VA 20151-2228 Laboratory Director: Patrick W Mason M.D.,PhD
EZ Quest Diagnostics/Nichols SJC-San Juan Capistrano, 33608 Ortega Hwy, San Juan Capistrano, CA 92675-2042 Laboratory Director: Irina Maramica MD,PhD,MBA

Ordering Physician

MARKS,LIANNE
PWN HEALTH, (888) 362-4321

Key:

PEND Pending Result **PRE** Preliminary Result **FINAL** Final Result **RE** Reissued Result

Note: Data displayed only for results that meet strict identification matching. Historical result view may vary based on corrected or updated patient demographics. The reference range displayed may vary due to potential changes in laboratory testing methods. Please refer to the published reference range on each lab report.

To feel fully empowered to make healthy decisions based on your test results, it is recommended that you discuss them with a health care provider. Please note, our patient service centers or laboratories do not have your full medical story to provide you with an interpretation or diagnosis.

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