

Male Hormone Panel™

Saliva Testing for Bio-Identical Hormone Treatment



DIAGNOS-TECHS, INC.
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The Male Hormone Panel™

The aging process is inevitable. However, restoring lost male vitality is within reach. The hormones involved in this restoration can now be collectively measured in one salivary panel using the Regular or Expanded Male Hormone Panels™ (MHP™ and eMHP™). The problems that concern men the most can be grouped into 3 general categories:

Vigor

- loss of sense of well being
- difficulty concentrating
- depression
- irritability and nervousness
- alteration in behavioral patterns
- change in sleep habits / insomnia

Vitality

- decrease in hair density
- reduction in masculinity
- decrease in muscle mass and strength

Virility

- decline in sexual function and interest, diminished libido and erectile dysfunction
- decrease in bone mass (osteoporosis)

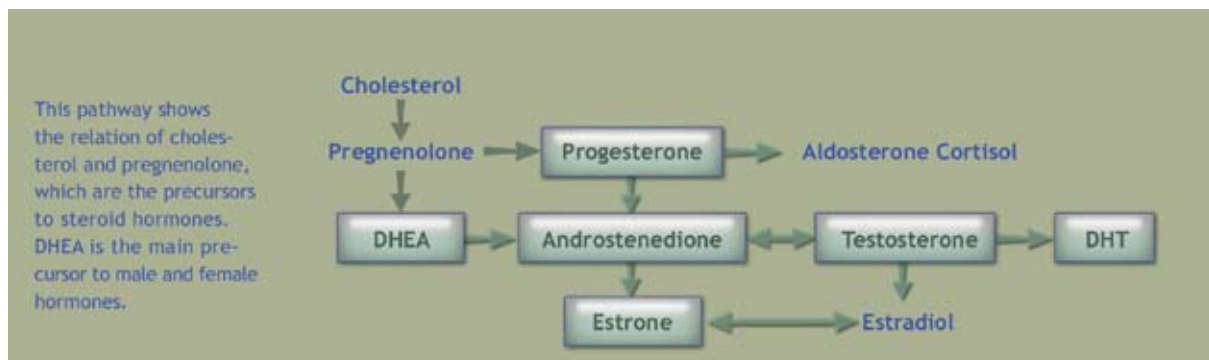
Andropause

At around puberty, the important male hormone, testosterone, reaches adult levels. For a long time it was believed that men maintain adequate levels of testosterone throughout life. Many men in their fifties or older however, experience a progressive decline in their energy, vitality, sexual performance and mental capacity. This decline has been labeled "Andropause." The causes of andropause are believed to be a reduction in testosterone and other androgens. The testicles show a progressive annual drop of 1-1.5% in testosterone output after age 30. Furthermore, as men age, a 1-2% annual decline in the free-fraction of testosterone and a progressive annual increase of 1-2% in both Luteinizing Hormone (LH) and Follicle Stimulating Hormone (FSH) has been documented. The clinical manifestations of andropause usually lag ten to twenty years behind the onset of hormone decline. Statistically, andropause affects at least 40% of men ages 55 - 65, and up to 80% of those aged 65 years or more.

Knowing the levels of the 6-8 hormones measured in the Male Hormone Panels™ helps you formulate an effective plan to relieve andropausal symptoms.

Regular Male Hormone Panel™ (MHP™)

Several years ago, Diagnos-Techs, Inc. introduced the first salivary Male Hormone Panel™ (MHP™) which evaluates the androgen pathway by measuring the *free fractions of the 6 hormones shown below in boxes.*



- ① **Progesterone** is a precursor to all androgens and is a physiologic modulator of DHT production.
- ② **DHEA & DHEA-S**, the main adrenal androgens are the precursors to both testosterone and estradiol, and the limiting factor in their production especially under stress.
- ③ **Androstenedione**, another adrenal androgen and precursor to estrone is freely inter-convertible with testosterone.
- ④ **Estrone** is the major estrogen in men and is the product of peripheral aromatization of androstenedione in fat and muscle tissue.
- ⑤ & ⑥ **Testosterone**, the dominant testicular androgen, is the precursor to 5-dihydrotestosterone (DHT). The androgenic effect in various tissues is not exerted by testosterone but by the locally produced DHT.

Expanded Male Hormone Panel™ (eMHP™)

This panel includes all the 6 tests in the regular MHP,™ plus FSH and LH. Salivary quantitation of FSH and LH is a technological breakthrough that separates Diagnos-Techs from the crowd of copycat laboratories. Testosterone and sperm production in males are the equivalent of estrogen and ovulation in females. The pituitary neurohormones, FSH and LH, stimulate and regulate spermatogenesis and testosterone production respectively. Early detection of an increase in FSH and LH levels is indicative of a progressive decline in male sexuality and functionality. The clinical utility of the Male Hormone Panel™ is shown in the:

- Measuring of baseline hormones
- Diagnosing andropause and hypogonadism
- Therapeutic monitoring of HRT
- Balancing of hormones
- Investigating of prostate hypertrophy, thinning of hair and hirsutism
- Evaluating of low-libido in both sexes

Beneficial Effects

Following the use of MHP™/eMHP,™ treatment plans using hormones to replace and balance endogenous production usually produce several positive effects:

Increase of fitness and sense of well-being
Decrease of body fat and increase in lean body mass
Resolution of hormone dependent libido problems
Prevention of hair thinning
Increase in hematocrit and RBC counts
Mitigation of osteoporosis and stimulation of bone formation
Decrease in total cholesterol, increase HDL

Note: Unmonitored male HRT may account for increased incidence of prostatic complications, liver cancer, and accelerated atherosclerosis.



Common Fallacies:

- ① **DHEA production normally decreases with age.**
Reality: DHEA levels in healthy adult males are comparable at any age and only fall as a result of stress-related adrenal exhaustion.
- ② **Radioimmunoassay (RIA) is the standard for testosterone testing.**
Reality: The testosterone free fraction represents less than 2% of the total hormone. At this low level (Pico-gram) RIA fails to accurately detect testosterone and yields an underestimate of bioavailable hormone. This is true for both serum and saliva free fraction testing by RIA.
- ③ **Testosterone supplementation is detrimental to the liver and lipid profile.**
Reality: This only applies to overdosed synthetic testosterone variants that produce supra-physiologic androgenic activity. Monitoring and adjusting natural testosterone intake to maintain physiologic levels, actually improves the lipid profile and does not increase LDL, or negatively impact the liver.
- ④ **Injectable testosterone is best for male hormone replacement therapy.**
Reality: Intramuscular testosterone injections abolish the circadian rhythm and result in aggressive behavior. The rapid and uncontrolled hormone absorption causes significant swings in mood and sex drive. Giving more testosterone will not remedy these swings.



Case Study BACKGROUND

A 58 year old man had been suffering for over 9 months with progressive fatigue, lack of interest in sexual relations, and had lost interest in his love of golf. An eMHP™ saliva panel was done and it revealed:

Testosterone	Low normal (age adjusted)
LH	Elevated
FSH	Moderately elevated
Androstenedione	Elevated
DHEA, DHT and Estrone were normal	

REMARKS

This case study illustrates the subtle and progressive nature of andropause. While the testosterone level was normal, it was maintained at the expense of a higher Pituitary LH stimulation and an increase in demand for adrenal androstenedione. Mild declines in testicular testosterone production prompt the adrenals to produce more androstenedione to compensate for the lagging testicular performance.

TREATMENT

Patient was started on a low dose of natural micronized testosterone capsules and was back golfing in 3 weeks.

Note: Clinics that use DHEA or androstenedione to boost testosterone levels should conduct follow up tests to insure these hormones are not over-spilling into the estrogen pathway.

Other available test panels:



Male Hormone Panel™

No of Samples: 1 saliva

Hormones Tested:
DHEA, Androstenedione, Testosterone, DHT, Progesterone and Estrone

Indications:

- Andropause
- Low vitality & libido
- Hair thinning

PostM Panel™ (Postmenopausal)

No of Samples: 1 saliva

Hormones Tested:
Estrone, Estradiol, Estriol, Progesterone, Testosterone, and DHEA

Indications:

- Menopause
- Hot flashes and mood swings
- Insomnia

Adrenal Stress Index™

No of Samples: 4 saliva

Hormones Tested:
4 Cortisol, DHEA, 2 Insulin, 17 OH Progesterone, Total SlgA and Gluten antibody

Indications:

- Chronic stress and fatigue
- Glycemic dysregulation
- Chronic pain and inflammation



Brief Biography

Background:

Diagnos-Techs, Inc. USA was founded in 1987. In 1989 we introduced salivary hormone testing into clinical practice. The routine use of salivary assessments became a powerful tool in the clinical evaluation of stress and hormone related diseases in both genders and all age groups.

Quality Control:

Our quality control procedures include daily parameter standardization in accordance with WHO* and other agencies' reference material. This insures continuity of follow up test results over time, and permits precise diagnosis, based on truly standardized and reproducible test values.

Licensure:

Diagnos-Techs laboratory is licensed by the State of Washington (License No. MTS-0327). Our Federal CLIA Number is 50D0630141. Diagnos-Techs laboratory applies rigid standards of quality in day-to-day operation.

*WHO is the World Health Organization that sets international standards for various parameters in medical practice.

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