

[BACK to](#)
[Hormones](#)
[Main Page](#)

Male Hormone Profile: BHD #237

- Sample required: 1 test tube with 4 mL of saliva
- Lab reporting time: 3 - 4
- business days

Overview

This profile provides a snap shot of male sex hormone levels from a single saliva collection. Cortisol, DHEA-S, testosterone, dihydrotestosterone (DHT), androstenedione, progesterone and estrone are measured. As morning cortisol is an integral component of this profile, saliva should be collected in the morning upon awakening. All hormones reported are bioactive free fractions - those that affect physiology at the cellular level.

Physiology

As men age, they may experience any of the following as a result of declining levels of testosterone and other androgens (DHEA, androstenedione): diminished libido; erectile dysfunction; increased body fat; decreased bone mass, muscle mass and strength; loss of hair on the head; prostate problems; insomnia, depression, irritability and loss of zest for life. The Male Hormone Profile assesses not only the levels of critical androgens; it also provides a morning cortisol level that in addition to providing information about nocturnal hypoglycemia and potential infections, acts to "qualify" the sex hormone levels.

Markers

Cortisol, which is best known for stimulating gluconeogenesis, is essential for normal glycogenolysis. Cortisol affects the heart, vasculature, blood pressure, water excretion, and electrolyte balance. It mobilizes protein stores in all tissues except the liver; it mobilizes fatty acids from adipose; it is the precursor of cortisone and acts as an anti-inflammatory; and it is the primary hormone directing immune function. Cortisol can stimulate or inhibit gene transcription, promote apoptosis, and affect bone metabolism and calcium dynamics. It affects behavior, mood, neural activity, and a variety of central nervous system biochemical processes. Cortisol affects the eyes, gastrointestinal tract, reproductive function, and the production and clearance of other classes of hormones. It is a major marker of the complex control loops regulating the sex hormones. The general effect of excess cortisol is usually stimulatory and catabolic; a deficiency of cortisol usually results in a slowing of physiology. If morning cortisol is elevated, it could indicate an infection in the body, nocturnal hypoglycemia and/or increased risk for a cardiovascular event. It also means that



Additional Resources:

- [Bibliography on Efficacy of Salivary Testing](#)

pregnenolone is being diverted to cortisol production, perhaps at the expense of producing male hormones. If morning cortisol is low, it is evidence of chronic stress and potential depletion of all steroidal hormones, including male sex hormones.

DHEA is the major precursor of androstenedione, testosterone and the estrogens (including estrone). It becomes active at puberty. In this profile, the more stable, sulfated form of DHEA, DHEA-S is measured, providing a more reliable measure of DHEA levels than measuring DHEA directly. DHEA is an important modulator of many physiological processes. It promotes the growth and repair of protein tissue (especially muscle), and acts as a counter-regulatory agent to cortisol, negating many of the harmful effects of continued excess cortisol. When increased demand for cortisol is prolonged, DHEA levels decline. DHEA then is no longer able to balance the negative effects of excess cortisol. Depressed DHEA levels serve as an early warning of potential adrenal exhaustion. Chronically depressed DHEA output results in an imbalance in sex hormones.

Testosterone plays many physiological roles in males. While it is important for primary and secondary male sexual characteristics, libido and sexual function, muscle and bone strength and growth of normal body hair, it also has favorable effects on mood, well being, energy and vitality. Most testosterone is produced in the testes with some produced in the adrenal glands. Excessive levels of testosterone have been correlated with high cholesterol, prostate problems, atherosclerosis and aggression. Testosterone is the direct precursor of dihydrotestosterone, an extremely potent androgen.

Dihydrotestosterone (DHT) is made from testosterone by the enzyme 5-alpha reductase. Along with testosterone, it is responsible for the formation of primary sex characteristics of the male during embryonic life and secondary sex characteristics at puberty. Increased production of DHT in adult males is thought to cause prostate growth (hyperplasia) and male pattern baldness. In males, progesterone acts to limit the conversion of testosterone to DHT. In cases of benign prostate hyperplasia (BPH), drugs like Propecia and Proscar are used to inhibit 5-alpha reductase, while not interfering with the beneficial effects of testosterone.

Androstenedione is a weak androgen which is a metabolite of DHEA and a direct precursor of testosterone. Androstenedione can also be converted to estrone by the enzyme aromatase. In men, excessive androstenedione results in excessive estrone production.

Androstenedione is used by some athletes in attempts to enhance performance.

Progesterone is largely made from pregnenolone in the adrenal glands of males. It is calming to the nervous system and activates the GABA

chloride channel to help the body shut down both physically and mentally for sleep, rest and recovery. As stated above, it acts to limit the conversion of testosterone to DHT and is an antagonist to the effects of estrogens in the bodies of males and females.

Estrone is an estrogen produced in the fat cells, muscle cells and skin of men and women. In men, almost all estrone is converted from androstenedione, which is produced in the testes and adrenal glands. Estrone is stored in adipose tissue: the more body fat the higher the level of estrone. This becomes a vicious circle as estrone promotes the storage of more fat. While a necessary antagonist to androgens in males, excess estrone can lead to weight gain and prostate enlargement.

Clinical Use

The Male Hormone Profile is used to assess male sex hormone levels. If imbalances exist, normalizing adrenal function using pregnenolone and DHEA and eliminating sources of chronic stress often brings hormones into balance (refer to BHD #201 Functional Adrenal Stress Profile). If imbalances still exist, bio-identical testosterone, aromatase inhibitors and bio-identical progesterone can be used to maintain healthy levels of testosterone and progesterone, while avoiding the excess levels of DHT and estrone. As in all cases, a healthy diet, appropriate exercise and proper sleep provide the cornerstones of health.

Conditions Assessed

This profile assesses male sex hormone imbalance. Symptoms may include diminished libido; erectile dysfunction; increased body fat; decreased bone mass, muscle mass and strength; loss of hair on the head; prostate problems; insomnia, depression, irritability and loss of zest for life.

Logical Sequence of Testing

The logical sequence of using this test as an initial or as a follow-up test is determined by a variety of individual considerations, including the patient's chief complaint, the array of signs and symptoms, the chronicity of the condition, the tests previously taken, and the judgment of the practitioner. Technical assistance is available from BioHealth Diagnostics' support staff.