

# MALE HORMONE PROFILE (serum)

*The aging male experiences a decrease in testosterone at a rate of 10% per decade from the age of 30. This reduction of testosterone and other androgens experienced as a consequence of the aging process has been named andropause or androgen deficiency of the aging male (ADAM).*

Symptoms associated with ADAM can be associated with impaired 5 $\alpha$ -reductase or aromatase activity, enzymes responsible for conversion of Testosterone to Dihydrotestosterone (DHT) or estrogens. Symptoms of ADAM consist of somatic, sexual and psychological changes including reduced muscle mass, reduced BMD, increased cardiovascular disease, lowered libido, depression, increased Alzheimer's disease and a general decrease in wellbeing.

## Hormones and Aging

Aging is one process which is associated with hormone decline. In the past it was thought that this reduction was a normal consequence of the aging process. However, more recently an alternative theory has been proposed; that hormones do not decrease because we age, but rather we age because our hormones decrease i.e. that a reduction in hormonal cellular, genetic and protein control, is the physiological cause of the deterioration of the body which leads to the aging process. It therefore follows that treating hormonal deficiencies (overt, moderate or mild) will prevent or ameliorate disorders associated with the aging process. The treatment of osteoporosis with testosterone and estrogen in men and women is just one example of this. In addition, ensuring that hormone levels are optimal will enhance quality of life in the aging population by improving mood, memory, assertiveness, sexual function and muscle mass. Assessing and diagnosing these changes are important to decrease unnecessary suffering and prevent degenerative diseases.

### **SYMPTOMS & CONDITIONS ASSOCIATED WITH ANDROGEN DEFICIENCY**

Alzheimer's disease	Thinning Skin
Hypogonadism	Hypopituitarism
Bone loss	Low libido
Depression and other mood disorders	Loss of body hair
Dementia	Myofascial pain
Fatigue	Obesity
Fibromyalgia	Poor memory
Heart palpitations	Low muscle tone & muscle aches
Erectile dysfunction	General aches & pains
Diminished sense of wellbeing	Adrenal fatigue

## Androgen Deficiency in Aging Males (ADAM)

The aging male experiences a decrease in testosterone at a rate of 10% per decade from the age of 30. In addition, sex hormone binding globulin (SHBG) increases during this timeframe reducing the amount of free 'bioavailable' testosterone available to the body. To make matters worse, estradiol often rises during this process, leading to gynecomastia, increased body fat and increased prostate cancer risk. This reduction of testosterone and other androgens experienced as a consequence of the aging process has been named andropause. In contrast to women, the decline in hormone levels in men is gradual, partial, and is a slow progressive process. Furthermore, the age and testosterone level at which each individual experiences clinical symptoms can be highly variable. Diagnosing and treating androgen deficiency is vital for improving quality of life and reducing age-related health decline in the aging male population.

## Serum Testing

Serum testing is considered the accepted conventional method of measuring hormones. Serum is ideal for testing peptide hormones such as SHBG, FSH, LH and prolactin.

Serum hormones are predominantly representative of protein bound hormones, and does not differentiate between bound and free hormone. This may lead to misleading results in which hormone levels appear to be normal or even high normal because of an abundance of bound hormone. However, if the free hormone level is low, the patient can be functionally deficient even with a normal total hormone level. However, serum hormones measure fails to identify circadian rhythms or allow for ease of collection in multiple collections. Serum testing not does typically measure metabolites of hormones which may form a valuable part of therapy. Changes in hormone levels following hormone supplementation may not be reflective as with a saliva or urine sample.

## MALE HORMONE PROFILE (serum) [Test code: 1110]

- ❖ DHEAs, E2, E1, SHBG, Testosterone, calculated free Testosterone

## Other male hormone tests available

- **Male Hormone Profile – Basic (saliva) [1007]:** DHEAs, E1, E2, Testosterone
- **Male Hormone Profile – Extensive (saliva) [1008]:** DHEAs, E1, E2, Testosterone, DHT, Androstenedione
- **Androgen Profile (urine) [1206]:** Cortisol, DHEA, 17-ketosteroids, Total Hydroxy corticoids, ratios, Testosterone, Allo-tetrahydrocortisol, Tetrahydrocortisol, Tetrahydrocortisone, Tetrahydrodeoxycortisol, Aldosterone, Androsterone, Etiocholanolone, 11OH-androsterone, 11OH-etiocholanolone, 11-ketoetiocholanolone, 11-ketoandrosterone, Pregnanetriol (Pregnenolone), DHT metabolite
- **Male Hormone Profile – Basic (urine) [1215]:** T4, T3, T4/T3 ratios, Cortisol, DHEA, Testosterone, E1, E2
- **Male Hormone Profile – Extensive (urine) [1216]:** T4, T3, T4/T3 ratios, Cortisol, DHEA, Testosterone, E1, E2; 17-ketosteroids, Total Hydroxy corticoids, ratios, Allo-tetrahydrocortisol, Tetrahydrocortisol, Progesterone, Tetrahydrocortisone, Tetrahydrodeoxycortisol, Aldosterone, Androsterone, Etiocholanolone, 11OH-androsterone, 11OH-etiocholanolone, 11-ketoetiocholanone, 11-ketoandrosterone, Pregnanetriol (Pregnenolone), DHT metabolite, 20HE1, 16 $\alpha$ OHE1, 2:16 ratio, 4OHE1, Melatonin, Na, Ca, P, K, Mg, Cr
- **Male Hormone Blood Spot – Basic [1404]:** E2, Testosterone, SHBG, DHEAS, Cortisol, PSA
- **Male Hormone Blood Spot – Extensive [1405]:** E2, Testosterone, SHBG, DHEAS, Cortisol, PSA; TSH, ft4, ft3, Thyroid peroxidase antibodies
- **Androgen Elite Dried Urine [1504]:** E2, E1, E3, 20HE1, 16 $\alpha$ OHE1; Pregnanediol, Allopregnanolone; Testosterone, Epi-Testosterone, 5 $\alpha$ -DHT, Androstenedione, DHEA, 5 $\alpha$ ,3 $\alpha$ -Androstanediol; Total Cortisol, Total Cortisone, Tetrahydrocortisol, Tetrahydrocortisone

## How to order a test kit:

To order a test kit simply request the test name and/or test code on a NutriPATH request form and have the patient phone **NutriPATH Customer Service** on **1300 688 522**.



Phone **1300 688 522** for further details  
[www.nutripath.com.au](http://www.nutripath.com.au)

