



**Rocky Mountain Analytical**  
*Changing lives, one test at a time*

# Male Panel

## Information for Patients

About Hormones

### Common Hormone Conditions



Interactions between the four hormones of the male panel (see right) are fundamental to health, which means that hormone imbalance may have a negative effect on health. The following are examples of how hormone imbalance can affect health:

#### Bone Loss

Testosterone and estradiol help build bone, while high cortisol tends to break down bone. High cortisol is of particular concern because it breaks down bone and interferes with the bone-building action of testosterone.

#### Erectile Dysfunction

Testosterone receptors are plentiful in the brain, so a lack of testosterone may result in decreased arousal response. Testosterone is also needed for muscle contraction, so low testosterone may result in poor erection quality. Low testosterone may also lead to increased 'wait' times between erections.

#### Memory Loss

Because testosterone receptors are abundant in the brain, low testosterone levels often affect memory.

#### Apathy, Depression, Grumpiness

Our laboratory data shows that approximately 3/5 of men with self-reported symptoms including aggression, apathy, depression, irritability and an inability to cope have at least one out-of-range hormone result. This is not proof that restoring hormone balance will lessen these mood symptoms, but many men experience some relief from mood disorders when hormone balance is restored.

#### Breast Enlargement

Men who carry extra weight around the middle have more of the enzyme aromatase, which converts testosterone to estrogen. Increased estrogen can lead to breast enlargement.

#### Weight Gain

High levels of the stress hormone cortisol can cause unstable blood sugar levels and may increase sugar cravings.

#### Benign Prostatic Hyperplasia (BPH)

Most men over the age of 60 have signs of prostate enlargement, also known as BPH. Some researchers have suggested that low testosterone and/or high estradiol may be contributing factors in prostate enlargement.

#### Testosterone

- helps maintain muscle mass and bone, improves sense of well-being, helps control blood sugar, is needed for heart health, and improves sex drive.
- is responsible for male sex characteristics like facial and body hair growth, deepening of voice, and development of male sex organs.

#### Estrogens

*estradiol, estrone, estriol*

- the testes produce approximately 20% of a man's estradiol, while the rest is converted from testosterone via the enzyme aromatase (found in fat cells).
- estrogens can compete with testosterone for receptor sites, which means that having too much estrogen may reduce the effect of testosterone.

#### Cortisol

- is the major stress hormone released by the adrenal glands.
- high or low cortisol levels may be an indication of poor adrenal function.

#### DHEA-sulphate (DHEAs)

- is the storage form of the adrenal hormone DHEA, used to make estrogens and testosterone.
- DHEA and cortisol have opposite effects on immune function and blood glucose control.

### Why Test Hormones in Saliva?

- Saliva hormone testing is excellent at uncovering hormone imbalance.
- Saliva measures hormone that *actually* made it into tissue, because hormones pass through saliva gland tissue before getting into saliva
- Blood measures hormones that *might eventually* get to tissue.
- Saliva collection is painless and easy to do at home. Blood collection requires a trip to the laboratory, and some hormones cannot be tested in blood (e.g. estriol).
- The stress of a needle puncture for blood collection tends to raise cortisol levels. Saliva collection is not known to raise cortisol levels.

## Restoring Male Hormone Balance

### Testosterone

*Low testosterone* levels do not necessarily mean you need to supplement with testosterone. Your healthcare professional may want to investigate options like zinc supplementation, which can slow the conversion of testosterone into estradiol. If these or other interventions do not relieve low testosterone symptoms, likely only then will your healthcare professional consider supplementing with testosterone.

*High testosterone* is generally a consequence of supplementing with too much testosterone. Although naturally high levels are rarely a problem, significantly elevated testosterone may require a referral to a medical specialist.

### Estrogens

*Low estrogen* levels are not usually a problem for men. However, if estrogen levels are low and symptoms of low estrogen are present, there are some supplements that may help. For example, boron may help boost estrogen production, and plant estrogens and progesterone may relieve symptoms of low estrogen.

*High estrogen* levels in men generally occur as a result of conversion from testosterone. An enzyme called aromatase causes testosterone to be changed into estradiol. Aromatase lives in the fat cells, so men who carry extra weight around the middle tend to have more cortisol and consequently make more estradiol. Cortisol increases the activity of the aromatase enzyme, so high cortisol levels can also lead more testosterone to be converted into estradiol. Thus, weight loss and stress reduction are important steps in restoring the balance of hormones.

### Cortisol

*Low cortisol* in the morning may be indicative of adrenal issues, which may require further testing or interventions by your healthcare professional.

*High cortisol* levels are associated with numerous symptoms and conditions including: bone loss, high blood pressure, insulin resistance and diabetes, weight gain, memory impairment and immune system suppression. High cortisol levels also interfere with the action of other hormones. Therefore, when cortisol levels are high, the first step in restoring hormone balance should be to reduce high cortisol levels. Your healthcare professional may recommend lifestyle changes as well as supplements to help address high cortisol levels.

### DHEAs

*Low DHEAs* symptoms are not well-defined although low DHEAs is often associated with chronic illness. Some men benefit from supplementing with DHEA to bring saliva hormone levels back within range.

*High DHEAs* may be a consequence of supplementing with too much DHEA, in which case your health care provider may recommend reducing the dose.

More information on male hormone balance can be found in Chapter 9 of the book **"You've Hit Menopause: Now What?"** Visit [www.rmalab.com](http://www.rmalab.com) to learn more about this book and how you can get a free copy.

### Why Test?

Good health has a lot to do with maintaining balance: the right balance of work and play, the right balance of nutrients in the diet, and the right balance of hormones.

Hormone imbalance may be a result of illness, or may produce symptoms and biochemical changes that eventually lead to illness.

Rocky Mountain Analytical is committed to offering laboratory tests that identify hormone imbalances and other conditions - so they can be corrected before disease develops!

### About Us

*Rocky Mountain Analytical was founded in 2002 with a mission to offer tests that focus on early identification and prevention of disease.*

*Rocky Mountain Analytical is an accredited medical laboratory located in Calgary, Alberta. Accreditation means tests performed by Rocky Mountain Analytical are regularly reviewed for quality, accuracy and reproducibility by the College of Physicians & Surgeons of Alberta.*

*Ask your healthcare professional whether a test is right for you.*

Information is for educational purposes only. It is not meant as medical advice and any treatment decisions should be made with the knowledge or consent of your healthcare professional.



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