

Urinary Androgens

- Testosterone
- Dehydroepiandrosterone (DHEA)
- Total 17-Ketosteroids
 - Androsterone
 - Etiocholanolone
 - 11-Hydroxy-androsterone
 - 11-Hydroxy-etiocholanolone
 - 11-Keto-androsterone
 - 11-Keto-etiocholanolone
 - DHEA

Androgens are important hormones in the health of both men and women. Testosterone and DHEA are metabolized into what is collectively known as the 17-ketosteroids (DHEA is formally included as a 17-ketosteroid).

Together, these markers provide a comprehensive assessment of androgen sufficiency, as well as evaluating the need for, and monitoring of, androgen hormone therapy.

Total 17-ketosteroids (Anabolic) are used to calculate the Anabolic/Catabolic Balance (ACB).

Androgen deficiency

- Fatigue
- Muscle Weakness and Atrophy
- Anxiety
- Depression
- Loss of Libido

Androgen excess

- Metabolic Syndrome ("Syndrome X")
- Acne
- Polycystic Ovarian Syndrome
- Prostatism (nocturia, dysuria)
- Male Pattern Balding

Urinary Progesterones

- Pregnanediol
- Pregnanetriol

Progesterone is an active hormone and a prohormone in both men and women. It is completely metabolized into two primary molecules: **Pregnanediol** and **Pregnanetriol**.

These metabolites are easily measured in the urine and together provide a robust analysis of progesterone status, which may be used to evaluate the need for, and monitoring of, progesterone hormone therapy.

Progesterone deficiency

- PMS
- Headaches/Migraines
- Anxiety
- Insomnia
- Breast, uterine and ovarian cancer risk
- Polycystic ovarian syndrome
- Benign prostatic hypertrophy
- Male pattern balding

Progesterone excess

- Sedation
- Depression
- Amenorrhea

Progesterone is rarely able to be measured directly in urine.

Urinary Hormones

Anabolic

Anabolic/Catabolic Balance (ACB)

Anabolic/Catabolic Balance (ACB) is a simple yet powerful tool that assists in the prevention of disease and the promotion of healthy aging by balancing the processes that direct growth and healing (anabolic process) versus wear and tear (catabolic process).

Anabolic/Catabolic Balance and Healthy Aging

Excessive catabolic or anabolic activity has been linked with disease process. More commonly seen, catabolic dominance, or "catabolic shift," increases with age and is associated with the whole-body effects of aging.

Catabolic shift is associated with:

- Aging
- Insomnia
- Hypoxia
- Chronic Stress
- Chronic Illness
- Hyperandrenalism
- Hypoandrogenism
- Hyperglycemia and Diabetes

Catabolic shift causes:

- Poor Healing
- Cognitive Decline
- Muscle and Tissue Degeneration
- Cardiovascular Disease
- Proinflammatory Immune Dysregulation
- Anxiety and Depression

ACB is the ratio of the total androgen metabolites (Total 17-Ketosteroids) and the total catabolic metabolites (Total 17-Hydroxy-corticosteroids).

Urinary Estrogens

- Estrone
- Estradiol
- Estriol
- 2-Hydroxy-estrone
- 2-Methoxy-estrone
- 4-Hydroxy-estrone
- 4-Methoxy-estrone
- 16 α -Hydroxy-estrone
- 2-Hydroxy-estrone:16 α -Hydroxy-estrone ratio
- 2-Methoxy-estrone:2-Hydroxy-estrone ratio
- 4-Methoxy-estrone:4-Hydroxy-estrone ratio

Estrogens and their metabolites are important in the health of both men and women.

Urinary estrogens and estrogen metabolites provide a robust analysis for evaluating hormone replacement therapy and the risk of estrogen-related disease, including breast cancer and prostate cancer. Additionally, the results assist the clinician in choosing therapies that modulate estrogen metabolism, if necessary.

Estrogen deficiency

- Osteoporosis
- Amenorrhea
- Menopausal symptoms

Estrogen excess

- Menorrhagia
- Uterine Fibroids
- Anxiety/Irritability

Estrogen Metabolite imbalance increases risk of

- Breast Cancer
- Osteoporosis
- Prostate Cancer

Urinary Adrenal Steroids

- Cortisol
- Total 17-Hydroxy-corticosteroids
 - Allo-Tetra-hydrocortisol (a-THF)
 - Tetra-hydrocortisol (THF)
 - Tetra-hydrocortisone (THE)
 - Tetra-hydrodeoxycortisol (THS)
 - Pregnanetriol

These hormones and metabolites provide critical information regarding the health of the adrenal gland, and the activity of its hormones, in both men and women.

17-Hydroxy-corticosteroids (cortisol-related metabolites) assist in providing a robust analysis of cortisol status, and assessing cortisol's availability at target tissues (low levels = poor stress tolerance; high levels = wear and tear). Urinary Cortisol reflects the adrenal gland's Total Output of this hormone, averaging fluctuations that occur during its circadian rhythm.

Together, these markers provide a robust analysis for evaluating adrenal therapies.

Total 17-Hydroxy-corticosteroids (Catabolic) are used to calculate the Anabolic/Catabolic Balance (ACB).

Cortisol deficiency

- Fatigue
- Hypoglycemia
- Poor stress tolerance
- Allergies
- Inflammation (arthritis, pain, etc.)

Cortisol excess

- Anxiety
- Depression
- Wear and Tear (tissue degeneration)
- Obesity
- Metabolic Syndrome

Catabolic