

Hormones 101



By:
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Part I

Hormones regulate the activity of cells and tissues in various organs of the body. The balance of hormones produced by your body is essential to good health and a feeling of well-being.

In women, various sex hormones like estrogen, progesterone, testosterone, and other hormones like cortisol, and DHEA, exert powerful effects throughout life. Knowing the function of your hormones is one step to creating hormone balance.

Estrogen is an essential hormone produced in women. It stimulates the growth of tissue, such as development of breast and reproductive organs, and ensures their function. In the brain, it boosts the synthesis and function of neurotransmitters that affect sleep, mood, memory, libido, and cognitive factors such as learning and attention span. Estrogen decreases the perception of pain, preserves bone mass, and increases HDL - the good cholesterol. It also preserves the elasticity and moisture content of the skin, dilates blood vessels, and prevents plaque formation in blood vessel walls.

Estrogen is composed of the following:

Estradiol

The most potent form of estrogen made by the ovaries, adrenals and fat cells when older. Estradiol affects the functions of most of the body's organs.

Estriol

The weakest and least active form of estrogen primarily functioning during pregnancy.

Estrone

The primary estrogen after menopause produced mostly by fat cells.

Progesterone

This is made primarily by the ovaries; the adrenal glands, peripheral nerves, and brain cells produce lesser amounts. Progesterone ensures the development and function of the breasts and female reproductive tract. In the brain, progesterone binds to certain receptors to exert a calming, sedating effect. It improves sleep and protects against seizures.

Progesterone is also a diuretic. It enhances the sensitivity of the body to insulin and the function of the thyroid hormones. It builds bone and benefits the cardiovascular system by blocking plaque formation in the blood vessels and lowering the levels of triglycerides. Progesterone also can increase libido and contribute to the efficient use of fat as a source of energy.

Testosterone

This is manufactured in women by the ovaries and adrenal glands, enhances libido and sexual response. It strengthens ligaments, builds muscle and bone,

Did You Know?

- 7 out of 10 women who complain of low sex drive have a hormone imbalance

- 8 out of 10 women with hot flashes have a hormone imbalance

- 7 out of 10 women who complain of irritability have a hormone imbalance

assists brain function, and is associated with assertive behavior and a sense of well-being. The level of testosterone influences both stamina and restful sleep. It has a protective effect against cardiovascular disease in both men and women.

DHEA

It is made primarily by the ovaries and adrenal gland; lesser amounts are produced in the skin and brain. DHEA is the most abundant circulating hormone. It provides protection against the effects of physical stress and inflammation. DHEA can increase libido and sexual arousal. It improves motivation, engenders a sense of well-being, decreases pain, and enhances immune system function. DHEA facilitates the rapid eye movement (REM) phase of sleep, enhances memory, and assists in maintaining normal cholesterol levels. DHEA can be converted into estrogen and testosterone through fat, muscle, bone, and liver.

Cortisol

This is made by the adrenal glands. It regulates the immune response, stimulates the production of glu-

cose, aids short-term memory, and helps the body adapt to stress by increasing heart rate, respiration, and blood pressure. The level of cortisol increases early in the morning to prepare to meet the demands of the day. It gradually decreases throughout the day and reaches its lowest point late in the evening (a pattern known as "circadian rhythm").

How do Hormones Get Out of Balance?

Hormones are incredible chemical messengers in our body that affect our brain, heart, bones, muscles, and reproductive organs and are

an essential part of the workings of every cell in the human body.

Hormones work best when balanced. However, hormones can become imbalanced. Hormone imbalances are caused by:

- Higher than average levels of stress;
- Poor food choices;
- Inadequate sleep;
- Taking synthetic hormones; and
- Sedentary lifestyle - lack of movement or exercise.

Part II in Next Issue: Restoring Balance, Testing Balance and Treatment Options.

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