



Hormone Replacement Therapy For Men

Consultation Information



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Biological Aging and Hormones

As we age, a natural degeneration and aging of organs causes the levels of our hormones to diminish. Hormones control virtually all of the functions of the body including our reproductive, immune and metabolic systems. Hormones also control our overall physical and mental health. As the levels of hormones decline, so do we decline both physically and mentally. We lose our energy, vitality, and health, as well as our longevity.

Conventional medicine has always held the belief that aging is inevitable and that progressive deterioration cannot be altered. However, this is simply not true. The downward spiral of physical and mental decline is becoming recognized as somewhat controllable and preventable. One of the most important and successful treatments is optimal hormone supplementation.

But what exactly are hormones?

Hormones are molecules that are manufactured in endocrine glands, which include the adrenal glands, the testes, pancreas, thyroid, pituitary gland and pineal gland. Hormones are released into the blood stream and...

- exert biochemical effects on distant organs and cells.
- affect every cell in the body by activating a receptor site on the cell and thereby causing activation of protein synthesis.
- are either proteins or derivatives of cholesterol.

Hormones undoubtedly have a huge influence on the body, but there's no reason why anyone has to become slaves to them! The more we understand how hormones can affect the body, mind and emotions – the better we are able to minimize their negative effects and enhance their positive ones.

As we age...

...when there is a degeneration and aging of organs, the levels of hormones diminish. Hormones control virtually all of the functions of the body including our reproductive, immune and metabolic systems. Hormones also control our overall physical and mental health. As the levels of hormones decline, we also decline both physically and mentally. We lose our energy, vitality, and health, as well as our longevity.

To help counteract aspects of this decline, *hormone replacement therapy* may be a viable option for some men. To better understand hormone replacement therapy, it is helpful to understand what it is “not”.

Hormone Replacement Therapy is not...

- ✗ A Cure – all
- ✗ It will not reverse aging
- ✗ It will not keep us permanently at one age.

With that out of the way...let's concentrate on benefits of Hormone Replacement Therapy...



- Enhancement of libido plus an increased sexual drive
- An increase in lean body mass and a decrease in body fat
- An increase in muscle weight, size and strength
- Greater capacity for getting in shape
- Consistency in moods, reduction in anger, nervousness and irritability
- Increased energy, mental focus, clarity of thought and concentration is easier to maintain
- Improvement of memory
- Increased sense of overall well being

Hormone Replacement Options for Men

When considering hormone replacement therapy in men, it is important to understand the hormones that are most frequently affected. These include: Thyroid hormones, DHEA, Melatonin, and Testosterone.

Thyroid Hormone is a metabolic hormone secreted by the thyroid gland. It regulates temperature, metabolism, and cerebral function, which results in increased energy, temperature and warmth. It increases fat breakdown resulting in weight loss as well as lower cholesterol. Thyroid hormone initially is produced in the thyroid gland as T-4. Once in the body, this circulating T-4 is converted to the active form of thyroid called T-3. As we age, this conversion becomes less effective. If metabolism is low due to an inadequate supply of thyroid hormone, it will adversely affect every organ in the body. **Fatigue, lack of energy, weight gain and feeling cold** are all typical symptoms of low thyroid.

Dehydroepiandrosterone (DHEA) is a hormone produced by the adrenal glands and is derived from cholesterol. It is the most abundant steroid hormone in the body. DHEA has many beneficial effects. It is the building block that is necessary to make estrogen, progesterone and testosterone.

It has been shown that DHEA:

- Improves the function of the immune system; improves brain function; relieves stress
- Has been shown to be a very potent anti-cancer supplement; increases energy
- Reduces body fat and cholesterol
- Is an antioxidant as it appears to prevent the formation of free radicals.

Melatonin is a hormone secreted by the pineal gland, which is located in the center of the brain. It regulates our circadian rhythm as well as regulates the deep stages of sleep. It is in these deep stages of sleep that our immune system is stimulated. The pineal gland uses Melatonin to maintain the body's balance, equilibrium and homeostasis. It has also been shown to:

- Have a role in the biologic regulation of circadian rhythms
- Improves sleep; improves mood; benefits reproduction
- Slows tumor growth; functions as an antioxidant

Testosterone and Men

Testosterone is one of the most important hormones in men. It is secreted by the testes, and has always been known as the male sex hormone. In men, testosterone plays a key role in the development of male reproductive tissues such as the testis and prostate as well as promoting secondary sexual characteristics such as increased muscle, bone mass, and the growth of body hair. In addition, testosterone is essential for health and well-being as well as the prevention of osteoporosis. It has recently been shown to be linked to longer healthier lives.

What happens to testosterone levels with age?

Testosterone peaks during adolescence and early adulthood. As men get older, their testosterone level gradually declines — typically about 1 percent a year after age 30. It is important to determine in older men if a low testosterone level is simply due to the decline of normal aging or if it is due to a disease such as hypogonadism.

Does a naturally declining testosterone level cause the signs and symptoms of aging?

Not necessarily. Men can experience many signs and symptoms as they age, and some may occur as a result of lower testosterone levels and can include:

- **Changes in sexual function.** This may include reduced sexual desire, fewer spontaneous erections — such as during sleep — and infertility.
- **Changes in sleep patterns.** Sometimes low testosterone causes insomnia or other sleep disturbances.
- **Physical changes.** Various physical changes are possible, including increased body fat, reduced muscle bulk and strength, and decreased bone density. Swollen or tender breasts (gynecomastia) and hair loss are possible. You may experience hot flashes and have less energy than you used to.
- **Emotional changes.** Low testosterone may contribute to a decrease in motivation or self-confidence. You may feel sad or depressed, or have trouble concentrating or remembering things.
- It's important to note that some of these signs and symptoms are a normal part of aging. Others can be caused by various underlying factors, including medication side effects, thyroid problems, depression and excessive alcohol use. A blood test is the only way to diagnose a low testosterone level.

Understanding Testosterone

While testosterone is widely known as a sex hormone, it is also critically important for men's physical and emotional health. After puberty, men begin to produce an adult level of testosterone. Besides helping men maintain lean muscle mass and an enjoyable sex life well into their forties, fifties, and sixties, additional benefits include: relief of menopausal symptoms, restores energy, strengthens bones, prevents Osteoporosis, decreases cholesterol, increases HDL (good cholesterol), improves sense of well-being, improves skin tone, muscles, bones, tendons and joints. Testosterone is the best hormone for the skin to prevent thinning and wrinkles while increasing collagen.

Testosterone Replacement Options

Testosterone can be administered in many different forms. The form that will be most beneficial to you will be determined by both your doctor's professional opinion, and your lifestyle parameters.

Options include:

- Intramuscular injections, generally every two or three weeks
- Testosterone patches worn either on the body or on the scrotum (the sac that contains the testicles). These patches are used daily. The body patch application is rotated between the buttocks, arms, back or abdomen.
- Testosterone gels that are applied daily to the shoulders, upper arms, arm pits, or abdomen.
- Testosterone pellets that are inserted into the buttocks generally every 4-5 months.

Each of these options provides adequate levels of hormone replacement. Each has side effects and advantages and disadvantages. Intramuscular injections produce wider swings in hormone concentration, with higher levels shortly after the injection and lower levels just before the next injection is due. They may also produce increases in blood cell count that are higher than normal.

The body patches may produce skin irritation in a significant number of men, requiring discontinuation of the patch. The gels require care in making sure that the hormone is not accidentally transferred to another person or partner.

Testosterone pellets have been found to provide sustained levels of testosterone for at least 4 months, decrease gonadotropin levels, and are well tolerated. The pellet need is determined by your lab results.

There are currently no pills available in the United States that provide adequate levels of hormone replacement. In addition, oral medications may produce liver abnormalities and are to be avoided.

Steps for Diagnosing Low Testosterone

The number of symptoms and signs of low testosterone may not always be obvious. An added source of confusion is that many of the symptoms overlap with symptoms of depression or with what we consider “normal aging”. Your participation in providing as complete information as you can will be important in this diagnosis. At the first visit, a doctor will ask many questions about general health as well as specific questions about sexual interest and activity that relate to low testosterone. Some of the specific topics asked about may include:

Personal History:

- Date of birth
- Allergies
- All prescription and non-prescription drugs currently being taken
- Previous and existing conditions and major illnesses
- Names of current and previous doctors
- Dates/reasons for previous medical visits
- Dates and kinds of surgeries
- Copies of past test results
- Lifestyle habits – smoking, alcohol consumption, drug use
- Family and relationship problems, including any sexual ones
- Major life events or changes that have occurred

Family History:

- Alcoholism
 - Blood diseases (hemophilia or sickle cell)
 - Cancer (all types)
 - Diabetes
 - Heart disease, hypertension or stroke
 - Kidney disease
 - Mental illness
 - Other illnesses and disorders
- Your doctor will also ask you questions about your sexual history and development. These may include:
- Any genital abnormalities present from birth
 - When and how quickly puberty took place
 - Frequency of sexual intercourse

Once the doctor has a general idea about your past and current situation, he or she will conduct a thorough physical examination.

Weighing the options between Natural and Synthetic Hormones

Bio-identical hormones (natural hormones) have been around for many years. Even still, there are many questions and controversies surrounding if they are safe, effective, and which one is better – natural or synthetic?

What are Bio-identical (Natural) Hormones?

Bio-identical hormones are *structurally identical* to the hormones in your body, and are often made from plant sources. In fact, the pure biologically identical (human identical) hormone is either extracted from plants (such as soy or yams), or synthetically manufactured. Either way, the end product is *exactly the same* as what would be produced by your body.

A compounding pharmacist is able to acquire pure pharmaceutical grade hormone and compound it into the dose and form ordered by a physician. They also use ingredients that are micronized – which means that the product is fine grain and well absorbed by the body. They can also be prescribed as long-acting or time release.

Supplements are different

Hormone supplements found at health food stores are most often a dose that is so low that it does not require a prescription. Usually the dose is so small that it is insufficient to produce a measurable difference in the body.

What are Synthetic Hormones?

A synthetic or patentable hormone is a hormone that is not produced by your body, but will act like a hormone in your body. One disadvantage is that a synthetic hormone is not metabolized by your body as easily as a bio-identical hormone and thus causes more side effects. One advantage is that your insurance plan may cover patented hormones that are manufactured by major drug companies, where they may not cover a bio-identical hormone which is produced by a compounding pharmacy.

In Summary:

Natural Bio-identical Hormones

A bioidentical hormone has a chemical structure that is identical to the hormone naturally produced by the body. We refer to them as *natural* because they are *natural* to the human body. Natural hormones cannot be patented by drug companies.

Synthetic Hormones

Synthetic hormones have a structure similar to but not exactly the same as a hormone produced by your body. These chemical differences mean that the synthetic hormone acts differently and produces substantially different effects.

Natural (bio-identical) and synthetic hormones should not be considered the same or used interchangeably. They are entirely different. A multitude of studies have demonstrated many harmful effects of synthetic hormones whereas the medical literature supports no harmful effects of natural hormones, only beneficial effects.

Hormone Replacement Therapy has many positive benefits for men, and oftentimes, it is a lifetime treatment commitment. With this in mind, it is important to make your physician completely aware of your symptoms, existing medical issues, as well as your lifestyle goals. It is also important to be committed to long-term treatment, periodic physician visits, and out-of-pocket expenses that your insurance company may not cover.