

HEALTH ADDITIONS, PLLC

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I have consolidated some useful information in an effort to help you better understand Bio-identical Hormone Therapy (BHT). While bio-identical hormones have been approved and available for use in the US since the 1930s, the use of bio-identical hormones has been slow to increase *despite general agreement in the scientific literature that bio-identical hormone replacement is far better than using non-human hormones*. The technology now exists that allows us to place time-release pellets of approved human hormones in the fat under our skin to deliver more youthful hormone levels directly into the bloodstream. While I am quick to admit that this therapy is not a "fountain of youth", I am very confident that it can dramatically improve many people's *quality of life and health in measurable ways* based upon hundreds of recent scientific studies.

It is vitally important that you continue to see your regular medical doctor for your usual health care, tests, and routine health maintenance. I am not replacing your medical doctor.

What exactly are hormones?

Hormones are the body's chemical messengers, either secreted into the bloodstream or used locally, that affect the functioning of other cells. A hormone affects only specific cells called **target cells** that have unique **receptors** for that hormone. Think of it as a lock and key. Cells which do not have the specific receptor for a certain hormone cannot be influenced directly by that hormone. Some cells go even further, and regulate their own internal production of a needed hormone. For example: Estrogen is made inside the cells that utilize Estrogen (brain, bone, heart, etc.) from Testosterone.

What is meant by bio-identical, and why is non-bio-identical bad?

Bio-identical hormones have the exact same chemical structure as hormones that are made by the human body. The difference between the "human body made" (or bio-identical) versus synthetic non-bio-identical is in the molecular structure (shape) of the hormone. In order for a replacement hormone to fully replicate the function of the hormone that we naturally produced, the chemical structure must *exactly* match the original. It is the structural differences that exist between human bio-identical and **non-bio-identical** hormones that are responsible for side effects and health risks that occur when **non** bio-identical hormones are used by humans.

Why are humans taking non bio-identical hormones?

In brief... "corporate greed and profit". Since bio-identical hormones are naturally produced in humans, they cannot be patented regardless of their source. Therefore, large drug companies cannot significantly profit off the use and sale of bio-identical hormones. The pharmaceutical industry's main hormone drugs are produced by using animal hormones (often collected from pregnant mare urine) to create products that are structurally different than human hormones and yet bind to human receptors – often much too strongly. The drug Premarin binds to human estrogen receptors almost 20 times stronger than natural estrogen. Mass production of non-human type hormones by drug companies is very profitable despite the serious health issues and side effects caused by them. Conversely, bio-identical hormones (especially well studied testosterone) have not been shown to have any serious side effects. BHT had few powerful advocates *until recently when Oprah aired two shows in January of 2009*. The quality of life and health benefits of bio-identical hormones are huge for those with deficient levels... which will include most of us eventually!

What is the goal of bio-identical hormone therapy (BHT)?

The goal of Bio-identical Hormone replacement therapy is to provide an adequate supply of a deficient hormone in a form that is molecularly identical to that which your body produces. Logically, this should result in the hormone's normal healthy physiologic effects being restored. Every person is unique. Therefore, it is sensible for you and I to work together to customize a BHT program based upon your individual symptoms *and* hormone levels. The precise dosing of each person's therapy will be determined after consultation and evaluation of laboratory blood tests, and may be adjusted if needed.

How is the BHT administered in my practice?

Bio-identical hormone pellets are obtained in various strengths from a highly rated commercially licensed compounding pharmacy. The hormones are derived from an ingredient found in many vegetables including Yams and Soy beans. (The pellets used in our office are Yam based.) Usually, only Testosterone (a necessary male and female hormone) is placed via time released pellets inserted in the body fat. They are extremely small, usually painless to insert, and provide a steady hormone level for months. Bio-identical Estrogen and Testosterone are not suitable for oral ingestion as they are chemically inactivated during the intestinal absorption process. Any estrogen or testosterone like drug taken by mouth should be assumed to be NOT bio-identical.

Goals of bio-identical hormone replacement therapy include:

- Alleviation of the symptoms caused by decreased production of hormones. (Examples include: sleep problems, mood swings, increased body fat, decreased libido and sexual function, hot flashes, night sweats, anxiety, etc.)
- Re-establishing the protective benefits which were originally provided by higher levels of your naturally occurring hormones. (Examples include: bone density, cardiovascular health, immune function, balance, etc.)
- Reversal of diseases associated with aging (Examples: osteoporosis, loss of strength, fatigue, exercise intolerance, decreasing muscle mass, mental clarity, etc.)
- Enhance the enjoyment, sense of well-being, and quality of life over the long-term.

Testosterone

Testosterone is vital to the health and well-being of BOTH men and women. Testosterone in men is mainly produced by the testicles and in smaller quantities by the adrenal glands. In women, testosterone is produced in both the ovaries and the adrenal glands. Testosterone contributes to muscle mass, strength and endurance, decreased fat, increased exercise tolerance, enhancement of the sense of well-being and psychological health. Testosterone protects against cardiovascular disease and reduces blood sugar. It leads to improved lean muscle mass, increased bone density, decrease in cholesterol, improved skin tone, improved healing capacity, and increased libido and sexual performance. It enhances the quality of life for both men and women by decreasing the diseases of aging. Cells that require Estrogen use Testosterone to manufacture Estrogen inside the cell by a chemical conversion that uses an enzyme called Aromatase. Testosterone is present and extremely important in both Women and Men, making adequate tissue levels very important for health in both sexes. (It goes without saying that women require substantially less of it!)

Estrogen

Estrogen refers to a group of similar hormones produced in the body. Like testosterone, Estrogen is a required hormone for the health of BOTH men and women. The main three are estrone (E1), estradiol (E2), and estriol (E3). Estrogens are believed to be protective against heart disease, stroke, osteoporosis, Alzheimer's disease, and memory disorders. It also protects against vaginal atrophy, urinary incontinence, and prevents symptoms of menopause, including hot flashes and poor temperature regulation (e.g. "hot Flashes"). It can improve balance by the "visual somatosensory" system in the central nervous system.

Estrogen deficiency is linked to: urogenital atrophy, incontinence, increased skin wrinkles of the face, fatigue, depression, mood swings and decreased libido. *However, the vast majority of women we treat need only testosterone pellets (see above) as their body, like men's, makes all the intracellular estrogen it needs from testosterone, thus avoiding the serious problems that can occur with high circulating estrogen levels in the blood.* While estrogen supplementation is rarely necessary, it is important that any estrogen prescribed be a bio-identical estrogen and not a non-human estrogen. The non-bio-identical synthetic estrogens bind nearly 20 times stronger to your cell's receptors and have been proven to be harmful.

Progesterone

Progesterone is primarily produced in the ovary just prior to and after ovulation. It is also produced in large quantities by the placenta during pregnancy and in small quantities by the adrenal glands. If you are on bio-identical estrogen, you should probably be on this hormone as well. It seems to protect against uterine and breast cancers, fibrocystic disease and ovarian cysts. Unfortunately, most U.S. women are prescribed a synthetic horse derived progestin (Provera) which can cause side effects such as bloating, headaches, fatigue, weight gain, and heart disease. Bio-identical progesterone does not have these side effects.

Other supplements

There can be nutritional deficiencies encountered in the BHT patient that may affect BHT effectiveness. Examples include iodine, and other trace mineral and vitamin deficiencies. If this is suspected, inexpensive non-prescription supplements may be recommended. B-12 injections are offered monthly to those BHT patients who so desire. Many feel it helps.

What is involved in starting on Bio-identical Hormone therapy?

You will fill out a brief medical history and a symptoms questionnaire. We will discuss your symptoms and review the results from your blood test (if you had it drawn prior to your visit.) Alternatively, you can receive a lab test form during your consultation and return in several days to discuss the results of the tests and your appropriateness for this therapy. Known risks and side effects are minor and uncommon, though these will be discussed with you as well. If you decide to proceed, it takes less than 5 minutes to insert the pellets. You can resume normal activities (except for swimming and strenuous exercise which require a 4 day wait). *You can expect to feel some improvements with in the first week.*

Follow-up: 4 weeks after your first insertion, you will be asked to get another blood test and then come in to discuss what you have experienced in symptom relief. We will decide whether any adjustment needs to be done to your future dosage based on your blood test and symptoms. I will also encourage you to further enhance your own health by using the new found energy from restored hormone levels to exercise regularly and eat well. In your first year of treatment, expect to have 3 or 4 insertions. Typically, men require insertion every 4 months and women require insertion every 3 months. You can stop BHT treatment at any time, which will cause your hormone levels to drift back to your pre-treatment levels and your pre-treatment symptoms to return. There is no age limit on treatment. Though uncommon, patients as young as 25 (such as and those with PCOS or severe PMS) as well as men and women in their 70s or older have had wonderful benefits from this therapy.

