



Bioidentical Hormone Replacement Therapy Overview

For both Men and Women, replacing all of our deficient hormones - thyroid, testosterone, estrogen, progesterone, DHEA and growth hormone - to levels we had in our youth is beneficial to both our health and quality of life.

Conventional medicine has always held the belief that aging is inevitable and that the progressive deterioration that occurs in our adult years cannot be altered. This is simply not true. We have also been led to believe that the disease of aging, such as heart disease, stroke, cancer and senility, are all a part of the normal aging process. Fortunately, there is an exciting revolution in science and medicine that identifies hormone replacement as preventive medicine. The downward spiral of physical and mental decline that we have come to accept as a natural part of growing older is becoming recognized as somewhat controllable and preventable. The most effective solution of any disease process is prevention of that disease. We are entering an era where mainstream medicine will focus on slowing down the aging process and thereby achieve prevention of both the illnesses of aging as well as the symptoms of aging. One of the most important and successful treatments is optimal hormone supplementation. The amazing health-protective benefits of hormones are growing in understanding, acceptance and application. Research has shown that maintaining our hormone levels in a youthful state can prevent the debility and illness that accompany the aging process. Obviously this will lead to increased longevity by preventing the illnesses that usually lead to our demise. However, most importantly is the fact that our quality of life in our later years will be significantly enhanced.

Over the last 50 years research in the fields of endocrinology and immunology has improved our knowledge as to how and why we age. The rate and incidence of disease formation as well as the rate of aging are partially controlled by our endocrine and immune systems. These two systems are responsible for adaptation and change of our body in relation to the aging process. The endocrine system regulates our body's temperature, reproduction, growth, aging and immune system. Communication between the nervous system, the endocrine system and the immune system makes it possible for us to adapt and survive in our environment. It is through hormones that these systems interact to accomplish this mission. Hormones are molecules that are released into the bloodstream and exert biochemical effects on distant organs and cells.



Hormones can affect every cell in the body by activating a receptor site on the cell and thereby causing an internal activation of protein synthesis and activity. The hormone's effect is determined by a specific receptor site on the target cell. Hormones might have different actions on different cell types in different tissues. Hormones serve as messengers from the central nervous system telling our internal organs how to function. A decrease in the production of hormones begins in middle age and continues to diminish in a linear fashion until old age.

Hormones are either proteins or derivatives of cholesterol. These molecules are manufactured in endocrine glands, which include the adrenal glands, the testes, ovaries, pancreas, thyroid, pituitary gland and pineal gland. When there is degeneration and aging of the organs, the levels of hormones diminish. In addition, as we age, the specific receptor sites in the cells tend to change and become not as receptive to the hormones as they once were in our younger years. Whether the problem is low hormone levels or hormone resistance, the solution is optimal hormone replacement.

Whatever the cause may be, any decrease in stimulation of the receptor site will result in a decrease in stimulation of the cell, decrease in cellular repair, decrease in protein synthesis, inability of the cell to regenerate and a gradual destruction of the cell. This is what occurs with age. A deficiency of hormones will therefore result in an imbalance in this very precise, self-regulating system. For many years, medicine has recognized the health benefits of replacing these waning hormones. For most physicians, synthetic hormones were the only option. Now it is possible to produce natural hormones that in every way match those produced by the body. Most hormones can be derived from plants, such as soy and yams. We have come to understand that synthetic hormones, which are chemically different than those naturally found in the body, can cause a whole host of side effects and even cancer. It does not make sense whatsoever to replenish with chemically different hormones when bioidentical hormones, to which our bodies are accustomed, are available.

There is a growing change in how we practice medicine. People are beginning to realize that they no longer have to accept the fact that their health, appearance and function must deteriorate. They no longer want to accept growing frail and feeble. This new evolution is a culmination of research efforts over years from some of the most distinguished medical and scientific research centers in the country. Physicians have finally realized that science has now given them the tools to enhance the quality of life



by preventing deterioration through hormone replacement. Science is creating a new paradigm of preventive medicine by allowing our bodies to remain strong, healthy and vigorous. For centuries man has been searching for the Fountain of Youth, that potion that would stop the aging process. Research has now shown that part of the answer exists within our endocrine system. Medical journals have well documented studies on the health benefits and feel-good benefits of HRT.

Hormones control virtually all of the functions of the body including our reproductive, immune and metabolic systems. Hormones can actually 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. By restoring these hormones to their youthful levels it is now possible to restore our youthful zeal and energy and to strengthen and bolster our bodies as well as our minds. We can improve many of the symptoms that we have come to associate with old age. WE can also regain the youthful resilience that enables us to cope gracefully with the stressors that challenge us every day.

Hormone replacement therapy, however, is not a panacea. It will not reverse aging. It will not keep us permanently at one age. We will still continue to age and lose cells secondary to a process that is regulated genetically. With hormones we can slow the precipitous decline that occurs after midlife. There will be no sudden falling off in our physical and mental health. We will stay resilient. There will only be a gradual transition that will be much less noticeable than it would be without the hormone replenishment. The purpose is to simply replenish the hormones that already occur naturally sound levels necessary to maintain youthful health and vigor. Again, the key is to replenish all of the deficient hormones back to a more youthful balance, thereby producing a synergistic effect between the hormones. Which hormones to replenish, how much to replenish and how to adjust the hormones so that they have a synergistic effect is the art and science of the new specialty of natural hormone replacement medicine. I prefer the term preventive medicine. Vitamins, diet and exercise are important, but hormone replacement is the only therapy that can restore energy, make patients feel and function better and provide long term therapeutic protection. The next few chapters of the booklet will review each of the hormones, their health benefits as well as the detrimental effects of being without the hormone.



What are Hormones?

Hormones are molecules that are synthesized and secreted by specialized cells often localized in endocrine glands. Hormones are released into the bloodstream and exert biochemical effects on target cells. Hormone action is determined by the presence of specific hormone receptors located either on the cell surface or intracellularly in the target cells. Hormones turn on the cellular machinery and therefore cause increased metabolism, increase in protein synthesis, increase in cellular repair, and increase in cell replication.

All aspects of aging are influenced by hormones. As we age cellular receptor sites become less sensitive to stimulation by hormones, thus requiring an increased amount of hormone to affect a cellular change. This is precisely why people need optimal levels of hormones. And even though their levels might be normal, they still need more hormones in the body to improve and feel better. (This is particularly true with thyroid.) These changes in hormones result in decreased healing and repair of tissues. Research has now proven that hormone therapies are valid means to improve and prolong quality of life, thus showing that deficiencies in hormones and endocrine dysfunction can contribute to the signs and symptoms of getting old.

Sorry nothing reverses aging. However, hormones can slow down the process and help us maintain our good health. True reversal of aging requires identification of genetic loci that control the aging process and the manipulation of these genes by genetic engineering techniques. Unfortunately, the technology to accomplish this age reversal by genetic engineering is not currently available. In the meantime, we must take advantage of the current state of the art, preventive medicine techniques which include avoidance of risk factors of disease, optimum nutrition, adequate exercise, caloric restriction, antioxidant therapy, and optimal hormone replacement. We can certainly slow down that aging process to achieve less deterioration, less illness, a better quality of life and to feel and function better. This is true Preventive Medicine.

Biologically Identical Hormones

You might ask, "If there are hormones available that are natural to my body, why do doctors prescribe synthetic hormones?" The explanation involves the powerful pharmaceutical industry in the United States, politics and economics.



The molecule of the natural hormone is identical in structure to the hormone naturally found in the body. Pharmaceutical companies cannot patent natural or bioidentical compounds. However, they can patent chemically different molecules that are highly profitable. A patient will guarantee that a pharmaceutical company will have an exclusive right to manufacture and profit from their product. After the tremendous monetary investment that goes into developing and studying a pharmaceutical product, it is logical that the pharmaceutical companies would want their investment protected with an exclusive, patented product. Therefore there is little research and minimal marketing of natural hormones.

A large part of marketing a drug involves the education and instruction of a physician on how and when to prescribe it. Much of what physicians know about drugs comes directly from pharmaceutical companies promoting a product. Because pharmaceutical companies don't manufacture natural hormones, most physicians do not learn about them unless they do personal research.

Where do these natural hormones come from? The pure biologically identical (human identical) hormone is either extracted from plants or synthetically manufactured. What is most important is that the end product is a molecule identical to the hormone molecule found naturally in the body. This applies to all hormones - thyroid, estrogen, progesterone, testosterone and DHEA.

Where does one fill prescriptions for natural hormones? There is a special type of pharmacy known as a compounding pharmacy. These are regular licensed pharmacies that are capable of providing you with any drug from pharmaceutical companies. But compounding pharmacies are able to do more. The compounding pharmacist is similar to the old fashioned concept of a pharmacist with a mortar and pestle. They acquire the pure pharmaceutical grade hormone and compound it into the dose and form ordered by the physician. They produce pills, capsules, liquids and creams per the doctor's prescription order for you. This makes your program very customized and personalized. Aren't health food store products *natural*? Products in health food stores provide people with a variety of natural options, usually from an herb or plant source. Folk medicine, naturopathy, and herbalists have become more popular as people seek alternatives to conventional, synthetic medicines. However, the products from compounding pharmacies are different in several ways. First, the medicine provided by a pharmacy requires a prescription. Health food store products are most often of 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, based on laboratory tests. Second, the products from the compounding pharmacy utilize ingredients of a pure pharmaceutical grade that are *micronized*. Micronized means that the product is a fine grain that will be well absorbed. Third, the natural hormones from the compounding pharmacy can be prescribed as long acting, or time released. This helps the body have a better-balanced hormone level instead of the highs and lows that come with quick acting, quickly absorbed or poorly absorbed products. A compounding pharmacy can customize an individual prescription and provides several options for a personalized hormone program. This ranges from individualized doses to custom fillers (ie: lactose free), to options of delivery (sublingual triturates, tablets, capsules, liquids, and creams). To assure adequate replacement, hormone levels are monitored and then adjusted to maintain optimal levels of all hormones. HRT might be worthless unless monitoring and adjustment is done.

To summarize, 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 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 (bioidentical) 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 and Aging

Hormones decline in all people as they age. Many physicians assume this is the natural way it should be. If a younger person were to be diagnosed as having a hormonal deficiency, it would be quickly corrected. However, the same low level in an older individual is considered normal for their age and not something we treat. Normal is a relative term. No one wants the hormone levels of an 80-year-old, but labs report this low level as "normal" even though it might be only 20% of the level of a 30 year old. Researches from around the world have now shown that the hormonal deficiency associated with age should be corrected to that of a younger person. When patients see and feel the improvement, they embrace it wholeheartedly. It is not until one tries



this new therapy and experiences the tremendous increased vigor that one realizes the harm that is being caused to the body by the lack of these hormones. The added benefit is that it is healthy too.

Thyroid, estrogen and progesterone have been prescribed for many years, but optimal hormone replacement is new. It has become logical therapy to replace and balance all of the hormones at the same time to a more optimal physiologic level instead of maintaining lower or mid normal levels. This is the difference between optimal hormone replacement in comparison with standard medical therapy. Don't wait for levels to be technically below a normal range. Accept a low normal level as not optimal and replace the hormone to high normal or optimal levels. Fortunately, many physicians as well as patients are able to key into the concept of optimal hormone replacement. Over the last 10 years we have educated more than 1000 physicians in our HRT training courses. More and more medical practitioners are becoming aware of the science behind this new preventive medicine.

It has been shown that many changes seen in normal aging, including osteoporosis, muscle atrophy, sleep disorders and decreased sociability are in part caused by a decrease in hormones. Aging in man is associated with reduced protein synthesis, decreased lean body mass, decreased bone mass and increased body fat. The body composition changes are consistent with the progressive decline in the secretion of hormones. Replenishment of these hormones to physiological levels (optimal, but within normal limits and not excessive) has been shown to alleviate these age-related changes. Much of what goes wrong in old age is the effect of our hormones no longer maintaining the balance that they once did. In fact, the diseases that have become associated with normal aging, such as diabetes, heart disease, and hypertension are largely a result of what happens when the correct balance or hormone levels are upset. By restoring the proper hormone balance, immunity is restored, and this can prevent many of the diseases associated with the aging process. In summary, research has shown that declining hormone levels can cause many ailments associated with aging and hormone replacement is the only current solution to alleviate many symptoms. Many books recently written on hormone replacement therapy are filled with testimonials from patients praising its benefits. Many patients are typical, middle-aged, healthy people who experienced gradual increased symptoms such as decreased energy levels, decreased sense of well-being, laziness and lack of desire for common daily activities. Patients tend to lose muscle tone, gain fat around the midsection, and



experience thin hair and thin skin. In addition to the symptomatic, degenerative problems, they will also experience increased cholesterol as well as signs of heart disease and arthritic change. Within six to twelve months of hormone replacement therapy, patients have noticed reshaped bodies, fat disappearing, increased muscle tone, and the energy of a younger person. Patients report an improved sense of well-being and an improved outlook on life. There are tremendous health benefits; there are great feel-good benefits

Unfortunately, nearly 90% of the patients who are taking “natural hormones” are on an inadequate regimen. How do we know? When we measure the blood levels they are near zero. In order for the hormones to be beneficial, the serum hormone levels must be kept within the optimal, upper limit of normal levels for a younger person. Most physicians are not trained to target optimal levels.

Many physicians do not understand how to prescribe the correct doses. They are not aware of the target optimal levels based on blood tests (not saliva tests). They might not be aware of the many options in the compounding of a natural hormone in order to provide a type that is absorbed and metabolized by the individual patient.

First and foremost, the patient must insist that the physician explain, monitor and optimize the hormone levels in order to guarantee that the therapy provides the maximum benefit.

Women who go through menopause will notice dramatic changes in skin thickness, texture, hydration and tightness. Women who stop hormone therapy notice the same disturbing changes. Literature in dermatology journals demonstrate that loss of thyroid, estrogen and testosterone hormones are responsible for this detrimental effect on skin. The only way to treat and prevent the changes in skin collagen, elastin, and prevent wrinkles is through hormone replacement. More importantly, however, are the changes within. The outside skin clearly displays signs of aging, but the inside also incurs significant deterioration that is not visible. This might be the reason that so many midlife women and men say they just don't feel as well as they would like. So much of this can be helped if treated early. When you go to that high school reunion, you'd rather hear, “Wow, you look great!” instead of fearing how much you've aged.



Estrogen

For more than 40 years, doctors have been prescribing estrogen for women who suffer with menopausal symptoms such as hot flashes and insomnia. Many women felt so healthy and invigorated on estrogen that they continued to take this hormone indefinitely. Study after study documents the astonishing effect that estrogen makes women not only feel better but healthier. Estrogen vastly improves the quality of day-to-day life for women by making them more youthful and energized. Women have better muscle tone, fewer wrinkles, stronger, shinier hair, and a more enjoyable, satisfying sex life after menopause. Estrogen users stand taller and straighter and do not suffer the typical bone loss of osteoporosis. Estrogen users have half the risk of heart disease and stroke in comparison with those that do not use estrogen. Estrogen users have an extremely low incidence of Alzheimer's disease and senility. Estrogen users are not subject to vaginal dryness, urogenital atrophy and the concomitant infections that can become debilitating. Estrogen is one of the few hormones that women demand from their physicians. Over 10,000,000 women take estrogen in the United States, and it was the most widely prescribed medicine in the United States, and it was the most widely prescribed medicine in the United States. Actually, it is through estrogen supplementation that we have learned the importance of optimal hormone supplementation and the synergy from replenishing all the hormones. It is not until women lose estrogen that they start to experience heart disease, bone loss and deterioration. Simply by replacing this hormone, all this detriment can be prevented.

However, on July 17, 2002, the news media alarmed the public by reporting that hormones have been shown to increase the risk of heart disease and breast cancer. Unfortunately, the media does not know how to interpret the medical literature. Medical studies have reported for some time that synthetic estrogen and synthetic progesterone cause an increased risk of heart disease and cancer, but only when supplemented in the *synthetic* form. The natural hormones do not pose the same risk. This is exactly why we have been such strong advocates of *natural* hormone replacement and not synthetic. This information is not new. An almost identical article appeared in the same medical journal (JAMA) the year before and revealed the same conclusion - synthetic hormones increase the risk of breast cancer, although it is a very slight increase in risk. The media did not sensationalize the research until the 2002 publication.

But this poses a question: If a lack of hormones causes heart disease, how can taking the same hormones make it worse? It doesn't! Taking the chemically altered, different



hormones is what makes it worse. Natural or biologically identical hormones do not. This is what the media misrepresented. The culprits were synthetic hormones, not natural hormones. The identical ones that we lack are exactly what we should replace, although this is not what most physicians do. Most physicians prescribe only the synthetic hormones (Premarin, Provera, PremPro) and not the ones that are most appropriate. For years, many physicians have laughed and scorned the natural hormones and the physicians who prescribe them. This 2002 report has them scrambling, looking for an explanation and options for their patients. And what's worse, women who need the beneficial effects of hormone replacement are quitting because their physicians tell them to stop all hormones. When they stop they suffer the consequences of estrogen deficiency.

Physicians should be telling their patients to stop the synthetic hormones that have been demonstrated to be harmful. Physicians should then be educating women that loss of our own natural hormones results in significant deterioration and illness. Therefore we should be encouraging estrogen replacement with bioidentical estrogens. Many women fear estrogen due to the media reports on the negative studies of synthetic hormones. This is unfortunate. Women should be educated to fear the harmful effects of loss of our natural estrogen. The detrimental effects of the synthetic hormones should not be extrapolated to include our natural hormones which are so beneficial.

In the past physicians routinely removed a woman's ovaries with hysterectomy. This eliminated key hormone production. Once physicians realized the suffering and harmful effects from the loss of hormones, they now try to save ovaries whenever possible. If hormones are so harmful, we would surgically remove ovaries at an early age. Instead, we try to preserve ovary function and beneficial hormone production for as long as possible. And when menopause occurs and hormone levels fall, we simply need to replace the lost hormones back to pre-menopausal levels with the same identical hormone instead of with a completely different hormone with a different chemical structure. The pharmaceutical industry doesn't admit there is a difference, but the human body sure knows there is a difference.

Estrogen is produced in the ovaries and adrenal glands. Men actually produce estrogen from conversion of testosterone, although this is an extremely small amount. There are three types of estrogen found in a woman's body: Estrone, estradiol and estriol. The



levels of all of these hormones fall dramatically at the onset of menopause, which is responsible for the symptoms and detrimental health effects of menopause. The symptoms characteristic of menopause are hot flashes, insomnia, vaginal dryness, bladder problems, difficulty concentrating, and anxiety. Unfortunately the disease processes, such as cardiovascular disease, stroke, osteoporosis, and Alzheimer's, only increase in the absence of estrogen.

The rapid loss of bone after menopause has been attributed to the decline in the production of estrogen, which is essential for bone growth. Osteoporotic fractures are one of many of the diseases of aging that result in significant morbidity and mortality. In addition, the loss of estrogen results in the development of heart disease, which is the number one killer of both men and women. When a woman's estrogen level drops, the risk of heart disease soars. Postmenopausal women on estrogen have a 70% decrease in mortality from heart disease. Estrogen also has been shown to lower total blood cholesterol and raise HDL, the good cholesterol. Not only does estrogen protect vessels of the heart, it also protects vessels of the brain and protects against Alzheimer's disease. Over 100 articles in the medical literature over the last 30 years have documented the cardiovascular benefits of estrogen. There was one recent study, The Women's Health Initiative (WHI) study, in which a combination of synthetic estrogen and progestin (Premarin and Provera) showed an increased risk of breast cancer and heart disease. However, in the estrogen-only trial there was no increased risk of cancer or heart disease. Therefore it was the synthetic progestin (Provera) that was to blame and not estrogen. Most physicians, the media and patients, misunderstand this. Again, it is the synthetic progestin that causes the increased health risks. Estrogen alone is not the culprit.

There is no doubt that estrogen can protect a woman against many of the diseases of aging and that post menopausal women on estrogen typically feel better and stay healthier. Unfortunately, most of the estrogen that is prescribed to women is in the form of a synthetic estrogen or an estrogen that is not natural to the body, many women develop side effects or do not feel well on the synthetic, non-bioidentical hormones. A healthy trend these days is to avoid the synthetic estrogens that have been used for years and instead use natural estrogens. Human receptor sites were designed to accept the natural estrogen and not a synthetic analog. A recent article in the New England Journal of Medicine proved by meta analysis that long term use of synthetic estrogens and Progestins (the main culprit) increase the risk of breast cancer. These



medical studies have utilized the most commonly prescribed estrogen, Premarin, which is derived from the urine of pregnant mares (thus the contraction: Pregnant mare's urine). Premarin contains many estrogens found in horses only and not in humans. Many women cannot tolerate the side effects created by taking the chemically different horse estrogen. More importantly, Premarin contains the horse estrogen equilin, which can cause many side effects. It is astonishing that so many physicians do not understand why some women refuse to take Premarin.

In summary, estrogen protects against heart disease, stroke, osteoporosis, Alzheimer's disease and memory disorders. It protects against vaginal atrophy, urinary incontinence, and urinary tract infections. It prevents symptoms of menopause and improves overall well-being. Estrogen deficiency results in urogenital atrophy, incontinence, sagging skin, sagging breasts, increased skin wrinkles, fatigue, depression, mood swings and decreased libido all of which can be corrected by estrogen replacement. I absolutely recommend estrogen, and replacement must be in the form of a natural, biologically identical estrogen, of which there are several forms. (My favorite is Biestrogen). The exact dose and type will be determined by a patient's age, medical history and blood levels.

A recent article from UCLA demonstrated that post menopausal women without ovaries suffered increases in heart disease, strokes, osteoporotic fractures, and increased mortality in comparison with women that had ovaries. This is one of hundreds of medical studies proving beneficial effects of our hormones and the problems and deterioration that occur when we lose our hormones. Our own hormones are beneficial until we lose them. Therefore we should replace them with chemically altered, harmful hormones that are completely different than what we naturally had before. Premarin dramatically increases thrombosis, heart attacks and strokes whereas estradiol was shown to have none of these effects (JAMA, Oct. 6, 2004:1581). Premarin contains over 10 different estrogens that are not found in the human body and that have adverse effects on breast tissue and blood vessels. This again is another example of a study that demonstrates harmful effects of the conjugated chemically altered estrogens, whereas the use of estradiol had no adverse effects at all.

Never equate the synthetic estrogen with the natural estrogens. The media might lump them together, but they are not equal. It is not until the body lacks the natural hormones that we see the problems and deterioration. This can be avoided by simply putting back



in the same identical hormone that was there before. This is the molecule that the body recognizes, metabolizes, and uses as if it was its own. If you are a woman without estrogen, either because of menopause or surgical menopause (complete hysterectomy), you should be taking estrogen (and progesterone). If you are taking synthetic estrogen, you should change to natural estrogen. Put back into your body the same identical hormones to levels similar to what you had when you were younger so that you feel and function as you did before menopause as well as prevent the significant deterioration that occurs from loss of estrogen.

Progesterone Overview

During menopause, women experience a drop in progesterone, a hormone that plays a crucial role in protecting against conditions like uterine and breast cancer, osteoporosis, and heart disease. However, most doctors prescribe a synthetic drug called medroxyprogesterone, commonly known by the brand name Provera, as a substitute. Although Provera's name resembles progesterone, it is structurally and biologically different, often leading to side effects and health risks. This section highlights the significant distinctions between Provera and natural progesterone, emphasizing progesterone's safety and benefits compared to the risks associated with synthetic alternatives.

Natural vs. Synthetic Progesterone

Progesterone, often called the "hormone of pregnancy," is essential for maintaining pregnancy and overall reproductive health. In contrast, Provera, a synthetic progestin, can cause birth defects and is unsafe for use in pregnancy. Despite these stark differences, many physicians treat these two hormones as identical. Numerous studies, however, show Provera has harmful effects, including an increased risk of breast cancer. In contrast, natural progesterone does not exhibit these dangers and is generally beneficial, though this distinction is often unclear in medical literature.

Health Benefits of Natural Progesterone

Natural progesterone offers significant health benefits for menopausal women, similar to estrogen, by balancing hormone levels and providing relief from menopausal symptoms. It protects against cancer, supports bone health, and enhances general well-being. For years, synthetic progestins like Provera were prescribed to address hormonal imbalances, but their side effects—bloating, swelling, and mood swings—can be severe. The Women's Health Initiative (WHI) study, published in *JAMA*, found that Provera significantly increased breast cancer risk, with natural progesterone consistently showing protective effects against cancer.



Media Misrepresentation and Medical Misunderstanding

Media coverage has often inaccurately represented hormone therapy risks, mistakenly grouping natural progesterone with synthetic progestins like Provera. This misrepresentation stems from the similarity in their names. However, while progesterone works in harmony with estrogen to maintain hormonal balance, Provera can disrupt it, resulting in a host of side effects.

Unfortunately, both the media and much of the medical community often fail to make this critical distinction.

Combined Benefits of Natural Progesterone and Estrogen

When used together, natural progesterone and estrogen offer a powerful combination for preventing age-related conditions, such as osteoporosis and heart disease, while enhancing quality of life. Progesterone deficiency can lead to similar health issues as estrogen deficiency, including bone loss, heart disease, and decreased libido. Many women report feeling better on natural progesterone compared to synthetic options due to the lack of negative side effects.

Preference for Natural Progesterone

Informed patients are increasingly requesting natural progesterone due to its better side-effect profile and the long-term health benefits documented in various studies. Unlike synthetic progestins, which can lead to adverse symptoms and even breast cancer, natural progesterone supports women's health without these risks. The safer choice, it works naturally with the body to relieve symptoms, improve mood, and reduce risks of hormone-related diseases.

Availability and Usage of Natural Progesterone

Natural progesterone is commercially available in capsules (like Prometrium), as well as sublingual forms for improved absorption. Compounded versions are also available in various forms; however, topical creams are generally less effective due to limited absorption. To ensure optimal hormone levels, blood tests should be performed to adjust dosages effectively.

Additional Benefits of Natural Progesterone

Natural progesterone is effective for managing PMS symptoms such as mood swings, bloating, and headaches. It stabilizes hormone levels during perimenopause and menopause, alleviating emotional symptoms and providing a mild calming effect. It also supports uterine and breast health, helping to prevent cancer, unlike Provera, which can cause breast tissue stimulation.

Progesterone's Unique Role in Pregnancy and Beyond

During pregnancy, high progesterone levels often result in women feeling more stable emotionally, and many PMS symptoms resolve temporarily. After childbirth, progesterone levels drop, which can contribute to postpartum depression; thus, natural progesterone may assist in



easing this transition. Progesterone also improves cholesterol profiles, specifically increasing HDL, or "good" cholesterol, unlike synthetic progestins which can negatively impact cholesterol. Impact on Bone Health and Menopausal Symptom Management

Natural progesterone can stimulate osteoblasts, the cells responsible for new bone growth, helping to prevent osteoporosis—unlike estrogen, which only prevents bone loss. For women unable to take estrogen, progesterone offers an alternative for managing menopausal symptoms and promoting bone health. The PEPI trial showed that natural progesterone, unlike synthetic progestins, supports heart health and lowers cholesterol.

Forms of Natural Progesterone and Optimal Dosage

Natural progesterone is available in sublingual tablets, capsules, and topical creams. In clinical experience, sublingual forms generally provide the best bioavailability for sustaining therapeutic hormone levels. Over-the-counter creams lack sufficient doses for therapeutic effects, so prescription doses are necessary to achieve optimal levels. Blood tests, rather than saliva tests, provide accurate progesterone levels to ensure therapeutic efficacy.

Conclusion: The Case for Natural Progesterone

Natural progesterone provides significant protective effects against breast cancer, supports mental well-being, aids in hormonal balance, and prevents osteoporosis and heart disease. Unlike Provera, which can cause serious side effects, natural progesterone is a safer option for women at any life stage. It offers unique benefits that no other hormone therapy can match, making it an essential choice for aging women seeking to maintain health and vitality.

To Bleed or Not to Bleed

The term "bioidentical hormones" has become a popular topic, especially through celebrity talk shows and books, making it familiar to many who are navigating the aging process. This increased visibility has led to more awareness and appreciation of hormone replacement therapy (HRT) by both women and men. Along with this media exposure, new "experts" have emerged, offering opinions on the "correct" way to use hormones. Unfortunately, some of these perspectives have left women feeling hesitant, with some so uncomfortable that they avoid hormone therapy altogether.

One particular theory suggests that menopausal women should continue cycling—having a period every month—by stopping progesterone for one week to induce a menstrual cycle. The idea is based on the notion that menstruating aligns with health and youthfulness, implying that maintaining a period will support overall health. However, most women find this idea unappealing and may even opt out of HRT to avoid resuming monthly bleeding.



Cycling refers to the hormonal fluctuations that result in menstruation. By stopping progesterone briefly each month, women may experience bleeding, even after years without a period, unless they have had a hysterectomy. While cycling may be "natural" for younger women, it is neither necessary nor beneficial for those in menopause.

Menopausal women do not need to menstruate—hormone therapy does not inherently require it.

First, HRT does not simulate pregnancy hormone levels, which are much higher. During pregnancy, estrogen levels can reach into the hundreds, while ideal HRT estradiol levels are typically around 60–100 pg/dl, far from pregnancy levels. Secondly, menstruation exists to clear the uterus in preparation for possible pregnancy. If pregnancy is not a goal, there is no physiological need to menstruate.

Recent studies in obstetric and gynecological literature show that unexpected bleeding is one of the top reasons women stop HRT. For many, the end of menstruation was a welcomed aspect of menopause. Medical research often addresses how to prevent post-menopausal bleeding so that women feel more comfortable continuing HRT. Balancing estrogen and progesterone can prevent bleeding, increasing satisfaction with continuous HRT use. Given estrogen and progesterone's protective roles, it seems counterintuitive to stop them for one week each month, effectively reducing their benefits by 25%.

Birth control pills have long been used continuously without monthly cycling to manage PMS symptoms, as cycling hormone levels can trigger PMS symptoms before menstruation. Some modern birth control options even allow women to menstruate only once every four months, marketed as feeling more "normal." However, even pre-menopausal women do not necessarily need to menstruate, much less post-menopausal women.

Cycling means pausing hormones each month, temporarily stopping progesterone's protective effects. Bioidentical progesterone safeguards the uterus and breasts against cancer, and menstruation itself does not provide this protection. Instead, it is progesterone's direct impact on the uterus that offers these benefits. Losing this protection for one week every month has no clear advantage.

Research shows that synthetic progestin, Provera (medroxyprogesterone), increases breast cancer risk and thickens breast tissue by over-stimulating estrogen receptor sites. In contrast, bioidentical progesterone does not stimulate breast tissue and even down-regulates these receptor sites, offering more protection. Stopping progesterone periodically could mean losing 25% of its protective effects each month, making continuous use more advantageous.



A condition called endometrial hyperplasia causes an abnormal thickening of the uterine lining and is a cancer precursor. High-dose progesterone (or Provera in conventional medicine) is often used to reduce this thickening. If the endometrial lining does not shrink, the progesterone dosage is doubled, with protection provided by sustained progesterone use rather than the shedding of the uterine lining. Continuous progesterone is thus more effective in cancer prevention.

In summary, there is no need for women on hormone replacement therapy to cycle and menstruate regularly. There are no proven health benefits to regular bleeding post-menopause, making continuous hormone therapy a more convenient and beneficial option for women.

Testosterone for Men

Traditionally recognized as the male sex hormone, testosterone has now been linked to healthier, longer lives for both men and women. As testosterone levels naturally decline with age, various health issues can emerge, but testosterone replacement has shown effectiveness in countering many of these effects. Benefits of testosterone replenishment include increased muscle strength, lean body mass, enhanced sexual responsiveness, reversal of impotence, and improved body composition. It has also been found to help prevent osteoporosis, arthritis, and degenerative joint changes. Additionally, testosterone supports emotional well-being, helping to alleviate mood decline often experienced during andropause (male menopause). Studies suggest it can even enhance memory, similar to estrogen's effect in women, and offers cardiovascular protection for both men and women.

Men who undergo testosterone replacement often report feeling stronger, healthier, and more vibrant, as they did in their younger years. Hormone replenishment aims to restore youthful hormone levels, helping men maintain physical and mental vitality. Testosterone therapy can slow the physical decline that affects energy, strength, and libido. It can improve muscle tone, stamina, and sexual interest, ultimately boosting mood and well-being.

Testosterone is essential for the sex drive in both men and women, and as levels drop with age, sexual function can diminish. Restoring youthful testosterone levels can counteract this decline. Many people assume that reduced sexual function is an inevitable part of aging, but testosterone can help preserve and even restore sexual interest and performance, promoting a satisfying and enthusiastic life at any age.

Medical interest in testosterone has grown, as more evidence highlights the natural decline of testosterone with age and the health issues associated with low levels. This decline, experienced as menopause in women and andropause in men, leads to symptoms that were once accepted as part of aging but are now understood to result from low testosterone and can



be managed. Testosterone supplementation has been shown to increase muscle strength and size, boost energy, reduce fat, and increase motivation for exercise. Recently, the FDA approved a testosterone patch and topical gel, providing options for both men and women to treat deficiencies in sex hormones.

In the past, synthetic testosterone was associated with increased cholesterol levels, likely due to its effect on liver function. However, studies now reveal that natural testosterone can lower total cholesterol and increase HDL (the "good" cholesterol), similar to the benefits of estrogen in women. Few supplements offer the comprehensive benefits of testosterone: improved energy, stamina, mood, strong muscles, bones, and ligaments, along with fat reduction. It also enhances motivation for physical activity due to reduced fatigue, making it beneficial for both physical and mental well-being.

There is compelling evidence that low testosterone levels contribute to heart disease. Despite multiple studies documenting testosterone's cardiovascular benefits, it remains underutilized by U.S. cardiologists. A study of 2,500 men from UC San Diego found that those with lower testosterone levels had more severe arterial blockages, while those with higher levels experienced fewer heart issues. Supplementing testosterone to youthful levels even prevented the progression of cardiovascular disease. Despite this data, many physicians remain unaware or skeptical of testosterone's cardiovascular benefits.

Testosterone supplementation can also help reduce obesity, increase lean body mass, normalize blood clotting, and raise HDL cholesterol, all of which contribute to a lower risk of diabetes and cardiovascular disease. Additionally, it helps prevent cognitive decline and Alzheimer's disease, even more effectively than estrogen in women. Recent research also links testosterone to reduced C-Reactive Protein (CRP) levels, indicating lower inflammation in blood vessels. Testosterone thus offers protection against heart disease and can extend lifespan. A study in the *Annals of Internal Medicine* demonstrated that men with higher testosterone levels lived longer, while those with lower levels had shorter lifespans, raising the question of why more physicians don't recommend testosterone therapy for men.

Testosterone can be administered via injections or oral supplements, though these forms are synthetic. Synthetic testosterone is metabolized in the liver, potentially raising cholesterol. Natural testosterone, applied topically, avoids this issue and can even help lower cholesterol levels. Although testosterone patches are available, patients often find them uncomfortable and challenging to maintain optimal blood levels. Most prefer natural testosterone gel, which can be adjusted based on age, body weight, and blood levels and is available from compounding pharmacies.



Testosterone therapy is not recommended for those with active prostate cancer. Research shows that low testosterone is actually associated with more aggressive prostate tumors, and while testosterone doesn't cause prostate cancer, it may accelerate the growth of existing cancer. Therefore, regular PSA monitoring is advised to detect any signs of prostate cancer. Prostate cancer, the most common cancer in men, can often be detected early with an annual PSA test.

A review in the *New England Journal of Medicine* (January 2004) examined decades of research and found no evidence linking testosterone therapy to prostate cancer. In fact, prostate cancer is more common later in life, when testosterone levels decline. This review found no association between higher testosterone levels and prostate cancer, nor any evidence that testosterone therapy promotes cancer. It also showed that testosterone does not enlarge the prostate (BPH) and offers significant protection against heart disease. The findings highlight testosterone as a beneficial and safe hormone.

Testosterone for Women

Testosterone is not solely a male hormone; it is also a crucial hormone for women. Complete hormone replacement involves restoring the balance of all hormones to levels associated with peak physical and mental health, and for women, this includes testosterone. While many women already take estrogen and progesterone, they may still feel that something is missing. This often stems from a deficiency in another key hormone—testosterone. Though commonly associated with men, testosterone plays a vital role in women's physical and emotional health. Recognizing this, the pharmaceutical industry has developed a combined estrogen-testosterone tablet, but unfortunately, this version is synthetic and can negatively impact liver function. Only natural testosterone should be used, which can be obtained from specialized compounding pharmacies.

In women, testosterone is produced in the ovaries and adrenal glands, and it is essential for normal sexual development. As women age, their testosterone levels decrease, leading to a loss of libido and contributing to menopause symptoms. Replenishing testosterone can enhance sexual drive, relieve menopause symptoms, restore energy, strengthen bones, prevent osteoporosis, and improve overall well-being and zest for life. Many women may not realize that testosterone supports healthy skin, muscles, bones, tendons, and joints. Older women frequently report thinning skin, particularly on the arms. Testosterone can prevent this thinning, help reduce wrinkles, and boost collagen and elastin. Additionally, testosterone is more effective at preventing bone loss than estrogen, yet it is rarely mentioned as a treatment option. Just a small dose of testosterone gel can make a noticeable difference. The correct dosage is determined by factors such as body weight, age, and blood levels.



In summary, testosterone is produced by the ovaries, adrenal glands, and testes and is a key hormone for both men and women. It contributes to increased muscle mass, strength, endurance, reduced body fat, improved exercise tolerance, and enhanced mood and well-being. It increases bone density, helps prevent osteoporosis, improves skin tone and healing, and boosts libido and sexual satisfaction. Testosterone can enhance quality of life by slowing the progression of age-related conditions like cardiovascular disease, reducing cholesterol, and raising HDL. It also improves memory and helps protect against Alzheimer's disease. Testosterone is just as important and beneficial for women as it is for men. Recent studies published in *JAMA* have highlighted the comprehensive benefits of testosterone, calling it a breakthrough in modern medicine. *The New England Journal of Medicine* also reviewed testosterone replacement for women, identifying it as an effective therapy for boosting energy alongside estrogen and progesterone. It is important to use only natural testosterone rather than synthetic versions, as it is beneficial to health and improves well-being.

DHEA

Dehydroepiandrosterone (DHEA) is a hormone produced by the adrenal glands and derived from cholesterol. (Any hormone derived from cholesterol or sterols is classified as a steroid; DHEA, estrogen, progesterone, and testosterone are all beneficial, natural steroids.) DHEA is the body's most abundant steroid hormone and plays a crucial role as a building block for estrogen, progesterone, and testosterone. Initially, DHEA was thought to serve only as a precursor to sex hormones, but researchers later found that DHEA levels decrease steadily with age, making it a biomarker for aging itself. A 2002 study by the National Institutes of Health showed that the only factors proven to extend human lifespan are caloric restriction and high levels of DHEA. Additionally, a study in the *New England Journal of Medicine* (1992) demonstrated that low DHEA levels were linked to higher mortality from cardiovascular disease and cancer, while higher levels were protective. Conclusion: maintaining optimal DHEA levels supports optimal health.

DHEA strengthens the immune system, boosts brain function, relieves stress, and is a potent anti-cancer supplement. It also increases energy, reduces body fat, lowers cholesterol, and helps prevent heart disease. These benefits are largely due to its ability to shift the body from a catabolic (breakdown) state to an anabolic (building) state. With extensive research published on its critical role in health and well-being, DHEA has become a focal point of some of the most promising medical studies in the U.S.

DHEA has been shown to improve insulin sensitivity, requiring less insulin and offering protection against diabetes, as well as providing better control for those already managing diabetes. It has also demonstrated significant benefits for treating connective tissue disorders



such as Lupus, which typically shows limited improvement with standard therapies. Pharmaceutical DHEA is expected to gain FDA approval as a Lupus treatment soon. Most of DHEA's remarkable effects come from its ability to stimulate protein synthesis within cells, leading to increased cell regeneration, enhanced immune function, and resistance to disease. As an antioxidant, DHEA helps prevent the formation of harmful free radicals.

Insulin resistance affects over 14 million Americans with some form of diabetes. This resistance impairs insulin's ability to regulate glucose, contributing to weight gain and cardiovascular damage. Studies have shown that DHEA can help reduce insulin resistance in diabetics, reducing the harmful effects of insulin on blood vessels. Two recent studies in the *Journal of Clinical Endocrinology and Metabolism* highlighted the benefits of DHEA in preventing cardiovascular disease.

A 1995 article in the *Journal of Clinical Endocrinology and Metabolism* noted over 2,500 published studies on DHEA's benefits. This significant paper confirmed that by age 40, DHEA production drops to half the levels seen at age 20, and some elderly individuals produce no DHEA at all, which increases health risks. DHEA was shown to improve quality of life and delay aging-related symptoms like fatigue and muscle weakness. Patients who received DHEA reported better sleep, increased energy, and improved stress management compared to those given a placebo. Additional benefits of DHEA include immune support, anti-cancer properties, protection against atherosclerosis, and cognitive enhancement.

Thyroid Hormone

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. It protects against cardiovascular disease by lowering cholesterol. It improves cerebral metabolism and prevents cognitive impairment. It relieves symptoms of thin, sparse hair, dry skin, and thin nails. Thyroid affects every cell in the body.

People who suffer from low thyroid function tend to experience fatigue and low energy, slowness in their thinking and actions, forgetfulness, mental confusion, depression, arthritis-like aspects are considered normal aging. However now we know that it is secondary to thyroid insufficiency. The thyroid hormone can be an indispensable component of your hormone regimen. Thyroid production declines as we age, similar to other hormones. This is not considered to be true hypothyroidism but rather a thyroid insufficiency, which has in the past been thought to not require hormone replacement.



Research has now shown that improving thyroid levels will alleviate many of the symptoms of thyroid insufficiency and allow our system to function more effectively and efficiently.

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 the thyroid called T-3. As we age, this conversion becomes less effective. In addition, the production of T-4 also diminishes thereby resulting in less stimulation of the cells. Our body needs thyroid hormone for metabolism. If metabolism is low due to an inadequate supply of thyroid hormone it will adversely affect every organ and system in the body. We will have less energy as well as the symptoms of thyroid insufficiency. In addition, the conversion of T-4 to the active form of T-3 also diminishes, resulting in less stimulation of the cells. Mitochondria need thyroid hormone to burn oxygen and produce ATP, which is the fuel that runs the body. If the mitochondria are weakened due to an inadequate supply of the thyroid hormone, then we will not be able to burn up proper amounts of oxygen thereby giving us less energy and symptoms of thyroid insufficiency. In addition, we will be unable to keep up mentally and physically as we once did. Also our immune system becomes weaker and less effective. Physicians have been hesitant to supplement thyroid hormones largely due to a lack of understanding of the importance of optimal thyroid levels and the relationship to improving the quality of life.

Over the years I have seen hundreds of patients that complain of fatigue, lack of energy, weight gain and all the typical symptoms of low thyroid. Every time these patients have been seen by their doctors they are told that there is no problem with their thyroid because their tests are *normal*. Patients seem to know that there is a problem with their thyroid, but physicians refuse to acknowledge this. Many patients treated with synthetic T-4 products will still experience hypothyroid symptoms even though the laboratory test values appear normal to their physician. This is because a physician tends to rely on one thyroid test, the TSH or thyroid stimulating hormone, which is an indirect measurement of thyroid function. The new paradigm is to measure the free hormones in our body, which is the Free T-3 level. The free hormones are the *active* hormones and are a more accurate indication of the body's metabolism of the hormone. Correcting these deficiencies of thyroid hormone to optimal levels with natural thyroid results in optimal blood levels, improved metabolism and resolution of symptoms. Even though thyroid levels might vary, symptoms might not improve until optimal levels are



reached, levels similar to those present in our younger years. This is a concept not understood by most physicians, yet wholeheartedly embraced by patients.

Just because laboratory values fall within a normal range does not mean the levels are optimal or the best they can be. We believe there is room for improvement. Normal levels for a test are an average for the population. People might be low or high and this determines normal levels. But normal for a middle-aged person is low in comparison to a younger person. So a middle-aged level is just as low as everyone else at that age, rather than optimal for a younger person. Physicians call it *normal for your age*. Patients call it feeling lousy for your age. By optimizing thyroid levels, symptoms of low thyroid can be alleviated and health benefits assured.

Thyroid hormone in higher doses has been shown to be an effective treatment of chronic fatigue syndrome (CFS). It helps patients with severe bouts of low energy. Treatment with optimal amounts of thyroid is the best way to improve how one feels and functions.

As for those who are taking thyroid, most physicians prescribe only synthetic T-4 medications. Unfortunately, many symptoms persist despite *normal* thyroid levels. The problem is a lack of conversion of T-4 to the active hormone, T-3. This is commonly seen in patients taking synthetic T-4 thyroid hormone. Due to inadequate conversion of T-4 to T-3, patients frequently experience low thyroid symptoms even though their doctors report “normal” TSH and T-4 levels. By using a combination of both T-4 and T-3 in a natural form, optimal levels of T-3 are obtained. A recent study in the NEJM proved that the synthetic T-4 by itself did not eliminate symptoms. It was only the combination of T-4 and T3 together that resulted in clinical improvement and resolution of symptoms. We find the synthetic thyroid (T-4) replacements are not as effective as the natural replacements, which mimic the hormone normally produced by the body. Natural thyroid with T-3 is the only way to optimize all thyroid measurement levels. Patients who switch from the synthetic to the natural usually notice an improvement in their symptoms similar to the NEJM study. In spite of the evidence that natural thyroid is much more efficacious, physicians will often prescribe only the T-4 due to drug company influence and habit.

Thin hair, brittle nails, dry skin are all related to low thyroid. Many women who suffer from hair loss and thin hair are usually told by their physicians there is nothing that can



be done. In spite of normal thyroid tests, women often can stop hair loss, increase hair growth and increase hair thickness by optimizing their thyroid levels. All hormones are beneficial; low levels are detrimental.

Melatonin

Melatonin is a hormone produced by the pineal gland, located in the center of the brain. It regulates our circadian rhythm and supports the deep stages of sleep, during which the immune system is activated. The book *The Melatonin Miracle* highlights the pineal gland as a central regulator of the endocrine system, controlling many immune responses. The pineal gland influences nearly every cell in the body, affecting diverse functions such as reproduction, body temperature, kidney function, immunity, sleep, growth, and development. Through melatonin, it helps maintain the body's balance and homeostasis.

The primary role of the pineal gland is to control energy production and use throughout the body by releasing melatonin, and potentially other compounds. It directs energy precisely where it's needed—whether for repair, injury response, or production of hormones, enzymes, or antibodies. Melatonin signals cells to maintain homeostasis, providing numerous health benefits.

A comprehensive review published in *The New England Journal of Medicine* on January 16, 1997, highlighted melatonin's powerful antioxidant properties, its potential in cancer prevention and treatment, its immune-boosting effects, and its ability to improve sleep and reduce jet lag. Studies have demonstrated melatonin's role in regulating circadian rhythms, sleep, mood, reproduction, tumor growth, and as an antioxidant. With research supporting its ability to enhance immune function, fight free radicals, combat cancer, promote restful sleep, and potentially slow aging, melatonin is an ideal supplement for many people.

Melatonin is available by prescription and over-the-counter (OTC). However, many OTC options come from China and may contain contaminants. Pharmaceutical-grade melatonin, available from compounding pharmacies, is 100% pure. A typical dose is 3 mg, though some individuals may need up to 30 mg for the desired effect. Finding the correct dose often involves trial and error. Possible side effects include morning drowsiness and headaches, which can be managed by reducing the dose. Some individuals may need as little as 1 mg, while most can tolerate between 3 to 9 mg comfortably. The optimal dose is one that avoids morning grogginess and provides restful sleep.

One surprising benefit of melatonin is its ability to reduce nocturia (frequent nighttime urination). Many men assume they have prostate issues due to nighttime urination, but they may just need



melatonin, which reduces this urge. This effect is beneficial for women as well. Recent research also shows that melatonin can help reduce migraine headaches and lower blood pressure.

With its safety, effectiveness, affordability, immune-boosting, and cancer-protective qualities, melatonin is a valuable sleep aid that avoids the risks of pharmaceutical sleep aids. It is a natural, healthful alternative to sleeping pills and is well worth trying for restful sleep without unwanted side effects.