



Balanced Flow WELLNESS

Bioidentical Hormone Optimization Therapy

*The Secret to Ultimate Health,
Vitality & Longevity.*

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ABOUT THE AUTHOR

The following introduction to hormone therapy was written and provided by Neal Rouzier, MD. Dr. Rouzier is a pioneer in hormone optimization and has worked in the field since its inception in the early 1990's researching, treating patients, and educating other physicians. He has dedicated his life's work to studying and understanding the science in this field and is the foremost authority in bioidentical hormone optimization. His work gives many hope for restoring their health and wellbeing. The knowledge that he has brought to light also allows many to elevate and maintain a quality of life that most have been told is unachievable. Bioidentical Hormone Optimization Therapy holds the secrets to peak health, vitality and longevity that are now available to all who choose to pursue it. Please enjoy this short booklet, and let it open your eyes to the amazing world of hormone optimization therapy.

FOREWORD BY NEAL ROUZIER, M.D.

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.

This booklet is an overview of biologically identical hormone replacement for men and women. This specialty of medicine is growing at an impressive rate due to the increasing awareness of the health benefits of natural hormones and the detrimental effects of synthetic hormones. The first printing of this booklet was in 1998. A lot of media attention and medical studies have focused on hormone replacement in the last few years. This is our 4th revision and is reflective and explanatory of the recent mystery and misinformation about hormones. An additional excellent reference source on natural hormones for patients and physicians is a book I authored in 2002 entitled *Natural Hormone Replacement for Men and Women: How to Achieve Healthy Aging*.

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 diseases 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 blood stream 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 bio-identical hormones, to which our bodies are accustomed, are available.

There is growing change in how we practice medicine. People are beginning to realize that they no longer must 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. Several medical references are listed in my book, *Natural Hormone Replacement for Men and Women: How to Achieve Healthy Aging*.

Hormones control virtually all the functions of the body including our reproductive, immune, and metabolic systems. Hormones can 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 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 in our body and boost them back up to the appropriate medically 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 I have seen 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.

HORMONES

Hormones are molecules that are synthesized and secreted by specialized cells often localized in endocrine glands. Hormones are released into the blood stream 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 bio-identical compounds. However, they can patent chemically different molecules that are highly profitable. A patent 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 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 can provide you with any drug from pharmaceutical companies. But compounding pharmacies can do more. The compounding pharmacist is like 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 release. 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 (i.e.: 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 bio-identical 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 like 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 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. Researchers 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 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 replacements in comparison with the 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 can 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 of hormone levels is 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 mid-section, 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 we see who are taking "natural hormones" from other doctors are on an inadequate regimen. How do we know? When we measure the blood levels, they are near zero. 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 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 mid-life 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.

THYROID HORMONE

I kept going from doctor to doctor searching for the cause of fatigue and feeling lousy. The doctors always told me that my thyroid was normal, but I knew it wasn't. Thanks to being on the right dose and the right kind of thyroid, I finally feel normal.

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 pain and susceptibility to colds and infections. Many of these 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, like 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 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 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 daily 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 like 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 T-3 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.

ESTROGEN

I could live without my husband, children, and cats. But I could never live without my estrogen...

...Los Angeles Times, 1999

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. 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 hormone 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 bio-identical 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, but 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. Since these synthetic estrogens are not natural to the body, many women develop side effects or do not feel well on the synthetic, non-bio-identical 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 the same identical hormone that was there before. Do not 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. (JAMA 2004; 292:1581-87)

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

The only time I felt normal was when I was pregnant. Otherwise, I was miserable one week of every month. Now I feel great on progesterone —no more PMS, headaches, bloating or cramps. Finally, I'm back to normal.

...Melanie D.

Women in menopause lose progesterone, which protects against uterine cancer, breast cancer, osteoporosis, and heart disease. Unfortunately, most doctors do not replace the lost progesterone with progesterone, but use a synthetic, chemically different drug called medroxyprogesterone or the brand name Provera. Even though Provera shares a similar name to progesterone, medroxy-progesterone, it is molecularly and biologically different than progesterone. This section explains how Provera is so problematic and harmful and how progesterone is so safe and beneficial, even though most physicians think that they are one and the same.

Progesterone stands for pro-gestational or the hormone of pregnancy. It is necessary for the initiation and maintenance of pregnancy. Provera, a progestin, or synthetic progesterone is a teratogen. It causes birth defects and is absolutely contraindicated in pregnancy. Obviously, these hormones are opposites of each other and are structurally, metabolically, and physiologically two completely different hormones. Most physicians, however, do not comprehend this and will therefore prescribe Provera. They should not be used interchangeably. Almost all medical studies evaluate only the synthetic progestin, Provera, and have found Provera to be harmful in many ways. The medical studies evaluating natural progesterone have never found it to be harmful. Most physicians do not understand the difference, and even the medical literature does not clearly differentiate between progesterone and Provera (medroxyprogesterone). Progesterone is another female hormone of equal importance as is estrogen for the aging woman, although it is commonly overlooked. Progesterone is a hormone produced by the ovaries and is used in nature to balance estrogen. It too can safely and effectively relieve menopausal symptoms, protect against cancer, prevent osteoporosis, and improve overall well-being. In the past, physicians had been accustomed to prescribing the synthetic progestin (brand name Provera). These synthetic progestins cause significant problems and side effects as do the synthetic estrogens and do not provide the benefits produced by natural progesterone. The recent study cited in JAMA (July 23, 2002) was a large hormone study utilizing different combinations and forms of estrogen and progestin. A portion of this study was terminated early because of the statistically significant increased incidence of breast cancer. This WHI study demonstrated that it was actually the progestin (Provera) that was responsible for the increased incidence of breast cancer even

though estrogen is thought to be the culprit. A most important but not widely published fact is that the estrogen-only arm of the WHI study demonstrated a decreased incidence of cancer. Estrogen is not to blame, progestin (Provera) clearly is the culprit. More importantly, recent studies consistently demonstrate that progesterone protects against breast cancer.

There was no problem with Premarin or the estrogen only arm of the study. The media either misrepresented that all hormone replacement is risky or that Premarin was the problem. The media also stated that the progesterone was the problem which was also incorrect because Provera is not progesterone; it is a progestin. Again, the progestin (Provera) is not the same as progesterone. The confusion stems from the fact that the generic name for Provera is medroxyprogesterone, which doctors interpret to be progesterone. However, progestin (Provera) and progesterone have completely different molecular structures and are physiologically different. Progesterone has no harmful effects, whereas progestin is riddled with problems. Unfortunately, neither the media nor the public understands the difference, even though the medical literature proves them to be entirely different. They definitely are not the same.

Natural progesterone enhances the action of estrogen as these two hormones were meant to work together to maintain normal hormonal balance. The lack of progesterone causes similar disease processes as does lack of estrogen. These include osteoporosis, heart disease, decrease in libido and a significantly diminished quality of life. The combination of natural progesterone and estrogen can prevent this downward spiral by keeping women vital, strong, and healthy.

Most women complain of the many side effects of the synthetic progestins and now demand the natural progesterone supplementation instead. Studies have shown the tremendous health benefits of the natural progesterone; however, it is usually prescribed only at the insistence of well-educated, well-informed women. Natural progesterone allows women to feel much better than they do on any of the synthetic progestins. We used to explain how the synthetic progestin caused bloating, swelling, breast tenderness, bleeding, and depression, whereas the natural progesterone does not. Now that we have such strong evidence that Provera causes breast cancer, it seems meaningless to even debate that synthetic progestins should ever be used. Anyone that continues to prescribe or take Provera

or synthetic progestins is taking a risk they don't need to take. Natural progesterone should be the definite choice —due to the protective benefits and no side effects.

Even though natural progesterone is better for women, the medical community still has little knowledge of this. This is probably because natural progesterone cannot be patented and, therefore, is not produced by most pharmaceutical companies.

Natural progesterone is available commercially as Prometrium in a capsule form. We prefer progesterone in a sublingual form (from compounding pharmacies) because of better absorption. However, both sublingual and capsules work well to achieve therapeutic levels. Progesterone in cream form is not as well absorbed. It is important to do blood tests to assure levels are optimal.

Natural progesterone is a very beneficial treatment for premenstrual syndrome (PMS), which includes moodiness, irritability, bloating, and headaches. The symptoms are due to falling progesterone levels. Natural progesterone helps to balance both pre-menopausal and post-menopausal levels of estrogen and hormone induced symptoms such as emotional instability, headaches, and mood swings. The natural progesterone has a mild tranquilizing effect and enhances overall well-being. Natural progesterone also offers protection against uterine cancer as well as breast cancer as evidenced by European studies, whereas Provera increases breast stimulation and breast density as seen on mammograms. Two recent Japanese studies showed how progesterone prevents breast stimulation, whereas Provera does not. A different study showed that progesterone was better than Tamoxifen in protecting against breast cancer. This is an extremely important study because up to this point there had been nothing shown to decrease the risk of breast cancer. Progesterone inhibits growth of breast cancer cells, whereas progestins stimulate growth of cancer cells (European Journal of Cancer).

Progesterone levels are high during pregnancy and are essential in carrying to term. These high progesterone levels are often responsible for women reporting how great they felt during pregnancy and why many symptoms associated with PMS disappear during pregnancy. It is the sudden decline of progesterone after giving birth that causes post-partum depression. Treatment with natural progesterone in the post-partum period can help new mothers cope while their hormones re-balance.

Natural progesterone also results in a greater reduction of cholesterol levels and an increase of HDL or the good cholesterol. This is in contrast to the synthetic progestin, which does the opposite (PEPI Trial, JAMA 1998). Unfortunately, the overwhelming majority of physicians who write prescriptions for progestin are unaware that there is a safer, better tolerated progesterone that is available. In addition, the natural progesterone has been shown to halt progression of osteoporosis. Progesterone stimulates osteoblasts, which are the cells that grow new bone. Estrogen will only prevent bone loss.

For those women who are unable to take natural estrogen, natural progesterone can be prescribed to treat many of the common symptoms of menopause and prevent the diseases associated with menopause. The PEPI Trial evaluated the use of estrogen and Provera or estrogen and natural progesterone. The Provera arm of the study showed that those women had an increased risk of heart disease and elevated cholesterol levels. The natural progesterone arm of the study resulted in less heart disease and lower cholesterol levels. This study was completed years ago. No wonder the recent July 2002 JAMA study showed that Provera increased the risk of heart disease. Why do researchers continue to use progestin when numerous studies already pinpoint significant problems?

Natural progesterone comes in many forms, most commonly topical creams, the oral capsule, and the sublingual tablet. In my experience, the best bioavailable form that results in sustained therapeutic levels is the sublingual form. Over-the-counter progesterone creams contain a minimal amount of progesterone and will not bring blood levels to therapeutic ranges. Proponents of progesterone creams claim that saliva testing proves the efficacy. However, saliva tests do not correlate with blood tests. Blood tests are the true indicator of a progesterone level that is sufficient to be protective of the uterus, breasts, bone, and heart. Adequate levels are attained through the use of a prescription dose. If over-the-counter creams had adequate doses, the FDA would require that it be dispensed only by prescription, as with all drugs. Progesterone levels should be measured by blood tests and then evaluated by a physician to assure that the level is within the therapeutic range of 10 to 20 mg. /dl.

In summary, natural progesterone protects against breast cancer, is a natural tranquilizer, promotes feelings of well-being, enhances the beneficial actions of

estrogen, relieves menopausal symptoms, and stimulates new bone formation as well as protects against osteoporosis and cardiovascular disease. Provera does none of that. Even if a woman does not have a uterus, all women should take progesterone for the above benefits found throughout the body, not just in the uterus. Recent studies have demonstrated the benefits of progesterone in protecting against breast cancer. No other therapy has demonstrated this! All menopausal women should be taking progesterone. Period (No pun intended.)

TO BLEED OR NOT TO BLEED

The hot topic for celebrity talk shows and celebrity books is bio-identical hormones. The media has highlighted the term "bio-identical hormones" thereby making it a familiar subject for both women and men, especially those coming to grips with the aging process. Now we can further define the term "natural" and specify "bio-identical" which gives everyone a new understanding and appreciation for hormone replacement.

Out of this media frenzy have emerged new "experts" with "expert" opinions on the right way to take hormones. One of these "expert" methodologies of hormone replacement unfortunately has made many women apprehensive. Some are so displeased that they avoid taking hormones altogether. Some experts theorize that cycling (creating a period every month) is recommended and natural. The implication is that women menstruate while they are "young" and healthy. Therefore, in order to maintain that same healthy status all menopausal women should continue to menstruate. This "cycling" is done by stopping progesterone for one week of each month and thereby creating a menstrual cycle. Most women find this recommendation unsatisfactory. If women believe that taking hormones requires that they have a period, most women choose to pass on hormone replacement.

What is cycling? It is the fall of women's hormones that results in menstruation. Therefore, if a woman stops the progesterone for a few days every month she will cycle and bleed. This is possible even if you have been years without a period, unless, of course, you have had a hysterectomy. Just because it is "natural" in

younger women does not mean it is necessary or beneficial for menopausal women.

Menopausal women do not need to menstruate —Taking hormones does not necessitate cycling.

First of all, hormone replacement therapy does not put one in a state of pregnancy. During pregnancy the levels of estrogen might be in the hundreds. On estrogen replacement, ideal estradiol levels are typically 60-100 pg. /dl, far from that seen in pregnancy.

Secondly, the reason a woman menstruates is to clean the uterus in preparation for the eventual implantation of a fertilized egg. If one is not interested in becoming pregnant, there is no physiologic reason or benefit to menstruate.

A recent article in the Obstetric/Gynecological literature claimed that unexpected vaginal bleeding was the most common reason women stopped taking HRT. The cessation of periods was one thing that women welcomed with menopause. The medical literature often addresses how to stop and prevent post-menopausal vaginal bleeding so that women will be comfortable in continuing HRT. Dr. Rouzier has always advocated increasing progesterone to prevent post-menopausal bleeding. With the appropriate balancing of estrogen and progesterone, women should not bleed and will be more satisfied with continuous use of HRT. Also, since estrogen and progesterone are so important, why take them for only three weeks per month and stop them to bleed in the fourth week? A woman would lose the protection and benefit of estrogen and progesterone for 25% of the time.

For years, women have been treated with birth control pills taken continuously and not cycled to control PMS. It is the fall of women's hormones that takes place right before their periods that causes the symptoms of PMS. By taking birth control pills continuously, a woman can avoid this drop of hormones and the symptoms of PMS. The pharmaceutical industry has now caught onto this and promotes a new birth control pill that is cycled for bleeding only every four months instead of monthly. The researchers claim that while no menstruation is necessary, the cycling allows women to menstruate every four months to make them feel more "normal." We now realize that even pre-menopausal women do not need to menstruate, let alone post-menopausal women.

Remember, cycling involves stopping the hormones for a week each month. Another reason not to cycle is the loss of protection that takes place when the progesterone is not present. Bio-identical progesterone protects the breasts and uterus against cancer. The bleeding that takes place with menstruation is not what protects the uterus against cancer. It is the direct effect of progesterone on the uterus that protects it. Stopping progesterone for a week means that the body is without the protective benefits of progesterone for those days. It makes no sense to lose the important protective benefits for seven days every month.

Recent studies have shown that Provera (medroxy progesterone) increases the risk of breast cancer and increases the thickening of the breast tissue. It does this by direct stimulation (up regulation) of estrogen receptor sites in the breast. One study showed that Provera increased breast stimulation by 400% over baseline. The same study showed that bio-identical progesterone (different from Provera), does not stimulate breast tissue as it down regulates receptor sites in the breast. Therefore, why lose this protective effect of progesterone by stopping it for 25% of the month which means you lose 25% of the protection?

There is a condition known as "endometrial hyperplasia." This condition causes increased thickening of the endometrial stripe (uterine lining) which is a precursor to cancer. This condition must be treated to avoid the development of cancer. The treatment is high dose progesterone (or Provera by conventional physicians) to shrink this tissue. If repeat ultrasound does not show a decrease in endometrial lining, then the dose of progesterone is doubled. The shrinkage of the endometrial tissue is a result of the direct stimulation by progesterone. The protection does not occur because of the shedding of the lining. A constant sufficient dose of progesterone is the better protection against cancer. Therefore, progesterone should never be stopped for any reason!

In summary, women on hormone replacement therapy do not need to cycle (stop the progesterone) and bleed on a periodic basis. There is no substantiated benefit to the body to regularly bleed. And it certainly makes hormone replacement therapy and its many protective benefits a more attractive and convenient regimen for women.

TESTOSTERONE FOR MEN

I've never felt better in my life. Thank God I found someone who knew how to prescribe the stuff

...Patient, Ernie O.

Testosterone has always been known as the male sex hormone. It has recently been shown to be linked to longer healthier lives in both men and women. As testosterone levels decline with age, there are health problems that accompany this loss of hormone. Testosterone replacement has been shown to be effective in providing many health benefits. Testosterone replenishment results in increased muscle strength and lean body mass, improved sexual response, reversal of impotence, and improved body composition. Testosterone has also been shown to prevent osteoporosis, arthritis, and degenerative joint change. It improves the sense of well-being and depressed mood that are frequently seen in andropause (male menopause). It has also been shown to improve memory, as does estrogen in women. Most of all it has been shown to protect against cardiovascular disease in both men and women.

Men who receive testosterone replacement consequently report that they feel sexier, stronger, and healthier. They state that it makes them feel as they did when they were in their prime. After all, this is what replenishment of hormones is all about. It is about restoring hormones to youthful levels so you can feel as you did when you were at the peak of your physical and mental ability. Testosterone can slow down the physical decline that robs men of their energy, strength, and libido. Testosterone can restore muscle tone and improve stamina. Testosterone can restore healthy sexual excitement and desire, which in turn results in an improvement in mood and overall well-being.

Testosterone is responsible for the sex drive of both men and women. As testosterone diminishes with age, so does the sexual functioning in both men and women. Restoring testosterone to youthful levels can reverse this situation. All too often, men and women automatically assume that as they age, their sexual capacity will diminish. There is no need to accept this loss of sexuality. Testosterone can play a critical role in helping to preserve and even restore sexual desire and function so

that we can live our extended life span with the same excitement and enthusiasm we enjoyed in our youth.

Physicians are witnessing an explosion of interest in testosterone as a result of our growing realization that testosterone levels decline with age and that many men suffer serious consequences to their physical and mental health as a result. In women, it is expressed as menopause, whereas in men, it is expressed as andropause. Many of these symptoms and disease processes that we have come to accept as the result of normal aging are processes that are actually secondary to low testosterone levels and are easily correctable. Testosterone supplementation results in increased muscle strength, muscle size, increased energy level, decreased fat, and increased desire and endurance for exercise. As a result of this, the FDA recently approved the testosterone patch and topical gel. Now both men and women may be treated for their sex hormone deficiencies.

Testosterone replacement in the past has been associated with increased cholesterol levels. I feel this is probably secondary to the use of synthetic testosterone that resulted in liver dysfunction and the concomitant elevation of cholesterol. Studies now show that replacement with natural testosterone results in a decreased total cholesterol and increased HDL, the good cholesterol, similar to what has been realized in women taking estrogen. How many of the supplements that we take are not only beneficial to our health but also result in increased energy, increased stamina, and an elevated mood? What other supplement can build a strong body, strong muscles, strong bones, strong ligaments, and trim fat at the same time? An added benefit is an improved desire to exercise due to less exhaustion and lethargy. Clearly, testosterone is shown to have a positive impact on men's health and well-being, our mood, and our ability to learn and retain information.

There is good evidence that testosterone deficiency plays a role in heart disease. Despite many well-designed clinical research studies documenting a broad range of cardiovascular benefits from testosterone, it is virtually ignored by U.S. cardiologists. Patients with the greatest arterial blockage have the lowest testosterone levels from one recent study of 2500 men. This study from UC San Diego not only showed that men with higher baseline levels of testosterone had less cardiovascular disease, but supplementing to youthful levels prevented

worsening of cardiovascular disease. In spite of this data available in the medical literature, physicians remain somewhat oblivious or resistant to the benefits of testosterone.

Testosterone supplementation helps reduce obesity, raise lean body mass, normalize blood clotting, and raise the good HDL cholesterol, all of which decrease the incidence of diabetes and cardiovascular disease. It also prevents cognitive decline and Alzheimer's Disease even better than estrogen in women. A recent medical study showed testosterone reduced C- Reactive-Protein levels (CRP) a measurement of inflammation in blood vessels. Testosterone protected against heart attacks and progression of heart disease. Yes, testosterone has been demonstrated to increase lifespan. A recent study from the Annals of Internal Medicine demonstrated that men with the higher levels of testosterone lived the longest. Men with lower levels of testosterone did not live as long. This makes one wonder why most physicians fail to recommend testosterone for all men.

Testosterone can be administered in the form of injections and oral supplements. We prefer not to use either of these methods as the testosterone is in the synthetic form. Testosterone in synthetic form is metabolized in the liver, which raises cholesterol levels. A topical application of natural testosterone does not undergo this metabolism and therefore reduces cholesterol levels. Testosterone patches are also available. We have found these patches to be unacceptable secondary to the inability to get optimal blood levels, the uncomfortable feeling of the patch and the unsightly tattoos that result from their use. Most patients prefer not to use these patches after having experimented with them. The method of choice is natural testosterone gel that is applied to the skin. The dose will be individualized based on age, body weight, and blood levels. As with other hormones that are natural and bio-identical, natural testosterone is available from compounding pharmacies.

Testosterone should not be used if one has active prostate cancer. Multiple medical studies have proven that testosterone has not been shown to cause prostate cancer. In fact, low levels of testosterone are associated with more aggressive tumors. However, if one does develop prostate cancer, testosterone supplementation might accelerate the growth levels of the tumor. Therefore, there is a need to monitor the PSA on a regular basis to assure that one does not develop

prostate cancer. Prostate cancer is the most common cancer in men. It can often be detected by an annual PSA test.

A recent summary article appeared in the New England Journal of Medicine, January 2004. The authors concluded, "We reviewed decades of research and found no evidence that testosterone therapy causes prostate cancer." In fact, prostate cancer became more prevalent later in life when testosterone levels decline. The authors found no connection between higher testosterone levels and prostate cancer or any evidence that testosterone treatment provokes cancers. Researchers found no evidence that testosterone therapy causes prostate enlargement (BPH). More importantly, testosterone was found to significantly protect against heart disease. Testosterone was found to be a beneficial and safe hormone.

TESTOSTERONE FOR WOMEN

I feel so much like a woman again. I have plenty of energy and sex is like what it was at age 20.

...Suzanne Somers in her book *The Sexy Years*

Testosterone is also a female sex hormone, not just a male hormone. Total hormone replacement means restoring the natural balance of all hormones to the levels of our physical and mental peaks. For women this also includes testosterone. Even though many women take estrogen and progesterone, they still do not feel like their youthful selves. This is secondary to the lack of another sex hormone — testosterone. Even though testosterone is widely known as a male hormone, it is also a critically important hormone for women in that it plays a crucial role in the physical and emotional health of women. The pharmaceutical industry was the first to realize the importance of this, and they have begun to market a combination estrogen and testosterone tablet which is, unfortunately, synthetic. The synthetic hormones can adversely affect the liver and should not be used. The safe, natural testosterone only should be used and is available from specialty compounding pharmacies.

Testosterone is produced both in the ovaries and adrenal glands of women and is an important hormone for normal female sexual development. Women also lose their libido as they age which is secondary to loss of serum testosterone. Lack of testosterone also contributes to symptoms of menopause and lack of libido and sexual responsiveness. Replenishment of testosterone in women contributes to the enhancement of sexual drive, relief of menopausal symptoms, restoration of energy, strengthening of bone, prevention of osteoporosis and improvement of an overall sense of well-being and zest for life. Many women do not realize that testosterone improves their skin, muscles, bones, tendons, and joints. Older patients commonly complain about their skin becoming so thin, primarily on their arms and hands. Most women are unaware that the best hormone for the skin to prevent thinning and wrinkles and increase collagen and elastin is testosterone. Many physicians and women remain unaware that testosterone is much better for protecting against bone loss than estrogen, yet it is seldom mentioned as a treatment. A small amount of replacement with testosterone gel can make an incredible difference that many women have not been able to enjoy up until now. The correct dose of testosterone replacement will be determined by body weight, age, and blood levels.

In summary, testosterone is a hormone secreted by the ovaries, adrenal glands, and testes. It is both a male and female hormone. It contributes to increased muscle mass, strength, endurance, decreased fat, increased exercise tolerance, enhancement of well-being and mood. There is an increase in bone density and prevention of osteoporosis, improvement in skin tone and healing capacity, and increased libido and sexual performance. It prolongs the quality of life by slowing the diseases of aging such as cardiovascular disease by decreasing cholesterol and increasing HDL. Testosterone is a memory enhancer and protects against the formation of Alzheimer's disease. It is equally as important and beneficial in females as well as in males. A recent study in JAMA explored all the benefits of testosterone and called it cutting edge medicine. The NEJM reviewed testosterone replacement for women and found it the best therapy for improving energy, along with estrogen and progesterone. Don't confuse natural testosterone with the synthetic testosterone analogs. Use only the natural testosterone and not the synthetic. It's healthy for you and you'll feel good too.

DHEA

Dehydroepiandrosterone is a hormone produced by the adrenal glands and is derived from cholesterol. (Remember any hormone that is derived from cholesterol or sterols is called a steroid. DHEA, estrogen, progesterone, and testosterone are all beneficial, natural steroids.) 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. For many years DHEA was felt to have no particular value other than as a precursor to our sex hormones. Researchers then discovered that DHEA dropped steadily as we aged and could be used as a biomarker to measure the aging process itself. A recent study from the National Institute of Health, published in 2002, showed that the only factors in humans that have been shown to prolong lifespan are caloric restriction and elevated levels of DHEA. Indeed, a study in the New England Journal of Medicine in 1992 proved that low levels of DHEA were associated with increased mortality from cardiovascular disease and cancer; higher levels were protective against heart disease and cancer. Conclusion: maintain optimal DHEA levels for optimal health.

DHEA improves the function of the immune system, improves brain function, relieves stress, and has been shown to be a very potent anti-cancer supplement. DHEA also increases energy and reduces body fat and cholesterol, thereby preventing heart disease. Most of these effects are a result of a shift from a catabolic state to an anabolic or protein building state. There has been a significant amount of research published on its critical role in our health and well-being, which is why it is the focus of some of the most exciting medical research in this country.

DHEA has been shown to increase insulin sensitivity, which means that less insulin is required. This in turn results in protection against diabetes, and greater control for those with diabetes. It has also been shown to have a significant effect in treating connective tissue disorders such as Lupus, which is a disease that tends to have minimal improvement from standard therapy. Pharmaceutical DHEA will soon be FDA approved as a drug to treat Lupus.

Most of the tremendous effects seen from DHEA are based on its ability to stimulate protein synthesis within the cell, which in turn results in an increase in cell regeneration and an improvement of immune function which forestalls disease

processes. DHEA is an antioxidant as it appears to prevent the formation of free radicals.

Insulin resistance has led to over 14,000,000 Americans having some form of diabetes. Insulin resistance, or inability of insulin to do its job, results in increased glucose, increased weight, obesity, and heart disease. A decline in DHEA precipitates insulin resistance that can lead to damage of the cardiovascular system. Diabetics that have been given DHEA have shown a slight decrease in insulin resistance which prevents the harmful effects of insulin on the vasculature. Two recent studies in the Journal of Clinical Endocrinology and Metabolism have proven the beneficial effects of DHEA in preventing cardiovascular disease.

The Journal of Clinical Endocrinology and Metabolism in 1995 stated that there are over 2500 published papers documenting DHEA's multiple benefits. This important paper acknowledges that we produce half of the DHEA at age 40 than we did when we were 20. Some elderly people produce no DHEA whatsoever which puts them at a significant risk. DHEA was shown to improve the quality of life and postpone many of the unpleasant effects of aging such as fatigue and muscle weakness. Patients receiving DHEA slept better, had more energy, and were better equipped to handle stress compared with a placebo group not receiving DHEA. Other potential benefits of DHEA include immune enhancement, anti-cancer effects, anti-atherosclerotic effects, and cognitive enhancement.

DHEA is available over the counter and is common in drug stores, grocery stores and health food stores. Unfortunately, many of the over-the-counter products come from foreign countries and contain contaminants and preservatives and therefore are not entirely pure pharmaceutical grade DHEA. The half-life of DHEA from over-the-counter sources is approximately six hours, which would require that one take the supplement three times a day. DHEA should be prescribed in a sustained release, micronized form, which allows for complete absorption as well as a sustained level over a 24-hour period, thereby foregoing the need to take the supplement three times a day. In addition, DHEA by prescription should be of a pure pharmaceutical grade that is compounded by a pharmacy to assure a 100% pure pharmaceutical product.

MELATONIN

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. A recent book published called *The Melatonin Miracle* regarded the pineal gland as a master regulator of the endocrine system and, as such, controls most of the immune system's responses. The pineal gland controls the activities of virtually every cell in the body, affecting such diverse functions as reproduction, body temperature, kidney function, immunity, sleep, growth, and development. The pineal gland uses melatonin to maintain the body's balance, equilibrium, and homeostasis.

The pineal gland's primary role is to control the production and use of energy throughout the body through the release of melatonin and perhaps other compounds. The pineal directs energy production so that it goes where it is needed at precisely the right time, whether it is needed to repair or respond to injury or make hormones, enzymes, or antibodies. Melatonin directs the cells in the body to do whatever it takes to keep the body running in a state of homeostasis. As with all other hormones, there are many health benefits to melatonin.

On January 16, 1997, the *New England Journal of Medicine* published the most extensive review about melatonin that has ever been published in a conventional medical journal. This article extolled many of the virtues of melatonin including the powerful antioxidant effects, the potential benefit in preventing and treating cancer, its immune enhancing properties, and its ability to promote better sleep and avoid jet lag. Melatonin has been shown to have a role in the biologic regulation of circadian rhythms, sleep, mood, reproduction, tumor growth and as an antioxidant. As with DHEA, there have been hundreds of studies published showing the tremendous beneficial effects of melatonin. If published scientific studies show a natural hormone supplement can boost immune function, scavenge free radicals, fight cancer, induce youthful sleep patterns, and possibly slow the aging process, then we feel that most people should be taking melatonin as a supplement.

Melatonin is available both by prescription and over the counter. Most of the OTC preparations are from China and possibly contain contaminants. The

pharmaceutical grade from a compounding pharmacy is 100% pure; over-the-counter preparations are not as reliable. Taking melatonin that is compounded by a special pharmacy is the only way to assure that you are receiving pure melatonin. The standard dose is 3 mg. Many patients might have to take up to 30 mg in order to get the desired effect. The simple way to judge the correct amount necessary is by trial and error. The only side effect from melatonin might be excessive morning sleepiness and headache. If this is encountered, then the dose should be reduced. Some people are sensitive to melatonin and require a much smaller dose such as 1 mg, while the majority of people tolerate 3 to 9 mg without difficulty. Again, since melatonin is such an important protective hormone to take the maximum dose tolerable should be taken. The optional dose is simply the amount that can be taken without causing excessive morning grogginess and that which results in restful sleep without significant awakening.

I've discovered one intriguing benefit to melatonin, which is the reduction in nocturia or urinary frequency at night. Many men think that they have prostate problems because they awaken to urinate, although they usually urinate small amounts. Melatonin usually diminishes this nighttime awakening with the urge to urinate which in turn improves the supposed prostate problem. And, yes, it is equally effective in women. Melatonin has recently been shown to be an effective therapy to decrease migraine headaches and lower blood pressure.

Why would anyone not want to take this safe, natural, effective, cheap, cancer-protective, immune-enhancing therapy for sleep that has stood the test of time? I personally take 12 mg. of melatonin, sleep like a baby, dream more than before and awake refreshed. No one should take sleeping pills until they have tried this natural, healthy, sleep-enhancing hormone that avoids the risks and side effects of pharmaceutical drugs.

SUMMARY

In 1990, there was a landmark article published by Dr. Daniel Rudman in the New England Journal of Medicine. He and others showed that hormone deficiency was in part responsible for increased body fat, decreased muscle, decreased strength, decreased bone and skin thickness. Replacement of hormones resulted in overwhelming improvement in signs and symptoms of getting old. The findings of this famous study were consistent with the hypothesis that it was the deficiency of a hormone that contributed to the age-related changes. Many studies have since shown the same clinical utility of hormone replacement to effect clinical improvement in many of the signs and symptoms we encounter with aging.

Investigators are now combining various hormones and are seeing even more improvement. Dr. Mark Blackman, an endocrinologist from John Hopkins, recently published his findings in the Journal of Clinical Endocrinology and Metabolism. In this five-year study, he combines testosterone, estrogen, and progesterone. Although there were different arms within the study, all men and women benefited from hormones, while those not on hormones did not. This investigator discovered again that the deficiency of hormones leads to symptoms and illness that were improved and prevented by hormones. Improvements seen were:

1. Increased breakdown of fat, weight loss and reduced body fat.
2. Decreased incidence of heart disease and atherosclerotic plaque.
3. Increased energy and exercise capacity.
4. Improved vitality and quality of life.
5. Increased strength, endurance, and muscle tone.
6. Improvement in hair, skin, and nails.
7. Improved sleep and well-being.
8. Reduced levels of cholesterol and triglycerides.
9. Less incidence of heart disease and diabetes.
10. No increase in cancer was seen with any hormone.
11. Progesterone decreases the incidence of breast cancer.

All hormones showed beneficial health effects, improvement in body composition, lipid profiles, cardiovascular risk factors, and increase in muscle strength and fitness. What is difficult to understand is why this article did not make national headlines? It can be concluded from this and other studies that hormone supplementation can reduce the incidence of major illness and thereby prolong life. It is not only the longevity that is important, but more so the quality of life, free of illness and disability. It should be every physician's goal to extend the health and vigor of our middle-aged years into the latter years. The research and science are there. Physicians just need to learn to apply it. HRT is the ultimate of preventive medicine.

Hormone deficiency is responsible for many of the symptoms that occur as we get older. Hormone deficiency is a relatively simple malady to treat. Severe deficiency over prolonged periods might result in illness, physical impairment, disability and increased morbidity and mortality. Despite this evidence, patients are being seriously undertreated or ignored. Barriers to treatment can be addressed by educational programs aimed at increasing awareness and knowledge about natural hormone replacement therapy and its effectiveness. I have trained over 1,000 physicians in this specialty who are now proficient in diagnosing, treating, monitoring, and adjusting hormones.

In spite of effective treatments being available, most individuals go without treatment. It is disturbing that the medical research papers and advances in diagnosing and treating hormone deficiencies has not revolutionized treatment practice. I frequently lecture to medical specialty academies to introduce the concept and the medical basis for such therapy. Optimal hormone therapy can help improve the outcome of treatments for many medical specialties. It might take years for medical school curriculum to teach this information and even longer for it to become the standard of care.

The benefits of HRT are dramatically enhanced with exercise. Hormone replacement along with a strength training program greatly enhances exercise tolerance, muscle strength, endurance and prevents fatigue. Exercise enhances our sense of well-being, de-creases weight and helps lower cholesterol. Many people complain that they see no weight loss, strength improvement, fat reduction or better endurance in spite of consistent exercise. This is frustrating for them.

However, when hormones are added to the formula improvements are seen. Hormone replacement also assists one in gaining the energy and desire to exercise.

The basics for optimal health and longevity are proper diet, exercise, nutritional supplementation, and natural hormone re-placement. HRT slows cellular degeneration and allows improved function and healing. This results in less disease and illness, a slowing of the aging process and a better quality of life. The scientific research has been impressive, the results dramatic, the public demand incredible. Don't be without it!

ADDENDUM — OPEN LETTER

The following is an in-depth review of the hormone controversy and the recent medical studies involving synthetic hormones.

Re: Recent JAMA article condemning HRT

Recently there has been tremendous confusion and misunderstanding concerning the article published in JAMA, July 13, 2002, concerning the use of synthetic estrogen and progestin. The Women's Health Initiative (WHI) Study demonstrated that the combination synthetic hormones, Premarin and Provera or PremPro, resulted in an increased risk of breast cancer and heart disease. However, the incidence was very low at less than 1 per 1,000 women. PremPro consists of a synthetic estrogen from the urine of pregnant horses and progestin (Provera), imitation progesterone. Experts from all fields of medicine are now calling for a discontinuation of all hormone replacement based on reported increases in heart disease, breast cancer and blood clots in this WHI trial. This is an inappropriate reaction to and incorrect interpretation of one study! There are other safe hormones, which were not included in this study, that have been incorrectly targeted. The information contained in this latest study is not new news and the conclusion of this study does not apply to natural biologically identical hormones. The JAMA article specifically addresses this issue. Unfortunately, the media will take things out of context and publish misinformation. Patients then misinterpret

these findings because of the media confusion. The intent of this notice is to clarify this issue and the article.

An article appeared in JAMA in 2000, Jan 26; 283(4):485-91, which concluded that the risk of breast cancer increased 8 times with Provera. The July 2002 article is no different. It again demonstrates what has been known for some time, that Provera increases breast cancer risk, but it has never received the media attention and medical criticism as now.

Even though the WHI Trial evaluated Premarin and Provera, it was finally shown that it was primarily the synthetic progestin (Provera) that was the culprit in causing the harm. In the first arm of the WHI, Premarin-Provera caused an increased risk of breast cancer and heart disease. In the second arm of the study using estrogen alone, without Provera, the results were very different. There was no increased risk of breast cancer or heart disease. In fact, there was a decreased risk of cancer and heart disease in the estrogen only group. However, most physicians and the media misinterpret the data and conclude that estrogen is harmful when in fact it is not; it is progestin (Provera) that caused the harm.

The other inappropriate conclusion was that all hormones in women should be stopped just because Provera is harmful. This conclusion does not apply to all hormones. All hormones should not be stopped, just the Provera. What should women take in place of Provera? The answer is simply natural progesterone. However, many physicians may claim that it makes no difference, that all hormones are the same. This is simply incorrect. The natural hormone in the body is called progesterone; the synthetic, chemically altered hormone is a progestin (Provera) and is a completely different molecule. It is not the same.

In recent studies, Provera has been shown to cause breast cancer; natural progesterone has been shown to decrease the risk of breast cancer. Provera increases breast density; progesterone decreases breast density. Provera stimulates breast tissue; Progesterone down regulates breast receptor sites. Provera raises cholesterol; progesterone lowers cholesterol. Provera is associated with a multitude of side effects. Progesterone has none. Progesterone is progestational, the hormone that is necessary to maintain pregnancy. Provera is a teratogen (causes birth defects) and is absolutely contraindicated in pregnancy.

These hormones absolutely are not the same. These are two completely different hormones with completely different effects.

The confusion stems from the generic name of Provera —medroxyprogesterone. Because the term progesterone is in the name some consider medroxyprogesterone to be the same as progesterone. As explained above, we know they are very much different, both in chemical structure and effect. As evidenced in the findings of the WHI Trials, one must understand each individual hormone. The WHI proved that the combination of Premarin and Provera was harmful. The estrogen-alone arm of the study determined that estrogen alone, without Provera, did not cause breast cancer or heart disease. (This study used Premarin as the form of estrogen. The chapter on estrogen explains the better option.) The WHI vindicated estrogen and showed Provera (progestin) to be the culprit. The safer bio-identical progesterone should be substituted in place of Provera or progestin. Therefore, we should use bio-identical estrogen and bio-identical progesterone and avoid the problems associated with synthetic hormones. When our body loses hormones, it is critical for healthy aging that we put back in the same identical hormone instead of a hormone that is molecularly different.

The pharmaceutical companies are trying to manufacture progestins that more closely resemble the molecular structure of natural progesterone in order to avoid the side effects and complications associated with the synthetics. The pharmaceutical industry is putting considerable efforts into this development because natural progesterone is devoid of any side effects or complications. What begs for an explanation is if the natural hormone is so perfect in its lack of side effects and complications, why not simply use the natural progesterone? Again, the drug companies can't patent or profit from a bio-identical product. However, patients sure can!

There are 2 recent studies indicating that natural progesterone protects against breast cancer by decreasing epithelial cell proliferation in the breasts (Fertility Sterility 1998; 69:963-69). Another study showed that progesterone was more protective than Tamoxifen, which is a treatment for breast cancer (Japan Journal of Cancer Research 1985; 76: 669-04). And another document shows decreased ductal stimulation by progesterone by 400% (Fertility Sterility 1995; 63: 785-91).

There are many studies that show that Provera increases the risk of breast cancer; progesterone decreases the risk. Again, progesterone is not Provera. In the PEPI trial, it was shown that estrogen and progestin increased the risk of heart disease, whereas estrogen and natural progesterone decreased the risk of heart disease. Provera increased cholesterol and clotting whereas progesterone caused the reverse thereby protecting the heart. This July 3, 2002, study from JAMA (WHI) essentially shows the same. It amazes me that it still comes as a surprise to the medical community that progestins increase the risk of heart disease when it has been so well documented in the literature. Provera antagonizes the beneficial effects of estrogen on coronary artery atherosclerosis (Arterioscler Thromb Vasc Biol 1997 Jan; 17(1):217-21). By now it should be apparent that not only is progesterone not the same as Provera, it is completely the opposite.

An article in the medical journal American Family Physician showed that Provera and progestins cause significant side effects of swelling, fluid retention, breast tenderness, bleeding, depression, and mood disorders progesterone is devoid of these side effects; it is the feel-good hormone of pregnancy. Provera is not a feel-good hormone.

The recent JAMA article stated that Premarin by itself did not increase the risk of breast cancer. The National Breast Institute and the National Institute of Health have emphatically stated that there is no conclusive evidence that Premarin (estrogen) alone causes an increased risk of cancer. Overall, 75% of all the studies in the medical literature show no increased risk of breast cancer and this article from JAMA is no different. The risk is from adding the synthetic progestin (Provera). However, there are a few studies that show a slight increased risk of breast cancer with Premarin. The overall risk from these few studies is still very low, but the risk significantly increases with the addition of a progestin. In summary, most studies show no increased risk of cancer, and a few studies show a very low risk if any with use of Premarin by itself. However, in my opinion, we should still not use Premarin because of the metabolites it produces which can cause many side effects.

Premarin contains equilin which has been reported in 2 cancer research journals to cause cancer (Chem Res Toxicol 1999 Feb; 12 (12):204-13). There is ample evidence now to implicate the synthetic estrogen with a small increased risk of cancer and the synthetic progestin with the much greater risk of breast cancer and heart

disease. The July 2002 JAMA article emphatically states that the concern is with the synthetic progestins and does not include other hormones nor the natural estrogen or progesterone.

The original intent of using the bio-identical natural hormones is to avoid the side effects and complications of the synthetics that we have known about for years. Why all the sudden media attention is not known. What needs to be clarified is that the concern should be only with the synthetic progestin, whereas the media and newspapers misquote that all hormones are damaging. The solution to the problem is the same that we have been recommending for years --natural, bio-identical estrogen, progesterone, and testosterone. The deterioration starts at menopause when our hormones decline. Avoid the harm by simply replacing our hormone levels back to the levels we enjoyed before menopause. The landmark papers that document the importance of this therapy over the problematic synthetic hormones are *Infertility and Reproductive Medicine Clinics of North America* Vol. 6, number 4, Oct 1995, and *Obstetrics and Gynecology Clinics of North America* Vol. 21, number 2, June 1994.

The final nail in the coffin for the synthetic hormones comes with three recent European studies. The purpose of the studies was to demonstrate the difference, if any, between the synthetic hormones and natural hormones and the method of administration. The exact results were confirmed in all three studies, the largest of which consisted of 100,000 women studied for ten years. The synthetic hormones were responsible for an increased risk of breast cancer. The natural estradiol and the natural progesterone were protective and demonstrated no increased risk of cancer. This was the longest and most powerful study to date demonstrating the safety and superiority of bio-identical hormones over the problematic, side effect prone, synthetic hormones.

None of these new studies provide any new information to me nor does it affect the way I prescribe hormones. All of this information has been in the literature for years. Where was the media then? These recent studies are finally the eye opener for both patients and doctors to avoid the synthetic hormones and replace only those hormones that normally occur in the human body. Menopause results in a tremendous increased risk of heart disease, osteoporosis, urogenital atrophy, and cerebral deterioration — all that can be prevented by simply maintaining hormone

levels. And despite the health benefits, we should not ignore the symptomatic improvement and quality of life issues that are the primary reason to use the hormones in the first place. Just use the right hormones in the right dose and monitor the levels. I hope that this clarifies all the issues. Remember, stop synthetic hormones that are harmful. Do not stop the beneficial, biologically identical hormones.

THE LATEST DISCUSSION ABOUT BIOIDENTICAL HORMONES FOR MENOPAUSE

Ever since Oprah aired two shows on bio-identical hormones there have been questions and concerns about comments voiced by the "experts" that appeared on the shows. Unfortunately, the interviews created some confusion, even amongst our enlightened clients. The following is an attempt to clarify some of the issues raised. It remains amazing to me that these "experts" do not understand and/or are unaware of the medical literature supporting bio-identical hormones and hormones in general.

#1 Concern: Hormones are harmful and should be taken for the shortest time necessary to control perimenopausal symptoms.

Answer: I agree if the hormones are synthetic, like Premarin and Provera. The combination Premarin and Provera have demonstrated an increased risk of breast cancer, strokes, and heart attacks. This was published in the WHI trial. However, do not extrapolate the harm of synthetic hormones to bio-identical HRT. Natural progesterone has never been demonstrated, in any study, to increase these risks whereas Provera has definitely been shown to increase these risks. Natural progesterone has been shown to decrease the risk of breast cancer, whereas Provera increases breast cancer in every study to date. Natural estradiol has been proven to not have the clotting or inflammatory properties as does Premarin.

#2 Concern: Dr. Wolfe Utian from the North American Menopausal Society (NAMS) states that hormones are all the same whether bio-identical or synthetic. Therefore, they all share the same risks and harm.

Answer: Absolutely False! Nothing could be further from the truth. The chemical structures are different and that makes a difference in how the cells in the body respond to the hormone. A synthetic hormone (non-human, chemically altered) does not fit perfectly into the hormone receptor site and thereby can cause harm and side effects. The human-identical hormones have demonstrated much less side effect and harm in comparison with the non-human, chemically altered hormones. In my book, "How to Achieve Healthy Aging," I cite over 200 references to medical articles that support the healthy benefits of bio-identical hormones without the harm of synthetic hormones. Evidently these "experts" are not reading the same research that I am.

#3 Concern: All women should be using a transdermal (skin cream or patch) application of estrogen.

Answer: False. Although the current trend is to prescribe transdermal creams in place of oral estrogen, the medical studies give us some compelling data. Oral estrogen is far better at cardiovascular protection (less heart attacks, strokes, and plaque formation in blood vessels) than transdermal cream. Transdermal estrogen has minimal effect on improving serum lipids (good or bad cholesterol) — whereas oral estrogen certainly does. Studies have demonstrated that oral estrogen's marked beneficial effect on cholesterol, LDL and HDL, provides the most protection, whereas transdermal provides much less cholesterol effect and therefore much less cardiovascular protection in the long run. In a few women with a particular health history, oral estrogen is contraindicated and transdermal is therefore recommended. However, this is not the case for most women. Oral estrogen has many more health protective benefits than does transdermal estrogen and thus is the preferred form of estrogen unless there is the rare contraindication.

#4 Concern: Oral estrogen causes blood clots in legs and lungs.

Answer: True and false: It is primarily Premarin and Provera that cause this, particularly Provera. However, the Journal of the American Medical Association (JAMA) published an article demonstrating increased blood clots with Premarin but not with other oral estrogens. Another study proved that oral estradiol did not increase blood clots. (WEST study) If you have experienced a blood clot in the legs or lungs or have a genetic clotting disorder, transdermal estrogen is safe and preferred. If you do not have a high risk for a blood clot, oral estrogen is more effective and protective.

#5 Concern: All women on oral estrogen should take aspirin.

Answer: True, but only if you have had a heart attack or stroke. If you have not had a heart attack or stroke, then absolutely not. Recent studies demonstrate that aspirin benefits women only if you have had a prior incident. But aspirin is of no benefit in prevention if you have never had a heart attack or stroke. In fact, several studies show that aspirin might be harmful! 20,000 people die every year from bleeding or hemorrhaging while taking aspirin. Summary: if you have had a prior heart attack or stroke, then you should be taking aspirin. If you have not, you should not take aspirin and you should be on oral estrogen for maximal cardiovascular protection.

#6 Concern: Progesterone should be prescribed only as a cream.

Answer: Absolutely False. In our experience, creams are inconsistently absorbed and often should be applied 2-3 times a day in order to maintain adequate levels. Most women can't be compliant with this regimen. Optimal levels of progesterone are particularly important because of the breast and uterine protection. Two recent studies demonstrated that progesterone cream was not strong enough to protect against uterine cancer. Optimal levels are best obtained with sublingual or oral progesterone which then protects against breast cancer and uterine cancer.

Studies demonstrate that the higher the level, the better the protection. Where would you like your levels to be?

#7 Concern: Saliva tests are better at assessing hormone levels.

Answer: We continue to look at the information about saliva testing. There is no scientific evidence or basis for using saliva levels over blood levels. There is some correlation between saliva levels and blood levels for evaluating baseline levels of hormones while not taking any hormones. This is not true when monitoring hormone levels while a person is taking hormones. Saliva levels can be high when blood levels are low. This can give a false confidence that your hormone doses are giving you levels that are protective when they usually are not. Therefore, we should abide by the medical studies that give us the guidelines for hormone levels that are the most protective. These studies utilize blood levels and not saliva levels. We want to achieve these protective blood levels that are well documented in all our medical studies for maximum breast and uterine protection. If you do not achieve and maintain these protective levels your hormone program will not provide optimal protection and puts you at risk.

#8 Concern: Your estrogen replacement should be primarily estriol and not estradiol because estriol protects against breast cancer.

Answer: There is no scientific evidence that estriol prevents breast cancer nor protects against heart disease, bone loss, or Alzheimer's disease. In fact, estriol is an end-stage metabolite of estradiol and provides only very weak symptom improvement and no protective benefits. Therefore, estriol has minimal beneficial effect in comparison to estradiol which is the primary estrogen. Estriol's primary beneficial effect is on the skin. Estradiol has been shown to provide the most protection and therefore is the estrogen of choice. (Multiple studies have demonstrated a decrease in breast cancer incidence when progesterone (not progestin) is added, but not estriol).

#9 Concern: The experts from the menopausal and gynecological academies claim that there are no studies to support the use or benefit of compounded bio-identical hormones as opposed to conventional, pre-manufactured products.

Answer: True. The FDA approval process for synthetic drugs is meant to prove that a drug is effective for the purpose intended, is absorbed properly, and maintains adequate serum levels to guarantee efficacy. These conventional, manufactured drugs are standardized and guaranteed to have a certain consistency and effectiveness. So how do we know that the prescriptions compounded by hand in compounding pharmacies are consistent and effective? We test levels in our patients and assure that the hormones prescribed consistently provide protective levels. The medical studies demonstrate exactly where the hormone levels should be for maximum protection. Every doctor prescribing compounded bio-identical hormones should abide by these scientific standards in order to assure the optimal protection for the patient. If we are seeing a pattern of poor levels, we question the pharmacy on the source of their pure ingredients and their compounding process. Compounding pharmacies can dispense different grades of hormones from different suppliers, but we must assure through serum testing that what is being dispensed provides exact amounts of hormones and efficacy.

NOTES ON VITAMIN D — THE VITAMIN OF THE CENTURY

Vitamin D has been in the spotlight lately. Even though it is called a vitamin, Vitamin D is actually a hormone, and should be optimized for optimal health. Even people with regular sun exposure can have a deficiency. Optimal Vitamin D levels provide protection against bone loss and osteoporosis, heart disease, cancer, and dementia. You need Vitamin D to help calcium in bone protection. We used to believe that 400 IU daily was adequate. Much higher doses are necessary to bring blood levels to within a therapeutic range. We recommend 5,000 IU daily for most people. We recommend that serum levels then be tested to assure adequacy. Sometimes higher doses are needed to treat osteopenia or osteoporosis. Doses over 15,000 IU may be toxic which makes measuring levels advisable. In addition, we do strongly recommend optimal doses of Omega 3 essential fatty acids. With fish oil, this is 1 teaspoon daily or 5 standard gel caps. And don't forget the multiple vitamins, minerals, antioxidants, and B vitamins.