

## Hormone Therapy for Wellness and Disease Prevention



Hormones are critical for all types of bodily functions. Our hormone levels change in response to our environment, thought processes, stress levels, food intake, and medications. We know that when hormone levels decline as part of the normal aging process, problems with health arise. Supplemental hormones can be considered to relieve

symptoms, improve quality of life, prevent chronic illnesses, and maintain wellness. Because each woman has unique biological needs which change as she ages, we compound hormone therapy in the most appropriate dose and dosage form to meet individual needs. We work together with each woman and her healthcare provider (physician, physician's assistant, or nurse practitioner) to customize hormone therapy based on the results of laboratory testing. And we monitor each woman's symptoms as well as follow-up lab results, to recommend changes when needed.

The type of hormone therapy that is selected "is what makes the difference and must be carefully considered," according to Erika T. Schwartz, MD, and Kent Holtorf, MD, leading experts in hormone therapy. We recommend bioidentical hormones, which are molecularly identical to hormones found in the human body. Bioidentical hormones include estradiol, progesterone, and testosterone.

The terminology used by both the scientific and lay communities has led to confusion and controversy about the benefits and side effects of estrogen, progesterone, testosterone and thyroid hormones. For example, the three components of human estrogen (estriol, estradiol, and estrone) are frequently referred to as simply "estrogen"; however, each one acts differently in the body. Estradiol (E2) is the most active form of estrogen and "directly affects a wide range of cellular functions" because estrogen receptors are found throughout the body. Estriol (E3) is a weaker estrogen and is primarily made by the placenta during pregnancy. "Recorded data on estriol's function demonstrate that estriol's effects are limited mainly to the vaginal walls with a little effect on the heart and bones in nonpregnant women... Studies on the use of estriol in menopausal women and women with multiple sclerosis have demonstrated promising

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results... Estrone (E1) is manufactured in fat cells after menopause primarily from testosterone derivatives (androstenedione). Estrone levels tend to rise after menopause and the increase in estrone has been implicated in an increased incidence of breast tumors but most data have been obtained from animal studies. Overweight older women have high circulating levels of estrone." For these reasons, hormone therapy is frequently prescribed as a combination of estradiol and estriol, but estrone is typically not included.

The term progesterone is often used to describe the human hormone as well as synthetic derivatives (such as medroxyprogesterone acetate) which should more appropriately be called "progestins". Progesterone is a precursor to most sex hormones, including estrogen, testosterone and other androgens, and adrenal hormones. Therefore, an adequate level of progesterone is needed by all women, not just to prevent endometrial hyperplasia (which can lead to uterine cancer) in women who are receiving estrogen. Progesterone also counteracts estrogen's stimulation of cell growth in breast tissue (which can lead to breast cancer).

Testosterone is produced by the ovaries and adrenals in young women in low amounts, and has been nicknamed "The Hormone of Desire" after a book by Susan Rako, MD. But, testosterone and dehydroepiandrosterone (DHEA), which are classified as androgens, offer many benefits in addition to enhancing libido in aging women. "The addition of testosterone to conjugated estrogen results in an increase in fat-free body mass and mitigates central fat deposition associated with estrogen use. Further evaluation and research must be conducted as we address the possibility of usage of testosterone in the aging female to help improve muscle mass and decrease central [body fat]... A growing number of physicians involved with menopausal women's wellness are using testosterone supplementation to provide improvement in libido and mood simply based on clinical findings and blood levels." Commercially available testosterone preparations which are FDA approved for use in men should not be used in women as the dose is too high. Testosterone can be compounded in topical and sublingual dosage forms in doses that are appropriate for women.

Bioidentical hormone replacement therapy is the main type of hormone supplementation in menopausal women in Europe, where large-scale studies have repeatedly demonstrated effective elimination of menopausal symptoms and a lack of long-term negative side effects with the use of bioidentical preparations. For an excellent review of those studies and more information, we highly recommend the following article (from which we have used several quotations in this handout):

**Hormones in Wellness and Disease Prevention: Common Practices, Current State of the Evidence, and Questions for the Future** by Erika T. Schwartz, MD, and Kent Holtorf, MD.

This article was published in the journal Primary Care. [2008 Dec;35(4):669-705]

As of this writing (Aug. 24, 2011), the article can be found in its entirety at

[www.drerika.com/Files/ServicePageFiles/9ad83a4d-247f-47b4-8d99-96bf19f19b10.pdf](http://www.drerika.com/Files/ServicePageFiles/9ad83a4d-247f-47b4-8d99-96bf19f19b10.pdf)

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