

# Hormone Balance in the 90's Is Living Really Better Through Chemistry?

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**Abstract:** Many people in our industrialized society, both women and men, are demonstrating the effects of "estrogen over-dose". As Specialized Kinesiologists, we have excellent ways of identifying the need for, and optimal usage of corrective supplementation. In this paper I will describe causes and symptoms of this hormone imbalance as well as possible corrective measures the Specialized Kinesiologist can recommend using over-the-counter skin care products.

## In a Nutshell

- The hormones estrogen and progesterone are associated with female reproductive functions. In reality they are important to most *every animal for a variety of uses*.
- The current, prevalent phenomenon of estrogen dominance seems to be responsible for a host of ills in our society, affecting both males and females and a multitude of animal species.
- A significant factor in this phenomenon is xenoestrogens.
- Use of supplemental natural progesterone can significantly ameliorate estrogen dominance.
- As a Specialized Kinesiologist, you have the skills with which to identify whether progesterone supplementation would be beneficial, and to evaluate and recommend specific products and dosages.

## Background

First you need a little layperson's biochemistry. A hormone is *a chemical substance, produced in the body, which has a specific effect on the activity of a certain organ.*<sup>2</sup> Typically, a hormone is not made in the organ(s) which it is designed to effect. For example, follicle stimulating hormone (FSH) is synthesized in the anterior pituitary gland which is embedded

in the brain. FSH affects the gonads in both sexes. In the female, it stimulates growth and maturation of the egg in the ovarian follicle; in the male, it stimulates creation of sperm in the testes

Another example is epinephrine (adrenaline). It is made in the adrenal medulla, the inner part of the adrenal glands. It causes the physiological "fight or flight" reactions throughout the body: pulse and respiration speed up, blood flow is increased in the heart, lungs, muscles, and lower parts of the brain, sugar floods the blood for quick energy. Simultaneously, other less immediately essential functions are decreased: blood flow to the digestive system and higher brain functions is diminished.

One particular group of hormones is called the steroids. Reproductive hormones and the adrenal hormones are steroid hormones. *Steroid* hormones are all derived from *cholesterol*. The body begins with the cholesterol molecule and transforms it into pregnenolone, which in turn is transformed into progesterone and 17OH-hydroxypregnenolone (both very similar). From those two molecules, *all the other*

*reproductive and adrenal hormones are synthesized.*

These molecular transformations come about through minute changes, facilitated by enzymes. Often adding or subtracting just one atom or molecule changes one steroid hormone into another. These minute changes in form cause major changes in function. For example, estrogen is synthesized from testosterone and the difference between the two is minute. But that minute molecular difference accounts for the difference between a shapely woman and a virile, bearded man!

Progesterone is a steroid hormone. It is two small biochemical transformations away from cholesterol. It is found in both women and men, and it *does not* cause sex-linked traits. The feminine sex-linked traits, such as a womanly shape, is caused by estrogen.

#### **Functions of Progesterone <sup>5</sup>**

Progesterone:

- Is a precursor of other sex hormones, including estrogen and testosterone
- Maintains secretory endometrium (uterine lining)
- Is necessary for the survival of the embryo and fetus throughout gestation
- Protects against fibrocystic breasts
- Is a natural diuretic
- Helps use fat for energy
- Functions as a natural antidepressant
- Helps thyroid hormone action
- Normalizes blood clotting
- Restores sex drive
- Helps normalize blood sugar levels
- Normalizes zinc and copper levels
- Restores proper cell oxygen levels
- Has a thermogenic (temperature-raising) effect
- Protects against endometrial cancer
- Helps protect against breast cancer
- Builds bone and is protective against osteoporosis

- Is a precursor of cortisone synthesis by adrenal cortex
- Essential ingredient of myelin production in the Schwann cells <sup>5, p. 95</sup>

As you can see, progesterone is a versatile and essential hormone. Many of its functions are directly related to its ability to moderate the effects of estrogen. Think of estrogen as a proliferation hormone and progesterone as a maturation hormone. Estrogen stimulates growth and proliferation of cells; progesterone stimulates development and maturation.

Progesterone production averages around 20 mg per day. However, during the third trimester of pregnancy, it is made in huge amounts (300-400 mg per day) by the placenta. *There is no known toxic level of progesterone.* It has a myriad of important functions, in addition to fostering gestation of a fetus.

#### **Progesterone - Progestin - Progestogen**

What's the difference between those three "Pro's"? Very simply, progesterone, whether synthesized within a body or a laboratory, has a unique molecular configuration. Most progesterone on the market today is synthesized from Mexican wild yam root. Even though it is synthesized in a lab, it is called natural progesterone because it is identical in molecular structure to progesterone synthesized in a living body. Both males and females synthesize progesterone.

Naturally occurring molecules are not patentable. The progesterone molecule, being a naturally occurring molecule, is not patentable, so the lab that first isolated and identified it could not claim any exclusive rights to its manufacture. Consequently, manufacturing progesterone is not a big money-maker.

"Progestin" and "progestogen" are molecules which are similar to progesterone. For ease and brevity, I will simply refer to progestin here. Provera is one very popular progestin. However, progestin is lab-synthesized from progesterone, and has slight molecular alterations from the natural progesterone. Since progestin is not found in nature, it is patentable -- a very important fact.

Progestin is similar enough to progesterone that progesterone receptor sites very readily bind with it. Unfortunately, although progestin shares a few functions in common with natural progesterone, it cannot fill many, if not most of the vital functions of natural progesterone. Progestin also causes a wide array of side effects, some of them life threatening. Because of its molecular alteration it is not readily eliminated from the cells through normal metabolic processes like progesterone is, so its effects can linger for a long time. Progestin and synthetic estrogen are widely used in birth control pills and hormone replacement therapy.

Most medical people do not realize that progesterone and progestin are not just different terms for the same substance! Their medical school studies on reproductive hormones have faded over the years. Most of their current knowledge on this topic comes from advertising sent to them by pharmaceutical companies, accompanied by plenty of samples. Pharmaceutical firms are much more interested in selling their *progestin*, despite its side effects and limitations, than in educating physicians on safe, natural, inexpensive, over-the-counter forms of *progesterone* supplementation.

### Estrogens

Although natural progesterone is one single molecule, estrogen is actually a class of at least three similar molecules: estradiol, estrone, and estriol.

*Estrogens in general tend to promote cell division, particularly in hormone-sensitive tissue such as the breast and uterine lining.* Among the three estrogens, estradiol is most stimulating to the breast and estriol the least. Estradiol is 1,000 times more potent in its effects on breast tissue than estriol. Studies of two decades ago clearly found that over-exposure to estradiol (and estrone to a lesser extent) increases one's risk of breast cancer, whereas estriol is protective.

Synthetic ethinyl estradiol, commonly used in estrogen supplements and contraceptives, is even more of a breast cancer risk because it is efficiently absorbed by mouth and slow to be metabolized and excreted. The longer a synthetic estrogen stays in the body, the more opportunity it has to do damage. Since this factor of slow metabolism and excretion is true of all synthetic estrogen supplementation, the natural hormones would be superior.<sup>5</sup>

### Estrogen Dominance

"Estrogen dominance" is a term coined by Dr. John Lee, a California medical doctor with decades of experience supervising natural progesterone use in his patients. Estrogen dominance is characterized by an over-abundance of estrogen and/or a deficiency of progesterone. Women in industrialized cultures tend to be estrogen dominant.

The western medical community has a mistaken habit of attributing many women's symptoms to lack of estrogen. Among the symptoms of estrogen dominance which have been alleviated with supplementation of natural progesterone are: PMS, menopausal symptoms, osteoporosis (*which is significantly reversed with progesterone!*), tender or fibrocystic breasts, a tendency toward breast cancer, uterine fibroids and cancer, depression, infertility, and many, many more.

Estrogen dominance is not just found in women. In men, estrogen dominance can be the cause of low sperm count, prostate troubles, malformed male genitals and undescended testicles. You may have noticed that male breast and prostate cancer is becoming increasingly common, too. In addition, there is mounting evidence of reproductive abnormalities in wildlife due to estrogen dominance. This evidence includes "chemically castrated" and "lesbian" sea gulls, male and female alligators with abnormal reproductive organs, and Florida panthers with testicular problems. The suspected causes of this estrogen dominance include xenoestrogens and estrogens excreted by women using birth control pills.<sup>1</sup>

**There are several reasons why estrogen is over-abundant in women:**

- Since estrogen is synthesized in fat tissues, as well as in the ovaries, people who are over-weight tend to synthesize too much estrogen.
- Phyto-estrogens (weak-acting plant-derived estrogens) occur in some foods, such as soy. These weak-acting phyto-estrogens help protect Asian women from estrogen dominance, but they are not used in large enough quantities in the typical western diet to protect western women.
- Many western woman do not ovulate, even in the prime of life. Lack of ovulation causes an increase of estrogen, as the body tries harder to stimulate ovulation.
- Use of birth control pills or estrogen or hormone replacement therapy.
- World-wide prevalence of xenoestrogens: estrogen-like petrochemicals (discussed below).

**The flip side of the estrogen dominance coin is a dearth of progesterone. Several causes are:**

- Plant-based progesterone precursors are not abundantly eaten in western society.
- The corpus luteum, produced after the ovarian follicle releases a mature egg, does not develop when ovulation does not occur.
- Progesterone is a precursor of the adrenal steroid hormones. Stress causes large amounts of progesterone to be converted into adrenal hormones to help manage the stress, so progesterone reserves fall.

**Xenoestrogens**

"Xeno" means foreign. Xenoestrogens are estrogen-like molecules not normally found in nature. These are man-made molecules, generally petrochemical products. They are so similar to natural estrogens that they are readily taken up by any cells that have estrogen receptors. This occurs in both sexes of virtually every animal species. They have very strong estrogenic effects, and are difficult or impossible to eliminate once they are lodged in living tissues.

Xenoestrogens include gasoline and heating oil, plastics, many patent medicines, synthetic fabrics, soaps and other toiletries, and perfumes. The synthetic estrogens used in birth control pills are potent xenoestrogens. When you breathe fumes from outgassing plastic in a new car, you are inhaling xenoestrogens. Most pesticides, herbicides, and fungicides are xenoestrogens, and they are added to foods by the ton. Many plastic food and beverage containers release xenoestrogens into the foods when they are heated by hot foods and beverages, or by microwaving.

Xenoestrogens are fat-soluble and nonbiodegradable. They become increasingly

concentrated in the fat tissues of animals higher up the food chain. A major dietary source of "xeno's" is animal products. Many livestock animals are injected with estrogens to help them gain fat and water weight for market. Also, they are fed grains exposed to pesticides, herbicides and fungicides, all potent "xeno's" which are then concentrated in the animal's fatty tissues and passed on to anyone who eats them.

Xenoestrogens are difficult or impossible to eliminate so avoid them wherever possible. Use more organically grown foods, less plastic dishware, and use *your* political influence to minimize xenoestrogens in the environment.

### **Observing hormone levels with Specialized Kinesiology**

To support hormone balance, Dr. Lee recommends a wholesome diet, exercise, and reduction of stress. A very important addition, especially for women, is skin cream containing natural progesterone. Consult Dr. Lee's books for more details on the signs and symptoms of estrogen dominance/ progesterone deficiency. There is a list of progesterone skin products in reference 5.

You might want to verbally-test for an individual's estrogen and progesterone levels. This can help indicate if progesterone supplementation might be beneficial, and later whether it is having the desired effects. In Health Kinesiology, we use a scale where 100 is optimal; greater than 100 is an excess; less than 100 is lack of a hormone. You will become more accurate at this kind of "indexing" the more you do it. In my experience, many people have an estrogen level in the 120 to 130 range, and a progesterone level in the 60 to 75 range. That is estrogen dominance. Supplementation with progesterone cream can be very beneficial for these people.

### **Progesterone Supplementation**

Taking in progesterone through the skin is generally superior to oral progesterone supplementation. Progesterone is fat-soluble. When it is swallowed, a very high percentage of it is metabolized by the liver and excreted. When used transdermally, as a cream, it is absorbed into the fatty tissues. From the fatty tissues it is then gradually released into the blood stream.

For a woman in her fertile years, progesterone cream is often used between the time of ovulation, typically around 12 days after menstruation begins, until the next period begins. Use muscle-testing to identify the best schedule and dosage. The dosage can vary a lot according to the concentration of progesterone in the product you are using, but an average range is 1/4 to 1/2 teaspoon per day. There is no known toxic level of progesterone, so you can feel free to experiment with dosage.

It is always important to suspend progesterone supplementation for at least about 5 days per month. This prevents the progesterone receptor sites from becoming fatigued and losing their ability to respond to the hormone.

For a post-menopausal woman, the monthly schedule is a bit different. She will gauge her dosage by the calendar: on for 14 to 21 days, off until the next month starts.

The cream is rubbed into the soft skin in areas with minimal hair growth, such as inner thighs, inside of the arms, belly, neck, chest, and face. It is best to rotate application from one area to another each time you use the cream. The palms are good absorbers, and Dr. Lee tells a story of a man who regularly massaged the cream onto his wife, and eventually noticed that his own prostate problem had cleared up!

Progesterone is also available in capsule form. Use your muscle testing to determine whether the cream or the capsules are most appropriate for a given individual. You might find that in using progesterone to rebuild myelin, the oral supplements are more appropriate. Remember that much of the progesterone from the capsules will be destroyed in the liver, however.

### **Please Study!**

I have done my best to give you a sketch of this important issue. Please study the references listed below. They are both thorough and easy to understand. Considering the increasing incidence of infertility, reproductive organ diseases, and osteoporosis, progesterone supplementation could be a significant, simple addition to many of your client's and friend's lives.

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4. Lee, John R., M.D.

*Natural Progesterone: The Multiple Roles of a Remarkable Hormone*. BLL Publishing, P.O. Box #2068, Sebastopol, CA, 95473, 1993. ISBN 0-9643737-1-8

To order from the publisher, send \$9.95 + \$2.00 shipping. Orders may be faxed to 707-823-8279.

*Similar to "What..." but with not quite as many examples and explanations. Addressed to medical practitioners, quite succinct and readable by anyone.*

5. Lee, John R., M.D. with Virginia Hopkins.  
*What Your Doctor May Not Tell You about Menopause*. Warner Books, Inc., New York, 1996. ISBN 0-446-67144-4  
*The unfortunate title belies the extremely broad range of this informative book. It's a must-read for women of any age or reproductive status. A very comprehensive discussion of everything touched on in this paper, and more.*
6. Lee, John R., M.D.  
*Natural Progesterone, "A Remarkable Hormone"*. Audio tape, see BLL Publishing above.  
*Dr. Lee is completely engaging and gives a good introduction to this whole topic.*

7. Sellman, Sherrill.

*The Progesterone Factor: A New Dawn.* Light Unlimited Productions, Locked Bag 8000 - MDC, Kew, Victoria 3101, Australia. Fax: 011 613 9855 9991.

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A pamphlet that gives a good introduction to the natural progesterone issue. Ms. Sellman sites Dr. Lee frequently.

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