

Presented by Dr. Scott Jurica, DC, PAK, ACN “Balancing Female Hormones Part 1”

Hormones—powerful biological chemicals produced by endocrine glands in very small amounts and then released into the blood stream and carried to cells of the body.

- ⌚ Hormones initiate cell actions as well as help regulate, control, and coordinate body functions.
- ⌚ Hormones from the different endocrine glands interact with each other in complex ways to coordinate the body's systems.
- ⌚ Because hormones are so powerful in such tiny amounts, their levels are precisely and carefully monitored and controlled.

Hormones are measured in:

- ⌚ **Nanograms {ngs}**-parts per billion—“One part per billion is like putting a pinch of salt into 10 tons of potato chips.”
- ⌚ **Picograms {pgs}**-parts per trillion—“This is like placing one drop of water into a six-mile-long train with 660 tank cars!”

Hypothalamus-Pituitary Axis (H-P Axis)—the hypothalamus and pituitary glands are located in the brain and they control and oversee functions of the hormonal system in general. The H-P Axis is like the central control switch of the endocrine system.

Cell Receptors—the “gates” located on cell membranes (cell surfaces) that control the entry of hormones and other biochemicals into cells

Receptor Up-Regulation—increased sensitivity of the cell's receptor to its hormone, causing magnified cellular response

Receptor Down-Regulation—decreased sensitivity of the cell's receptor to its hormone, blunting the hormone's effect in the cells

Hormone Overdose—a hormone that exceeds its normal physiologic reference range (whether given externally or made in excessive amounts internally)

Hormone Overdose & Receptor Down-Regulation—when any hormone repeatedly exceeds its normal physiologic reference range, cell receptors for that hormone down-regulate. The result is progressive deficiency symptoms of the overdosed hormone.

Bioidentical Hormones—natural plant-derived hormones that are chemically and structurally the same as human hormones. In the case of female and male hormones, a chemist or pharmacist compounds plant sterols from wild yam or soy into bioidentical estrogen, progesterone, testosterone, DHEA, etc. Berkson, Lindsey D., Hormone Deception, p9

THE CURRENT STATE OF FEMALE HORMONE HEALTH CARE

⌚ Female hormone health care is currently in a state of confusion. Information in text books is often outdated. Adding to the problem, most of the research used synthetic hormones and horse hormones, assuming (quite incorrectly) that these substances would act the same as human hormones in the women studied.

⌚ The end result is that many women—from the onset of puberty through menopause—often suffer from female hormone problems that seem mysterious, and for which causes are considered unknown.

It doesn't have to be this way. Here are some of the issues and the starting points to help begin finding answers.

CYCLING WOMEN

1. The unique physiology (function) of cycling women is not addressed in conventional hormone evaluation.
2. Ovarian hormones (estrogen & progesterone) rise and fall in a complex pattern throughout the monthly cycle.
3. The brain and master gland (hypothalamus & pituitary) interact with and control the ovarian output of hormones.
4. The only way to comprehensively evaluate the interplay of the complex hormone dance in cycling women is a multiple-sample test of pituitary and ovarian hormones.
5. Routine conventional hormone testing of cycling women is a one sample blood test of estrogen and progesterone only.
6. The end result is a completely inadequate means of evaluating the hormonal status of cycling women.
7. In addition, the conventional “normal ranges” for ovarian hormones are so broad and non-specific, that virtually all women appear “normal”.
8. This is the reason many women who are clearly suffering from female hormone problems are often told the blood tests are “normal” and there is therefore nothing wrong.
9. This is also the main reason that the cause of the majority of female hormone problems (such as PMS, ovarian cysts, PCOS, fibroids, etc.) is officially considered unknown. Obviously, if women are never tested properly, the hormonal imbalances that underlie these problems would never be revealed.
10. When women are tested comprehensively, there are several common female hormone imbalances routinely detected (which are the hormonal issues underlying PMS, ovarian cysts, PCOS, fibroids, etc.) The 3 most common are:
 - a. Inadequate signaling to the ovaries by the brain and master gland (Hypothalamus-Pituitary signaling difficulties). This problem can be caused or made worse by external hormone exposure including:
 - i. Oral & injected contraceptives
 - ii. Hormones in food as in all non-organic meat & dairy
 - iii. Hormone replacement
 - iv. Xenohormones—man-made chemicals that act like hormones in our bodies (from sources like plastics and pesticides)
 - b. Estrogen dominance (inadequate output of progesterone in the second half of the cycle)
 - c. Liver and gall bladder congestion and dysfunction, leading to the inability to effectively metabolize and eliminate female hormones

PERIMENOPAUSAL WOMEN

1. ‘Peri’ means near or around, and perimenopause is the 2 or 3 years around the onset of menopause.
2. Menopause usually occurs in the late forties or early fifties, although it can happen earlier or later.
3. Perimenopause often begins with changes in the usual menstrual cycle pattern. For example, bleeding can become heavier or lighter, periods may become irregular. Hot flashes and night sweats are common, typically caused by abruptly fluctuating ovarian hormones and/or weak adrenal glands.
4. As the ovaries tone down their hormone production, the adrenal glands must now function as the “back up system”. Perimenopausal women with challenged adrenal glands (the stress handling glands) will usually have difficulty with the shift to menopause. (This day and age, most people’s stress handling glands are stressed.)
5. For perimenopausal women the focus shifts to appropriate adrenal evaluation and support.
6. Routine conventional blood tests for adrenal function only screen for severe disease states (such as Addison’s and Cushing’s) which are rare.

7. Functional adrenal gland imbalances in the population, including perimenopausal women, are extremely common, and are assessed with a 4-sample test described in our office.

MENOPAUSAL WOMEN

1. There are currently no conventional optimal (healthy) hormonal standards for menopausal women. In fact, reference ranges currently used are very abnormal and unhealthy.
2. There is considerable confusion regarding the hormone needs of menopausal women. There are several reasons for this:
 - 1st) Because ovarian production of progesterone ceases, the conventional misunderstanding persists that menopausal women no longer make or need progesterone. (Menopausal women still make and need this critically important hormone.—See the “Progesterone” page)
 - 2nd) For decades HRT studies were performed on women using horse hormones (Premarin or conjugated estrogens) and synthetic progesterone (Provera or medroxyprogesterone). These alien hormones do not function normally in the human body (although the assumption was made and still persists that they somehow do). □
 - 3rd) Abnormal substances (alien hormones) used in studies cannot be accurately monitored, assessed or controlled. (Just how many horse hormones does a woman need?)
 - 4th) ...and as a result of the above three... Laboratory reference ranges for menopausal aged female hormones are inaccurate. All blood labs have abnormally low menopausal reference ranges.
3. Optimal reference ranges (healthy normal ranges) have been defined for menopausal women. (These reference ranges should not change with the type of hormone preparation used.)

The issue behind all this has been one of economics. Natural substances in the body, such as bioidentical hormones, cannot be patented and sold for large profits. Horse hormones and synthetic hormones are patented pharmaceutical drugs. For this reason there will be continued and ongoing (and probably aggressive) attempts to market these alien hormones to the health care profession and public.

ESTROGEN

GENERAL DESCRIPTION

Estrogen is the general term used for the several types of estrogen made by the ovaries, and to a lesser degree, the testes. Estrogen is also made in fat cells (which is the primary site of production for both menopausal women and men.) Estrogens are steroids. The three major estrogens are:

- ⊕ Estrone, E1—5-10%. Considered a “strong” estrogen because of its ability to cause cell proliferation.
- ⊕ Estradiol, E2—5-10%. Considered the “strongest” estrogen because of its ability to cause cell proliferation.
- ⊕ Estriol, E3—80-90%. Considered a “weak” estrogen because it does not cause cell proliferation. However, estriol appears to balance the cell proliferating effects of estrone and estradiol, conferring protection against their cancer-causing ability.*

KNOWN FUNCTIONS OF ESTROGEN

1. Confers female secondary sex characteristics
2. Promotes cell proliferation, especially of the uterine lining and breast tissue
3. Is part of the hormone signaling sequence that stimulates the maturation of the egg-containing follicle in the ovary
4. Slows bone loss
5. Stimulates brain function

6. Plays a role in cognition, memory, emotions, mood, stamina, ambition, pain perception, and sleep
7. Increases body fat, especially in hips, abdomen and thighs
8. Creates progesterone receptors
9. Estrogen's emergence at puberty stops the growth of long bones in both females and males
10. Increases production of type III collagen which helps skin heal faster and remain soft and pliable
11. Promotes hydration of body tissues (E3 or estriol)
12. Increases HDLs, lowers LDLs and total cholesterol
13. Helps maintain the endothelial lining of blood vessels
14. Increases vasodilation (via nitric oxide)
15. Inhibits vascular intimal and muscle proliferation (involved in atherosclerosis)
16. Helps prevent inappropriate cholesterol deposition
17. There are still many functions of estrogen that we don't know

*Wright, Jonathan V., M.D., and John Morgenthaler, Natural Hormone Replacement for Women Over 45, (1997)

SYMPTOMS OF ESTROGEN DEFICIENCY

- Hot flashes
- Night sweats
- Insomnia
- Mood swings
- Mental foginess, poor memory
- Dry eyes, nose, sinuses
- Vaginal dryness, dry skin
- Vaginal wall thinness, vaginal dysplasia
- Vaginal and/or bladder infections
- Incontinence, urethral irritations, urinary frequency
- Headaches, migraines
- Decreased sexual response
- Loss of ambition or drive
- Depression
- Lack of stamina
- Decreased breast size
- Wrinkling of skin
- Osteoporosis
- Loss of subcutaneous fat
- Increased risk of cardiovascular disease

SYMPTOMS OF ESTROGEN DOMINANCE

- Heavy bleeding
- Clotting, cramping
- Water retention, bloating
- Breast tenderness, lumpiness, cystic breasts, enlarged breasts, fibrocystic breasts
- Weight gain
- Headaches, migraines
- Emotional hypersensitivity
- Depression, irritability, anxiety, anger, agitation
- Decreased sexual response
- Thyroid dysfunction (resembling hypothyroidism)
- Cold hands and feet
- Blood sugar instability, sweet cravings
- Insomnia
- Gall bladder dysfunction (coagulated bile)

- Acne

PROGESTERONE

GENERAL DESCRIPTION

- ⌚ Progesterone is a steroid hormone produced in the ovaries (corpus luteum) and adrenal glands. One of its main roles is to balance estrogen.
- ⌚ Progesterone is also produced by the brain and peripheral nerves, and possibly other locations.
- ⌚ Normally, women have much more progesterone at any given time, than estrogen.

KNOWN FUNCTIONS OF PROGESTERONE

1. Balances the effects of estrogen
2. Functions as a precursor for other steroid hormones, including adrenal cortical hormones
3. Regarding menopausal women:
 - ⌚ Is still needed in healthy amounts
 - ⌚ Although ovarian progesterone is no longer produced, the adrenals of menopausal women must continue to make sufficient progesterone to balance the effects of menopausal estrogen levels AND...
 - ⌚ Is still the precursor hormone for all adrenal stress-handling hormones such as cortisol and aldosterone YET...
 - ⌚ The medical myth persists that menopausal women do not need or make any more progesterone
 - ⌚ Female menopausal reference ranges from blood labs do not even get up to a healthy normal range and should not be relied upon
4. Estrogen causes cells in the endometrium to multiply. Progesterone balances this effect by stopping cell division and signaling the process of cell maturation, differentiation, and apoptosis (cell death).
5. Prevents excessive production of the uterine lining
6. its adequate production in the second half of the cycle after ovulation helps signal other developing follicles to stop developing (and thus stop producing estrogen)
7. Maintains the secretory endometrium, that is, it "ripens" the uterine lining for possible pregnancy
8. In pregnancy; maintains and protects the developing fetus
9. Needed for brain and nervous system development in the fetus
10. Stimulates new bone growth
11. Helps calm and focus brain function
12. Helps burn fat for energy
13. Is a natural diuretic
14. Is a natural antidepressant (in balance with estrogen)
15. Can increase libido
16. Is a natural muscle relaxant
17. Facilitates thyroid hormone function
18. Helps normalize androgen levels (keeps testosterone from getting too high)
19. Is preventative against breast, uterine, and all forms of cancer
20. Regulates the sensitivity of estrogen receptors
21. May help protect against autoimmune diseases
22. Many of progesterone's functions throughout the nervous system, and in the rest of the body, are still unknown.

SYMPTOMS OF PROGESTERONE DEFICIENCY

- PMS
- Heavy bleeding

- Clotting, cramping
- Inability to concentrate
- Short term memory impairment
- Muscle tension, spasm, Fibromyalgia
- Water retention, bloating
- Insomnia
- Breast tenderness, lumpiness, cystic breasts
- Weight gain
- Thyroid dysfunction (resembling hypothyroidism)
- Acne
- Headaches, migraines
- Anxiety, irritability, nervousness, moodiness
- Hot flashes
- Depression
- Decreased sexual response
- Osteoporosis
- Amenorrhea (no periods at all)
- Oligomenorrhea (infrequent periods)
- Spotting
- Endometriosis, adenomyosis (uterine endometriosis)
- Fibroids

SYMPTOMS OF PROGESTERONE EXCESS (usually from progesterone replacement therapy)

1. Sleepiness
2. Bloating or constipation (excess progesterone sedates the digestive tract)
3. Candida (excess progesterone can inhibit anti-candida white blood cells)
4. Depression. The ongoing use of progesterone creams and gels (several months or longer) can lead to progressively severe depression.
5. Estrogen excess or deficiency symptoms as progesterone affects the sensitivity of estrogen cell receptors
6. Ligament laxity which in turn can cause persistent back pain and/or other joint pains and problems
(High levels of progesterone in the third trimester of pregnancy cause the pelvic ligaments to become more lax in preparation for childbirth. Overdosing with progesterone, especially progesterone creams and gels can cause abnormal ligament laxity throughout the spine and other joints.)
7. Ligament laxity with prolonged progesterone overdose can also show up as incontinence or mitral valve prolapse.
8. Progressive progesterone deficiency symptoms (Progesterone overdose, especially with creams and gels down-regulates and eventually shuts down progesterone receptors.)
9. High levels of free (unbound) cortisol—(Progesterone and cortisol compete for the same binding protein. When free progesterone floods the system long enough, it can compete with cortisol for the binding protein and release excessive amounts of cortisol into the system.) High cortisol can cause numerous problems, including high blood sugar, insulin resistance, weight gain, low thyroid function, sleep problems, osteoporosis, immune system dysfunction, GI system problems, and more.
10. Loss of HP Axis feedback loop coordination, leading to progressive HP Axis dysregulation problems (capable of disrupting multiple other hormones balances)

IMPORTANT NOTE: Progesterone only functions correctly when it is in the right proportion with estrogen, its primary partner and synergist. In a cycling woman, these proportions change throughout the cycle. In menopausal women, the proportion of progesterone to estrogen remains fairly constant.

ESTROGEN DOMINANCE

DEFINITION

Estrogen dominance is a condition in which a woman can have deficient, normal, or excessive levels of estrogen, but has too little progesterone to balance the estrogen level. Estrogen Dominance is common in both cycling and menopausal women.

COMMON CAUSES

- Stress (pregnenolone steal)
- Luteal Insufficiency (insufficient ovarian progesterone production)
- Use of oral or injected contraceptives
- Conventional HRT
- Adrenal Fatigue
- Hypothyroidism
- Poor diet (usually high in carb, low fat)
- Consumption of trans-fats
- Nutritional deficiencies (especially magnesium, zinc, copper and B complex vitamins)
- Xenohormone exposure
- Anovulatory cycles (cycles where menstruation occurs, but no ovulation, and therefore no ovarian progesterone is produced)
- Obesity (in postmenopausal women, estrogen is made in the fat cells; excess fat cells make excess estrogen.)

COMMON SYMPTOMS

1. Anxiety, irritability, anger, agitation
2. Cramps, heavy bleeding, prolonged bleeding, clots
3. Water retention/weight gain, bloating
4. Breast tenderness, lumpiness, enlargement, fibrocystic breasts
5. Mood swings, depression
6. Headaches/migraines
7. Carbohydrate cravings, sweet cravings, chocolate cravings
8. Muscle pains, joint pains, back pain
9. Acne
10. Foggy thinking, memory difficulties
11. Fat gain, especially in abdomen, hips and thighs
12. Cold hands and feet (low thyroid function because estrogen blocks thyroid hormones)
13. Blood sugar instability, Insulin Resistance
14. Irregular periods
15. Decreased sex drive
16. Gall bladder problems (bile becomes thick and sluggish)
17. Infertility
18. Insomnia
19. Osteoporosis
20. Endometriosis, Adenomyosis
21. Functional ovarian cysts; Polycystic ovaries
22. Uterine fibroids
23. Cervical dysplasia
24. Allergic tendencies
25. Autoimmune disorder
26. Breast, uterine, cervical, or ovarian cancer

RISK FACTORS OF ORAL & INJECTED CONTRACEPTIVES

GENERAL CONSIDERATIONS

- ⌚ There are a variety of different oral and injected contraceptives available
- ⌚ They consist of low-dose mixtures of synthetic estrogens and synthetic progestins, or sometimes just synthetic progestins
- ⌚ These contraceptives work by suppressing the endocrine system and preventing ovulation
- ⌚ The "Pill" is often given to "regulate" the female cycle. It does not regulate, it suppresses.
- ⌚ By preventing ovulation, these drugs promote an increasing condition of estrogen dominance
- ⌚ Injected contraceptives like Depo-Provera typically last for a 3 month period and may be related to increased side effects and increased likelihood of adverse reactions (risk factors).
- ⌚ Birth control pills or injections that cause a woman to cycle only a few times per year do so by even more powerful suppression of the endocrine system than regular birth control.

IMPORTANT NOTE:

For most individuals it is possible to modify or reduce the following risk factors with appropriate protocols.

SOME KNOWN RISK FACTORS OF ORAL & INJECTED CONTRACEPTIVES:

1. Down-regulation/dysregulation (suppression) of the Hypothalamus-Pituitary Axis. This can lead to multiple endocrine imbalances as well as contribute to infertility issues.
2. Triples the lifetime risk of breast cancer when taken before the age of 18. ¹
3. Mental and emotional side effects
4. For many women it will be an underlying cause of chronic fatigue/fibromyalgia
5. Sweet cravings and/or carb cravings, Insulin Resistance (blood sugar problems)
6. Cervical dysplasia, ovarian cysts, and infertility
7. Gall bladder problems
8. Endocrine disorders
9. Headaches and migraines
10. Loss of libido
11. Anti-anxiety, anti-depressant, or sleeping pill usage
12. Interferes with steroid hormones balance (these are your stress handling, energy reproductive, and antiaging hormones)
13. Estrogen Dominance
14. Increased risk of high blood pressure, blood clots, stroke, and heart attack
15. Increased risk of ovarian, breast, and uterine cancer
16. Thyroid and liver problems and cancer
17. Reduced antioxidant levels, especially in the liver
18. Nutritional deficiencies, especially Folic Acid, B12, B6, other B complex vitamins, Magnesium, Manganese, Zinc, and Vitamin A
19. Interferes with copper in the body, eventually causing copper toxicity
20. Birth defects and birth marks in offspring
21. Immune dysfunction and autoimmune disease

OTHER OPTIONS FOR CONTRACEPTION: For both natural birth control and fertility awareness, see **Taking charge of Your Fertility: The Definitive Guide to Natural Birth Control and Pregnancy Achievement**, by Toni Weschler, MPH. This outlines the Fertility Awareness Method. For descriptions and discussions of various forms of birth control, and alternatives to oral contraceptives, see **Our Bodies, Ourselves For the New Century** by The Boston Woman's Health Collective. ¹Lee, John R., M.D., David Zava, Ph.D., and Virginia Hopkins, *What Your Doctor May Not Tell You About Breast Cancer: How Hormone Balance Can Help Save Your Life*, Warner Books, (2002) p33

THE PROBLEMS WITH CONVENTIONAL

UNOPPOSED ESTROGEN REPLACEMENT

DEFINITION

⌚ Unopposed estrogen replacement means that estrogen is given without progestins or progesterone.

⌚ It is routinely given to women when the uterus has been removed.

EXPLANATION

- ❑ Conventionally, progestins (synthetic progesterone) are given to women who still have a uterus to protect them from endometrial cancer
- ❑ Unopposed estrogen is a known cause of endometrial cancer
- ❑ Progestins have so many side effects and risk factors that when the uterus has been removed, they are not given

THE PROBLEMS

1. Giving unopposed estrogen is a very physiologically misguided practice
2. It leads to estrogen dominance and its multitude of side effects
3. These side effects include weight gain, fatigue, chronic fatigue, anxiety, blood sugar problems, sweet cravings, muscle and joint pains, fibromyalgia, migraines, depression, hypothyroid symptoms, gall bladder problems, increased risk of breast cancer...and more (See "Estrogen Dominance" page)
4. Progesterone has none of the side effects of progestins, but is rarely used in conventional medicine, for post menopausal women.
5. Progesterone is a vital hormone throughout a woman's life and plays many important roles in a woman's body. (See "Progesterone" page)
6. At any given time, either premenopausally or postmenopausally, a woman normally should have much more progesterone in her body than estrogen.
7. In addition, estrogen will not function normally without sufficient progesterone.
8. Although progesterone can be given without estrogen, estrogen should **NEVER** be given without progesterone.
9. The majority of hysterectomies are done because of heavy bleeding, fibroids or out-of-control endometriosis.
10. All of these conditions are signs of severe estrogen dominance and progesterone deficiency.
11. When the uterus is removed, it stops some of the symptoms but does not correct the underlying hormonal imbalance.
12. To add insult to injury, a woman is then put on unopposed estrogen
13. The result is usually increasing of other estrogen dominance symptoms as listed above.
14. Subsequent conventional treatment is usually antidepressant medication, gall bladder removal, pain medication, thyroid hormones, anti-anxiety medication, migraine medication, etc. None of this corrects the continuing estrogen dominance, progesterone deficiency that is at the root of all of these problems.

GUIDELINES TO BIOIDENTICAL HORMONE USE

1. Appropriate testing and monitoring must always be done to determine ongoing need and dosage.
2. Whenever possible, strengthen and balance the body's own glands and systems to optimize hormone output rather than use bioidentical hormone replacement.
3. When using hormones, always follow the body's designs and stay within physiologic reference ranges. Too much of a hormone will cause as many (if not more) problems over time than deficiency of a hormone.
4. Hormones are NOT supplements. Hormones, including bioidentical hormones, are powerful chemicals. The body is literally obsessed with monitoring and controlling their levels and activities. When not used according to the body's design, they can cause countless problems.

5. Many women can initially feel improvement on bioidentical HRT, but unless this is carefully monitored and controlled, the feeling of improvement often doesn't last.
6. If the bioidentical HRT is excessive or imbalanced, or just not correct for the individual, over time regression or even worsening hormonal problems can occur.
7. Keep in mind that even small physiologic doses given to a woman who does not need a hormone, is an overdose.
8. Always use the smallest possible effective doses for the shortest time needed. Accompany hormone replacement with appropriate natural support to the gland.
9. The goal is to help the gland regain normal function and hormone output whenever possible.
10. When glands have been surgically removed—as with a total hysterectomy—ongoing bioidentical HRT may be required. Testing and monitoring is still necessary, as individual need will vary widely from woman to woman.
11. Topical bioidentical hormone creams and gels build up in the system by storing in the subcutaneous tissue (fat cells beneath the skins' surface). After several months of use, it is typical that cream or gel forms of hormones progressively overdose their users. See "Problems Associated With Bioidentical Transdermal Hormone Cream & Gels" page.
12. Additionally, topical creams and gels cannot be accurately monitored by routine blood tests. See same handout as mentioned above.
13. The most effective, least problematic method of bioidentical hormone delivery at this time is sublingual (under the tongue), either through liquid drops or tablets that are crushed and held under the tongue for several minutes.
14. Never underestimate the regenerative and recuperative powers of the incredible human body. It is possible to restore strength and balance to the endocrine system at any age. When bioidentical hormones are needed and used properly, they are a safe and wonderful tool. But using hormones is somewhat like using crutches. Whenever possible our goal is to assist the healing process, restore optimal function, and put the crutches aside.

Sites for research and information:

www.westonaprice.org (One of the best sites for nutritional information. Non-profit company getting the word out on PROPER nutrition—why saturated fat and cholesterol is not bad, etc)

Dangers of Soy: Why we never have eaten much of it as a culture and all of the research behind it.

<http://www.mercola.com/article/soy/index.htm>

www.standardprocess.com and www.mediherb.com (whole food whole herb supplements I use as the core of my practice). Use a few others to fill in the gaps.

<http://www.oncolabinc.com/> (innovative aid in early cancer detection)

www.optimox.com (research on iodine and cancer)