

# The FELIX Letter

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A COMMENTARY ON NUTRITION

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## PROGESTERONE vs. PROGESTINS: *Vive La Différence!*

In simpler times, 'female complaints' were treated with special foods, herbs and tonics. Nowadays, powerful synthetic hormones are dispensed freely if not cheaply to women all over the globe. Medical and popular media wage a phenomenally successful campaign to make these products appear as benign as sunlight. (Don't bother reading the fine print on the package inserts, ladies, it's just a silly legal requirement.)

The hormone era came into its own with The Pill. Taken on a cyclical schedule monthly, synthetic estrogen plus synthetic progesterone, or synthetic progesterone alone, send signals to the master controllers -- the pituitary and hypothalamus -- to shut down ovulation. If no egg is released from the ovary, there's no pregnancy. Presto! -- sexual freedom without paying the piper! Fantastically convenient and safe.

Try telling that to Mother Nature. Ask epidemiologists who chart the steady rise of breast cancer rates in the U.S. while other cancers, except lung cancer in women, have decreased. Look up the manufacturers' product information for any well-known oral contraceptive in the *Physicians' Desk Reference*. Pages of tiny print list Cautions, Contraindications, and Adverse Reactions that include life-threatening pulmonary embolism, cerebral thrombosis, and cerebral hemorrhage. Never mind the 'milder' patient complaints such as nausea and vomiting, migraine, mental depression, gallbladder disease, enlargement of uterine fibroid tumors, and loss of scalp hair! (Just a sample, believe me.)

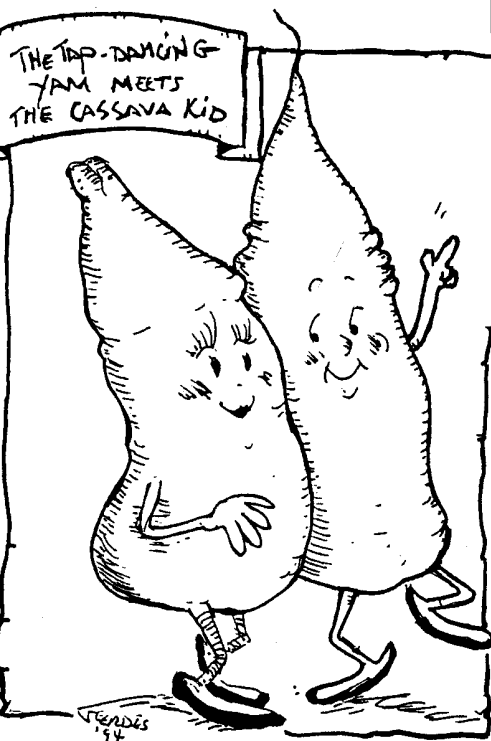
First, the young women were snookered on a grand scale into accepting without a fuss the havoc The Pill makes of their natural functions. The Pill's success [\$\$] and safety record [hah!] helped launch the next campaign, Hormone Replacement Therapy (HRT) for the *disease* of aging in women -- medical salvation for a tragic medical condition! The goal appears to be pharmaceutical control over every woman's 'female' functions, beginning with puberty and stopping only with her obituary.

Besides generating monumental windfalls for the drug firms, it makes steady work for journalists, ad-makers, medical experts, etc. whose job it is to terrify women (and physicians) about the horrors of menopause, decrepitude, bone loss, etc. -- avoidable, they say, *only* through synthetic HRT. Skeptical doctors, slow to prescribe it, risk an exodus of

patients who turn to more *caring* physicians. Scan the magnificent HRT ads in any medical journal, or read standard medical texts on menopausal symptoms and treatment, if you think I'm overstating the case.

Each of the scores of synthetics developed for oral contraceptives and HRT is *patentable*, unlike real hormones, creating the profit incentive. Most important in terms of convenience, *they work when taken orally*. Natural hormones are commercially extracted easily from plants but lose some effectiveness when swallowed. So, what's wrong with making powerful hormones that work by mouth?

The answer lies in the story of progesterone. In John R. Lee M.D.'s *NATURAL PROGESTERONE: The Multiple Roles of a Remarkable Hormone* (1993), the good doctor from Sebastopol tells what happens to women who use the true hormone. The contrast between its benign effects and the hair-raising ones caused by synthetics was a revelation to me. Like most people, clinicians included, *I didn't know about the difference.*\*



The synthetic analogues of progesterone are called *progestins* -- a term designed to blur the distinction. Another term is "*progestogens*." No wonder doctors, patients, journalists -- everyone but the drug makers -- seldom know the difference. Dr. Lee writes: "Gail Sheehy, in her popular 1991 book *The Silent Passage*, for instance, admits to being so confused about the names that she decided to call all of them 'progesterone' throughout the book even though she is generally writing about the synthetic progestins."

The lists in *Physicians' Desk Reference* of 'adverse reactions' for Provera and the other progestins are *very long and very scary*. For starters, they're known to increase the risk of birth defects, of breast cancer, and of runaway blood clots (embolisms) that lodge in the lungs or the brain.

*Natural progesterone doesn't have any harmful side effects even during pregnancy, and actually protects against breast cancer and abnormal clotting.*

Swallowed as a pill, however, it goes through metabolic passes by the liver, losing some of its effectiveness. Earlier preparations of natural progesterone needed to be injected, or were made for vaginal or rectal insertion -- not very convenient. (More recently, good absorption has been achieved from oral preparations that deliver the desired doses.) Also, as we observed, *the natural is not patentable*. The drug makers got busy. Starting with the real hormone, they did a little snipping here, a bit of tailoring there -- creative organic chemistry stuff! The reformulated molecules were powerful inhibitors of ovulation, making them the drug of choice (along with synthetic estrogens) for contraception.

The other beckoning market was the menopausal woman on estrogen replacement therapy (ERT). Alas, these ladies were getting too many cancers of the uterus. Back to the drawing board! Progestins saved the day.

\*I'm angry because I too was snookered long ago, when my doctor at the time prescribed Provera, a synthetic, that she called a "natural" progesterone. I stopped taking it after some years, and since menopause I've relied on good nutrition, ginseng, and plenty of omega-3 flax oil and fish oil to get me over the humps. (See my chapter in *Women of the 14th Moon: Writings on Menopause*, edited by Dena Taylor and Amber Coverdale Sumrall, 1991, preface by Grace Paley. The Crossing Press, Freedom, CA 95019). I wish I'd known about natural progesterone sooner, as well!

Taken cyclically, they tend to cause bleeding that sheds the cancer-promoting buildup (stimulated by ERT) of tissues lining the uterus. *Wunderbar!* Mostly male doctors now have restored to us older females the privilege of having monthly periods till we totter to the grave. Thanks a heap.

**Question:** *Why is true progesterone good for us and the synthetic analogues not so good?*

*Progesterone is the master 'starter' hormone from which the other great steroid hormones are made, i.e., testosterone, estrogens, and the adrenal corticosteroids. We're talking basic. \*\**

For example, Dr. Lee explains how cortisone's unique anti-arthritis, anti-inflammatory effects can take place only if enough progesterone is available as precursor to cortisone synthesis by the body.

*Progesterone's second indispensable function is the survival and development of the fertilized ovum. Ample amounts made by the placenta and ovary are essential for a fullterm pregnancy.*

Far and beyond its role in pregnancy, Lee explains, are progesterone's multiple systemic functions, including these:

- protects against breast fibrocysts
- is a natural diuretic
- helps use fat for energy
- is a natural antidepressant
- helps thyroid hormone action
- normalizes blood clotting
- restores libido
- helps normalize blood sugar levels
- normalizes zinc and copper levels
- restores proper cell oxygen levels
- protects against endometrial cancer
- helps protect against breast cancer
- stimulates bone building

**\*\***The body makes progesterone and all steroids from its cholesterol, a small molecule with important stabilizing functions in every cell. The process can take place in the adrenal glands of both sexes and the testes in males. In women during their fertile years the ovaries are the major production site for progesterone. During the early phase of monthly preparation for ovulation, about 2 milligrams daily of progesterone are secreted. Starting around ovulation, progesterone increases to 25 mg a day during the latter stage, then drops sharply unless the egg is fertilized. If fertilization occurs, ovaries and the placenta rapidly increase progesterone biosynthesis to 300 to 400 milligrams a day in order to maintain a healthy pregnancy.

The androgenic (male) hormones, testosterone and androstenedione, are made from progesterone. In turn, they can form the three estrogens: estrone, estradiol, and estriol. (D'you suppose that's where the story of Eve arising from Adam's rib came from???)

All the sex hormones and corticosteroids are small molecules shaped very much like one another and the parent molecule, cholesterol. Highly specific variations, created by natural enzymic action, are responsible for their different roles in the body.

The fakes -- progestogens, progestins, etc. -- do two things well: they prevent ovulation and they stop ERT-induced buildup of the uterine lining (endometrium) to cancer-promoting levels. The following fatal flaws, however, make it impossible for them to take on most of progesterone's functions:

- (1) They *can't* be converted in the body into sex hormones and corticosteroids.
- (2) All progestins have powerful effects when taken orally because they're not readily metabolized (broken down) by the liver for excretion in bile and urine -- unlike progesterone. Not only do they persist in the body abnormally long, they occupy progesterone receptor sites in tissues, taking over for the true hormone but not capable of doing most of its jobs.

Many of progestins' adverse effects are believed to arise from just this interference with highly complex natural processes.

(Reminds me of trans-fatty acids that get into our system after we eat foods prepared with margarine and other artificially hydrogenated oils. Trans fats displace vitally needed w3 and w6 fatty acids in the cell membrane, but then can't fish or cut bait!)



**Question:** *Why are so many women beset after menopause with stiff, aching joints, and loss of springiness and muscular strength; while men generally retain not just male virility but physical power and vitality?*

Adrenal glands make progesterone for women and men both; but women depend on their ovaries for the main supply of progesterone, (also estrogen). When at menopause the ovary's output of both drastically drops (but doesn't cease), the adrenal glands try harder but don't make up the difference. In contrast, older men maintain their usual progesterone levels, which in the U.S. tend to be much higher than in menopausal women! \*\*\*

For women, progesterone loss means a big drop in *corticosteroids* which protect against stiffness, soreness, and weakness in joints and muscles. Men, on the other hand, continue to maintain their corticosteroid levels.

Low progesterone also may lead to *loss in bone density* and ready fractures from physical exertions, so that many women fear to exercise or engage in sports, which only reinforces the stiffness, weakness, etc..

**Question:** *Why do many pre- and postmenopausal women develop excess facial hair and male-pattern hair loss?*

When a woman has too little progesterone with which to make the other steroids, the process has to proceed via an 'emergency' rerouting. *This bypass relies more on androgenic (male type) hormones than the route where progesterone is the key precursor.* Dr. Lee writes: "When this happens, the androgenic steroids along this pathway will become more dominant..." The good news is that with a number of patients "replacement of natural progesterone leads, in time, to disappearance of the facial hairs and the restoration of scalp hair."

**Question:** *Can young women also experience low progesterone levels? What are the effects?*

"...a good proportion of women in the 30's (and some even earlier) and long before actual menopause, will, on occasion, not ovulate during their menstrual month. Without ovulation, no corpus luteum results and no progesterone is made," Dr. Lee writes. Stress, poor nutrition, smoking, and toxic chemicals in the environment probably contribute to anovulatory periods. As these women approach the decade before menopause, "they are producing much less progesterone than expected but still producing normal (or more) estrogen."

Estrogens without progesterone's balancing effects are *not* as benign as we're led to believe. As a matter of fact, he's convinced the discomforts young women are most familiar with arise from unopposed estrogen in the face of a relative progesterone deficiency.

For example, "they retain water and salt, breasts swell and become fibrocystic, they gain weight (especially around the hips and torso), become depressed and lose libido, their bones suffer mineral loss, and they develop fibroids."

Natural progesterone, he and other doctors find, gives young and premenopausal patients relief from any or all of these symptoms. It also tones down sweets cravings!

\*\*\*Yes, men have female hormones and women have male ones! It's the balance that counts. By the way, a woman continues to produce estrogen after menopause not just in her ovaries but in her fat cells, from the male hormone androstenedione.

**Question:** What can progesterone supplementation do for menopausal and postmenopausal women?

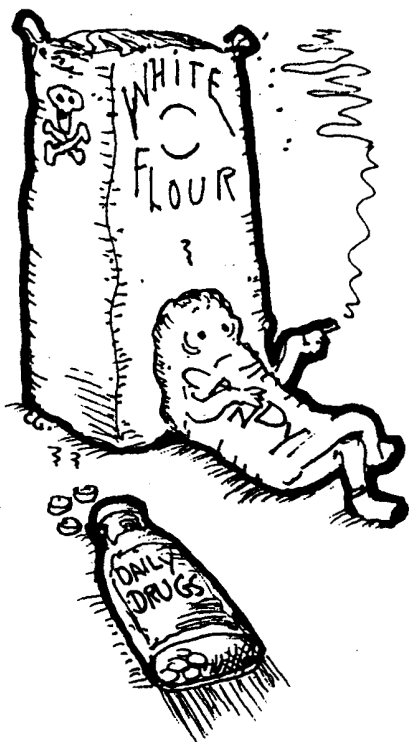
When ovarian progesterone and estrogen levels drop at menopause, the controllers in the brain try to 'goose' the ovaries into producing more again. The big rise in hypothalamic 'goosing' hormones is blamed for hot flushes, mood swings, disturbed sleep, etc. When estrogens are prescribed, blood levels go high enough to turn down the brain's goosers, and everything quiets down....sort of.

Dr. Lee proposes that a new syndrome be recognized: **estrogen dominance**. It happens in younger women as a result of anovulatory periods, as described, and in older women who are given estrogen but not progesterone. Estrogen's effects are almost opposite to progesterone's [see above]. In the absence of progesterone's tempering influence, estrogen dominance can lead to:

- increased body fat
- salt and fluid retention
- decreased libido
- impaired blood sugar control
- impaired thyroid activity
- depression and headache
- increased blood clotting
- increased risk of breast & uterine cancer

Progesterone supplementation blocks many of estrogen's potential side effects. Hot flushes, etc., are alleviated because not only does the rise in progesterone blood levels dampen the hypothalamus signals, but estrogen levels may increase as well.

Remember, estrogens are made from progesterone (via androstenedione and/or testosterone), but not vice versa! (Who said nature was simple!)



## The Big Question: What about osteoporosis?

Every older woman worries about becoming a little old lady, should her spinal vertebra start telescoping; or is concerned about developing fragile bones that break from minor falls and stresses. Estrogen counters one aspect of bone loss but Lee says most clinicians still don't realize nature gives progesterone an equal if not more important part in the process.

Osteoclasts [with a 'c'] are bone cells that resorb (dissolve away) older bone, leaving tiny unfilled spaces behind. Osteoblasts [with a 'b'] then "move into these spaces and produce new bone...At any stage in life, one's bone status is a product of the balance between...bone resorption and new bone formation," known as remodeling.

It's clear that estrogen replacement therapy does slow down bone resorption by the osteoclasts, but it doesn't build new bone. The least acted-upon information in the HRT world is that **natural progesterone stimulates new bone formation by osteoblasts**.

In the book's foreword, Lee describes his own unforgettable trials with osteoporotic patients. Estrogen plus calcium and vitamin D were not doing enough for their bone problems. Beginning about 1979, he began to treat these women with natural progesterone applied to the skin as a creme. He knew that all steroids were absorbed well transdermally.

Faced with menopausal osteoporotic patients unable to use estrogen by reason of prior breast or uterine cancer or other contraindications, it seemed entirely reasonable to me to offer them the option of using a progesterone skin cream moisturizer readily available over-the-counter.

Dr. Malcolm Powell had just recently opened a local facility offering relatively low cost dual photon absorptiometry (DPA), thus making accurate evaluation of bone mineral density a reality for those of us in clinical practice.

To my considerable surprise, serial lumbar DPA tests showed actual *increase*, rather than mere delayed loss, in these patients. With that as encouragement, I broadened the scope of progesterone therapy to include patients already on estrogen and found the same results. As if that were not enough, the patients reported...increased alertness and energy, relief of breast fibrocysts and related mastodynia, recovery from mild hypothyroidism, decreased need of aspirin or anti-inflammatory drugs, normal blood pressure in those previously with mild hypertension, and most unexpected of all, a return of normal libido. The icing on the cake was the fact of no hint of side effects." The years since have provided repeated, solid validations of the benefits from using natural progesterone creme, with or without natural estrogen, for his osteoporotic patients.



His book is perhaps the most enlightening treatise on *safe, practical* hormonal and nutritional means to treat (and prevent) osteoporosis that one could ever hope to stumble across, whether as a health worker or layperson. Medical shortsightedness about this enormous problem and the suffering it brings (osteoporosis causes over 1.3 million fractures a year in the U.S. at an estimated cost of over 10 billion dollars), guarantees that the experts who rely on estrogens are no closer to solving it than they were 20 years ago. Dr. Lee told me on the telephone, "I'm getting calls from angry M.D.'s all over the country. They're kicking themselves for having allowed the pharmaceutical gang to pull the wool over their eyes for so many years!"

The book sells in health food stores for about ten bucks. If you're not able to find it, send \$12 to **BLL Publications, PO Box 2068, Sebastopol, CA 95473**. Truly, people, it's a lifesaver. Also, Dr. Lee, a fine writer, makes the progesterone story clear and readable but provides the technical charts and references scientists appreciate.

He offers precise information on dosages and applications for a multitude of female needs and conditions. I found a creme supplying progesterone (from wild yams) in local health food stores, nonprescription but expensive (around \$30 for a month's supply). Less costly is progesterone in oil, drops of which are absorbed under the tongue. Dr. Lee tells me it helps patients who don't respond to the creme. (The book lists several firms that sell natural hormones only by prescription or to licensed health professionals, and some over-the-counter items to the public.)

## Forager Time Again, Folks!

The important question to ask ourselves is why would nature make the mistake of granting many decades of life to women after child-bearing is over, and yet cause our bodies and bones to become too decrepit, unlike men's, to make those years worthwhile?

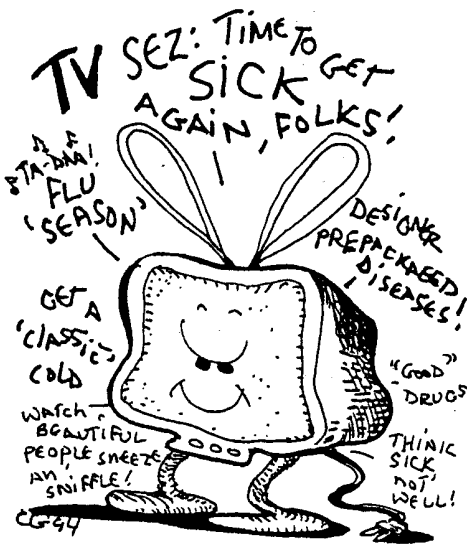
Dr. Lee's insightful answer: "Mother Nature did not make the mistake; we did. Just as with phytoestrogens, many (over 5000 known) plants make sterols that are progestogenic." The Mexican yam (*Dioscorea*), from which diosgenin is extracted and converted easily to progesterone, is one of many edible yams native to all tropical and subtropical areas. The rhizomes of some species grow up to six feet in length -- our foraging ancestors would've been tripping over them! They're still a cheap, nourishing staple all over the world.\*\*\*\* Like another great source of easily digested carbohydrates--cassava roots--yams are safe for gluten intolerant people, and are a rich supplier of thiocyanate whose manifold virtues are described in other FL issues.

In populations where foods are eaten every day that supply progestogenic substances and phyto-estrogens (plant estrogens), Lee writes, "not only do the women of these cultures have healthy ovaries with healthy follicles producing sufficient progesterone, but, at menopause, their diets provide sufficient progestogenic substances to keep their libido high, their bones strong, and their passage through menopause uneventful and symptom-free."

Nature didn't make a mistake, after all!



\*\*\*\*The common sweet yams sold in U.S. are a variety of sweet potato -- nourishing foods but not related to *Dioscorea* species and probably not, as far as I can tell, high in diosgenin.



Further, he states, traditional practices among many cultures provide relief "by the use of herbs, such as Dong Quai, Black Cohosh, and Fennel, which contain active estrogenic and progestogenic substances."

I treated myself to an extract of wild yam, and one of phyto-estrogens, at an herb shop in Berkeley. I also picked up ginseng and dried yam root from the fragrant offices of a doctor of Chinese medicine. "We have many uses for the *Dioscorea* species," he tells me.

In other words, we womenfolk have an obligation to educate ourselves (and our doctors) about time-honored, safe options, even if it means mucking about with herbal concoctions and hunting for the as yet few enlightened books on the subject, like these:

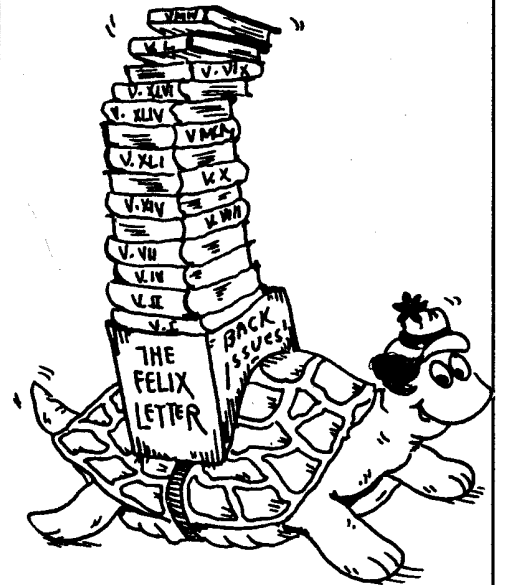
•A detailed guide to women's herbs is Susun S. Weed's *MENOPAUSAL YEARS, The Wise Woman Way. Alternative Approaches for Women 30-90*. 1992, Ash Tree Publishing, PO Box 64, Woodstock NY 12498.

•The subtitle of the 1993 book by Betty Kamen, Ph.D., *HORMONE REPLACEMENT THERAPY: YES or NO?* tells it all: "How to make an informed decision about estrogen, progesterone, & other strategies for dealing with PMS, menopause, and osteoporosis." (Nutrition Encounter, Inc., Box 5847, Novato CA 94948.) Dr. Kamen, a veteran researcher and medical writer, has a world of information at her fingertips, offering both medical and alternative approaches and backing them up with studies galore. Guess what one of her favorite remedies is. Uh-huh, natural progesterone creme! "When you intervene with estrogen," she writes, "you're adding a powerful hormone that has a direct effect on tissue all over your body. But progesterone is more of an intermediate building block, while leaving the natural control and regulation mechanisms in place. That explains why it's so much safer to use natural progesterone than estrogen."

Kamen dedicates her book "to John R. Lee, M.D., whose rare vision has made optimal health a reality for many women, regardless of age."

•Another valuable reference, Ann Louise Gittleman's *SUPER NUTRITION FOR MENOPAUSE* (Pocket Books, 1993, Simon & Schuster, NY), tells how a program of nutrients and exercise, tailored especially for the woman at midlife, will take the kinks out of menopause. Gittleman, a clinical nutritionist and best-selling writer on nutrition as a healing force, deplores the "medicalization of this natural midlife process." She explains fully the physiological changes at menopause, illuminates the hormonal dilemmas, and lays out well researched alternatives to synthetic HRT, such as herbal remedies, homeopathy, and, yes, natural progesterone creme!

Her book confirms what I feel about my own life, well past midpoint. Lucky to live where I'm shielded from war and famine, the energies I used to use for staying pretty I can divert towards getting wiser! By virtue of social security and good habits of health that include giving the 'medicalization' model a wide berth, I can ease into the role of 'tribal elder,' sopping up and dispensing wisdom, working for love not money! □



Illustrations by Clay Geerdes and other artists as noted.

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