

Progesterone - Absorption And Safety

By Lita Lee, Ph.D.

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This article is in response to many questions I have received on which form of progesterone is best assimilated and its side effects. People are confused because the literature contains so many contradictions. This report is based upon the pioneering research of Dr. Ray Peat whose study of progesterone began while he attended graduate school. References are given where pertinent. This emphasizes the need for having enough progesterone to balance the otherwise toxic effects of estrogen. The healthy ratio should be ten to one progesterone to estrogen. The lower this ratio, the more symptoms.

Here is a list of some of the progesterone myths regarding how progesterone is absorbed and its safety. Their source? Drug company-sponsored articles, the FDA and misinterpreted research.

The Absorption of Progesterone

Myth Number 1: Progesterone cannot be taken orally because it is destroyed by stomach acids.
Wrong! By 1942, Hans Selye showed that *natural* steroids, such as progesterone retain their activity when taken orally. However, the drug companies, who cannot patent natural substances, had a vested interest in promoting the idea that natural substances aren't as good as patent drugs. Peat says, "*The doctrine that natural steroids are destroyed by stomach acid appeared, was promoted, and was accepted.*" In fact, says Peat, in the manufacture of progesterone, the precursor steroid is boiled in *hydrochloric acid* to separate it from its glucose residue. Thus, no matter how much acid is in the stomach, it won't destroy progesterone.

"Because of its profound biological compatibility, the progesterone-vitamin E solution permits otherwise impossibly high doses to be given, increasing by as much as 2,000% progesterone's already dramatic effects in a wide range of major biological problems, including epilepsy, habitual miscarriages, auto-immune diseases, and cancer of the uterus, breast, and kidney."

Ray Peat, Townsend
Newsletter for Doctors,
November 1992

Myth Number 2: Progesterone is absorbed better transdermally, than orally.

Wrong! Peat says that progesterone is best absorbed orally, next vaginally and third transdermally (anywhere on the skin). When I asked for a reference he told me a story. "*A doctor I know did not believe the oral absorption route so he decided to do an experiment. He took 1/4-teaspoon of*

progesterone in natural vitamin E oil and then took periodic blood samples. He found that the progesterone rose immediately, and peaked at about 1-1/2 hours at about 20 ng/dl, which corresponds to the high luteal phase level. Thereafter, it tapered off.” Compared to oral absorption, which is nearly 100%, transdermal absorption is about 10-20%.

Myth Number 3: It doesn't matter whether you eat progesterone, rub it on, take suppositories or inject it. It all gets absorbed.

Not so! According to Peat, the important issue in absorption is solubility. Progesterone is very insoluble in water so forget powdered progesterone. What happens? The powdered form cycles through the liver, is made water soluble, goes back through the blood and out the kidneys. Undissolved progesterone is a waste. This is a major reason why many women do not get the relief that they need. It is also why doctors using high doses of partially dissolved progesterone have not reported the high dose side effect of progesterone, namely anesthesia. Below are some more technical details for left brainers.

Progesterone is much more soluble in oil than water but few oils will dissolve enough progesterone to be effective. Peat did solubility studies and discovered that *natural* vitamin E oil dissolved 10% progesterone to form a *stable* amber-colored solution. He was granted a composition patent on his formula. By stable solution I mean that progesterone will not crystallize out of the solution in time. Indeed, if you watch this solution you will find that it remains crystal clear indefinitely with no cloudiness. This is important because *only dissolved progesterone is absorbed and utilized by the body*. Peat says that, dissolved in natural vitamin E, progesterone enters the bloodstream almost immediately upon contact with any membrane, such as the lips, tongue, gums or palate. If swallowed, it is absorbed during the digestive process. If eaten along with food, its absorption occurs at the same rate as the digestion and absorption of food.

Because of this absorption route through the natural digestive process, it is almost 100% absorbed and is distributed to all tissues. How? Progesterone truly dissolved in natural vitamin E travels on chylomicron droplets, which are *not* lost via the liver and kidneys. Instead, chylomicrons “*pass through the liver many times before they are destroyed,*” then enter the blood via this protected chylomicron route. Chylomicrons hold progesterone until they come into contact with a red blood cell or a protein molecule, especially albumin. Progesterone is then released and enters the red blood cell or blood protein. Red blood cells carry about two times more progesterone than the serum. Laboratories who discard both the red blood cells and the chylomicrons miss the majority of the progesterone in the blood. This explains the absorption controversy.

Let's look at some of these other formulations:

Progesterone in synthetic vitamin E (dl- tocopherol acetate): Synthetic vitamin E is only 50% as efficiently absorbed as the natural form (Machlin and Gabriel). Progesterone is much less soluble in synthetic vitamin E than in the natural form (1% maximum). Synthetic vitamin E is a pale, straw yellow color in contrast to the amber color of natural vitamin E. Upon standing, a solution of progesterone in synthetic vitamin E will become increasingly cloudy as the progesterone crystals precipitate out and fall to the bottom of the container. Unfortunately, most people do not know this because most progesterone formulas are packaged in opaque plastic containers. My advice is, don't just read the label. Look at what's inside the bottle.

Progesterone suspended in corn oil: This is available in capsule form. It, contains only a fraction of 1% available progesterone, hardly enough to cause an effect, and because it is sold as opaque capsules, no one can see what they are getting. Corn oil and other commercial unsaturated fatty acids have been shown to increase carcinogenesis, especially of the kidney, breast, and uterus. International research standards have

subsequently invalidated research using unsaturated fats as the solvent, yet the FDA has approved of progesterone suspended in corn oil.

Micronized powder form, orally ingested: Says Peat, in the powder form, “*instead of bypassing the liver, much of the progesterone is picked up in the portal circulation, where a major part of it is glucuronidated and made water soluble for prompt excretion.*” This is true for any form of progesterone that is not dissolved, whether it is powdered, micro pulverized or suspended in an oil.

Injectable progesterone (suspended in vegetable oil with 10% benzyl alcohol): The FDA has approved this form of progesterone with benzyl alcohol added as a bacteriostat. Even at 1%, benzyl alcohol is a dangerous neurotoxin and allergen. The common strength is 0.9%. Because vegetable oil is a very poor solvent for progesterone, it needs a high concentration of about 10% benzyl alcohol to stay in solution on the shelf. According to Peat, “*when such a solution is injected, the toxic alcohol diffuses away into the body fluids, leaving the (cancer promoting) vegetable oil with progesterone, and the progesterone crystallizes out of solution.*” Peat continues, “*Benzyl alcohol is a powerful neurotoxin, but its harm is reduced by progesterone’s anti-toxic action.*” Even so, “*therapeutic blood levels of progesterone can be achieved by injections, but at the cost of leaving toxic debris at the site of injection*” (Peat, 1992). Oh, yes, the FDA has approved this form of progesterone.

Progesterone suppositories and creams: Less than 1% is absorbed from some types of suppositories, because of crystallization of progesterone. These tiny crystals are not always visible to the naked eye but can be seen by observing a thin film of the formula under a microscope.

The Safety of Natural Progesterone

Not only is progesterone the major female hormone, it is the hormone that *prevents* spontaneous abortion, which occurs when the mother is estrogen dominant as a result of not enough progesterone. Synthetic progesterones (progestins) have some progesterone activity but many toxic side effects, including the inhibition of the body’s formation of progesterone, birth defects *and the symptoms of excess estrogen*. Natural progesterone has *none* of the toxic side effects of the synthetic progestins, yet the FDA does not distinguish between the synthetic and the natural forms.

Some of the side effects of the progestin class of progesterone-mimics are: breast tenderness or flow from the nipples, rashes, itching, fluid retention, acne, loss of pigmentation, increased facial hair, blockage of blood vessels due to increased clotting, break-through bleeding, spotting, changes or cessation of menstrual flow, jaundice, depression, pre-cancerous changes in the cervix, high blood pressure, PMS, change in sexual desire and in appetite, cystitis, headache, nervousness, dizziness, fatigue, backache, loss of scalp hair, weight change, thrombophlebitis, and pulmonary embolism (Cawood). *NOTE: ALL of these are the effects of excess estrogen and/or low progesterone.*

Natural progesterone toxicity has been tested in animals who are generally more sensitive to progesterone than humans and no toxic level has been found. In fact, the only side effect of high doses is anesthesia (pain reduction), a factor in progesterone’s anti-seizure and anti-tumor properties.

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Lita Lee, Ph.D.

<http://www.litalee.com>

Lita@litalee.com

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References

- Cawood, Gayle, J. M. Falles & F. W. Cawood, *Prescription Drug Encyclopedia*, FC&A Publishing, 103 Clover Green, Peachtree City, GA 30269.
- Machlin, L.J, & E. Gabriel, "Kinetics of Tissue Alpha-tocopherol Uptake and Depletion Following Administration of High Levels of Vitamin E," p. 48 in *Annals of the NY Academy of Science*, 393, B. Lubin & L. J. Machlin, ed., New York, 1982.
- Peat, Ray, Ph.D., *Nutrition for Women*, P.O. Box 5764, Eugene, OR 97405; Phone: (503) 345-9855.
- Peat, Ray, "*Progesterone in Orthomolecular Medicine*", 1978.
- Peat, Ray, "The Progesterone Deception," *Townsend Letter for Doctors*, Nov. 1987.
- Peat, Ray, "Blocking Tissue Destruction," *Townsend Letter for Doctors*, Nov. 1987.
- Peat, Ray, "Solving Some of the Problems of Aging", *Townsend Letter for Doctors*, Jan. 1991.
- Peat, Ray, "Progesterone Can Be Taken Orally," *Townsend Newsletter for Doctors*, November 1994.
- Peat, Ray, "Progesterone, Pregnenolone and DHEA," *Ray Peat's Newsletter*, Issue 121, Jan. 1995.