

## **Bioidentical Hormone Replacement Therapy for Women**

Bio-Identical Hormones are manufactured hormone products from soy or yam. They are changed in a laboratory so that the hormones produced are identical in shape and function to human hormones. As a result they cannot be patented, so Big Pharma does not really like them.

### **History—But, It's Not Boring!**

Hormones were first dosed to women beginning in 1942, when PRemarin was FDA approved for hot flashes. In 1966, the book "Feminine Forever" was written by Robert Wilson, and that set the stage for the next 30 years that estrogen was the exciting new hormone for women to take, especially after menopause, to keep a woman young and thriving. In 1975, studies showed that taking estrogen alone increased the risk of uterine cancer as it increased the uterine lining in post-menopausal women, so progesterone was added into the formula.

By 1992, Premarin/Provera (Prempro) was the #1 sold medication in the US. Although initial studies showed that HRT reduced cardiovascular disease (CVD) and increased breast cancer and blood clots, it wasn't until 1998 that the HERS study showed HRT did not indeed reduce CVD.

The big study however, to destroy the PRemarin/Provera drug industry was called the Women's Health Initiative (WHI). It began in 1992 and had two sections: the estrogen plus progestin section and the estrogen alone section.

It's important to note that progestin is not a natural progesterone, but a fake one that dead ends in the female body and does nothing beneficial but prevent uterine cancer. It was cheaper to make, had a longer shelf-life and has many names (it is still used in birth control pills): medoxyprogesterone, norethindrone, norgestimate, levonorgestrel, megestrol, etonogestrel, cyproterone acetate, and dydrogesterone.

The WHI proved several important medical conclusions. The estrogen/progestin section—women with a uterus--was halted prematurely as it increased the risk of breast cancer, heart disease and blood clots. It did not help with depression, sexual function, vitality or cognition. It doubled the risk of developing dementia.

The estrogen alone section—women without a uterus--also increased the risk of blood clots and strokes. IT reduced fractures and did not affect cognition or increase the risk of dementia. There was no increase risk in breast cancer.

A second important student, the PEPI Trial (Post-menopausal Estrogen/Progestin Interventions), in 1999, showed that oral conjugated estrogens were pro-inflammatory and worked better with progesterone instead of progestins. Other studies showing problems with PremPro type hormones caused the death knell of that industry, and Bioidentical Hormones came even more so to the forefront.

### **The Different Types of Bioidentical Hormones**

Bio-Identical hormones can be estrogens, progesterone, testosterone, DHEA. Pregnelolone is also made, but Dr. Morstein does not use it. All of these are made by either soy or yams.

## **Estrogens**

BHRT uses two types of estrogen: Estradiol, which is a stronger type of estrogen, and estriol, which is the weakest estrogen. When BHRT first developed 30 years ago, estrone was also used in a "Triest" formulation; since then physicians have learned that estrone is the main hormone associated with increasing the risk of breast cancer so physicians removed it from use. Estradiol and Estriol can be given individually, but when together are called "Biest". It is more typical to combine the two than use one or the other (except vaginally).

BHRT estrogens cannot be used in any women having her periods, in the menstrual and perimenopausal woman. The only estrogens a woman can have then are birth control pills that shutdown the female cycle and take it over to reduce fertility. Adding actual BHRT estrogens to the estrogen producing cycle of women is a bad idea, and simply not done by any educated expert on BHRT therapy.

BHRT estrogens are used in the post-menopausal patient to help control the negative changes that can occur in women during that term of life. The average age of menopause is 52 years old. 6000 US women reach menopause daily, and by 2020, 46 million women will be older than 55 years old. Up to 75% of women can have hot flashes, although 55% of women do nothing for them. On the other hand, in 2010, more than 38 million prescriptions for post-menopausal hormonal therapy were filled by women.

Menopause problems can consist of:

1. Hot flashes
2. Night Sweats
3. Voice changes
4. Migraines
5. Vaginal atrophy causing painful intercourse
6. Bone loss
7. Weight gain, especially around the abdomen
8. Increased aging of the skin.
9. Mood changes
10. Facial hair growth

## **Progesterone**

There is only one type of progesterone for BHRT. Progesterone, unlike estrogens, can be dosed when needed in the menstrual, premenopausal and menopausal woman.

Progesterone is made from the corpus luteum, the area left from where the ovarian egg was ejected. Its main role is to extend the period another 10-14 days so that it lasts the full 28 days, before the cycle begins again.

In the menstrual years, progesterone can be needed when the woman has estrogen dominance, including longer, heavier bleeding with many PMS symptoms, and/or periods coming too frequently, such as every 21-25 days, clearly showing a lack of progesterone in the system.

In the perimenopausal woman, there still may be heavier, frequent bleeding. However, as the woman enters her 40s, she may not secrete an ovarian eggs each cycle, thus, progesterone is not really well produced, and bleeding can be so severe, it can become dysfunctional uterine bleeding. Progesterone can be used to help control even significant menstrual bleeding in these women.

Post-menopausally, progesterone is added to estrogens to prevent uterine cancer if the woman has a uterus. If she has had a hysterectomy, expert BHRT practitioners will still give progesterone as it has benefits elsewhere in the body/mind as well. Progesterone is the main hormone after menopause that can help a woman sleep better, which is why it is often taken at bedtime. Progesterone helps nerve cells heal and regenerate. It has an anti-anxiety effect in the brain.

### **Testosterone**

Although testosterone is the main male hormone, a little bit of testosterone can help women in several ways. It can increase their libido, help build muscles, and help with bone mass development and preservation. Used in very small doses, it can be an additional hormone to consider. Too much testosterone will cause facial hair growth or, if it is way too high, may even lead to insulin resistance.

Testosterone can be given to a menstruating, perimenopausal or post-menopausal woman.

### **DHEA (Dihydroepiandrosterone)**

DHEA is used very similarly to testosterone although it has lesser effect than testosterone; it can be converted to both estrogen and testosterone in the body. DHEA is mainly used when it is found to be low in lab work, or if a patient has an auto-immune disease, particularly collagen vascular type, where it may be of benefit reducing inflammation.

### **Different Types of BHRT Usage**

BHRT can be used in several different ways:

1. Orally
2. Creams
3. Gels
4. Suppositories
5. Troches (lozenges)
6. Drops
7. Pellets inserted into tissue

Estrogens are safer to be used via a cream, as taking it orally can increase lipids and cholesterol levels. Used via a cream does not do that.

Progesterone orally is most helpful for sleep, but in many women, the cream will also equally help them sleep. There is a prescription form of progesterone call Oral Micronized Progesterone that insurances may cover.

Testosterone must be given in a cream (or in men it can be injected); it is not absorbed well orally. It is not worthwhile or necessary for women to inject testosterone and the low dosage makes it somewhat senseless to inject.

DHEA can be given in an oral capsule, or in a cream.

Vaginal suppositories are usually for estriol, which is used specifically to help regenerate the lining of the vagina, so sex is much easier. Mixed with a great lubricant, like Emerita brand, it is very easy for a couple to engage in intimacy easily and without pain when the woman is post-menopausal. If the woman doesn't wish to use suppositories, vaginal creams can also be used. These are very safe to use even if the woman has had breast cancer, as the estrogens stay local to the vaginal tissue.

Troches and drops can be used but troches are not too tasty (raspberry flavor is the best) and drops hold the least possible amount of hormones in them, and both are also oral types, which is not the ideal way to dose estrogens and is useless for testosterone.

Dr. Morstein is not a fan of BHRT as pellets. Through her 30 year experience with women she finds that that type of hormone usage does not spread the hormones out evenly during the supposed three month time span usually spent between pellet insertions. Dr. Morstein prefers a daily balanced use of hormones.

Some prescription hormones are bio-identical.

Here is a list of bio-identical Big Pharma estrogens:

1. Micronized estradiol: Estrace (pill and vaginal cream); Alora, Climara, Esclim, Estraderm, Vivelle (Patches); Estrogel (gel), Estrasorb (cream), Estring (Vaginal Ring).
2. Estradiol Acetate: Femring (vaginal ring)
3. Estradiol Hemihydrate: Vagifem (Vaginal tablets)

For progesterone, I mentioned that Oral Micronized Progesterone is a prescription: Prometrium (capsule); Prochieve (vaginal gel); Crinone vaginal gel. Physicians generally agree that estrogens are much more effective than progesterone in the vagina.

There are no combination products using bio-identical estrogens with bio-identical progesterone; they all use the horrid progestins.

### **Laboratory Analysis**

Labs for hormones can be drawn via the blood or through urine. Dr. Morstein is not a fan of salivary hormone analysis, except for cortisol and DHEA. She does not believe other hormones are accurately measured via saliva.

Hormones measured include:

1. Estradiol and estriol
2. Free and total testosterone

3. DHEA-S
4. Progesterone
5. FSH (follicular stimulating hormone): This can be measured as a diagnostic tool for menopause needs to be analyzed. It's not always clear if a woman is having very irregular periods or if she is entering menopause. This lab will tell us.
6. Sex Hormone Binding Globulin: This does not have to be drawn all the time, but it gives an idea of balance in terms of which hormones are bound by SHBG and cannot be used by the body and which are free, and able to be used.
7. Miscellaneous: Thyroid hormones, A1C/Glucose to see if there is any insulin resistance, CMP (check liver and kidney functioning), Vitamin D3, and other based on each individual woman's needs.

One thing in particular needs to be explained—drawing estrogens and progesterone, and likely testosterone, in a post-menopausal woman will oftentimes show she is low in those hormones. That is not pathology or some terrible thing! That is menopause! It's the most natural thing in the world to be low in those hormones, because that is what menopause is; low in female hormones so her cycling and fertility ceases. We do not diagnose low hormones "by chance" in a post-menopausal woman; we find the low hormones that are natural to the state of menopause.

Second, there are no established labs for post-menopausal women who are being dosed BHRT. So, drawing labs after being dosed hormones is mainly designed to ensure they are not dosed too high. There are some "anti-aging" advocates who wish post-menopausal women to have female hormone numbers in the range of young women menstruating monthly. Dr. Morstein does not agree with that philosophy. Dr. Morstein believes that a woman should be on the least amount of hormones that is doing the greatest amount of good for her, regardless of where her labs are, as long as they are not significantly elevated above menopausal normals.

### **Typical Dosing**

The benefit of using BHRT is that dosing can be based on strength and percentages. BHRT is typically made up of estriol and estradiol; the standard dose is 80/20 at 2.5 mg/gram—what does that mean?

The 80/20 means that 80% of the prescription is estriol, the weakest estrogen, and 20% is estradiol, a stronger estrogen. A physician can make any type of percentage needed for patient care: if changed to 50/50, then there is a stronger estrogen effect, as more estradiol will be present; 90/10 would mean there is a less estrogen effect, as more estriol is used in the prescription. Any percentage can be made up by a compounding pharmacy.

The dose of 2.5 mg/gram (for creams—it will just say 2.5 mg for capsules) equals .625 mg of Premarin, the horse urine, animal cruelty based prescription medication that was that standard in medicine for decades. In general, the dose should not be higher than 2.5, and certainly not higher than 5.0 mg/gm, which was 1.25 mg of Premarin, the highest dose used of that type of estrogen.

The dose can be any dose, 2.5 mg/gm, 1.25 mg/mg, 1.75 mg/gm—anything that best fits what the patient needs for hormone effectiveness.

There are some "anti-aging" physicians dosing enormous levels of hormones to women; up to 10-12 mg/gm of estrogen. This is unnecessary, unhealthy, and I believe potentially dangerous. As with any prescription medication, the least amount doing the greatest good is best. It is good for you to know what level you are being dosed your prescription estrogen.

### **Estrogens**

These can only be dosed post-menopausally.

Systemic BHRT therapy

80 (estriol)/20 (estradiol) at 1.25 or 2.5 mg/gram is a common starting dose.

Vaginal atrophy therapy:

Either cream or suppository: 0.5-2 mg/gram inserted nightly for 10 days and then twice a week.

### **Progesterone**

Premenopausal:

Progesterone can be dosed premenopausal, or post-menopausal with or without estrogens. If dosed premenopausally to help with problematic periods, progesterone may be dosed from the end of bleeding to the beginning of the next period (that is, stopped during menstruation), or may be dosed only the second half of the cycle from ovulation to menstruation. Your physician can best help guide you in that type of dosing.

Oral progesterone comes in a capsule usually dosed 100-200 mg. To balance estrogen dosing if you have a uterus, you need 200 mg a day. If you are not taking it with estrogen the dose can be lower.

For creams progesterone can be dosed from 20-400 mg/gram.

### **Testosterone**

This can be dosed pre or post-menopausally.

This is used only as a cream, or pellet. Dr. Morstein does not believe women should inject testosterone. In women, testosterone dosing should be between 0.5-2.0 mg/gram. If given at too high a dose, chin or mustache hairs may develop.

### **DHEA**

This can be dosed pre or post-menopausally.

In women, DHEA should be dosed 5-15 mg a day. It should be given at least 2-3 times a day as it does not last in the blood very long. DHEA may be dosed at higher doses for auto-immunity conditions, up to 200 mg a day. The first signs of excessive intake is the development of sore breasts, which go away when the dose is decreased.

## **Summary**

Bio-Identical hormonal therapy is a complicated and beneficial aid for many women suffering from significant hormonal imbalances. Dr. Morstein is an expert in this type of medicine for women with problematic periods, peri-menopausally and post-menopausally. Her use of BHRT is safe, effective, and logical. Call Dr. Morstein if you are interested in investigating the use of BHRT.