

Female Hormone Replacement Therapy Basics

Welcome to McKinney Family Medicine. My name is Dr. Brian Procter, and I am the owner/director of this facility. By now you have expressed an interest in Female Hormone Replacement Therapy (HRT) and Bioidentical Hormone Replacement Therapy. My staff and I have treated thousands of patients with HRT over my twenty year career as a physician. The purpose of this document is to inform and educate you about the basics, benefits, and risks of Female HRT in layman's terms. I must stress that we DO optimize hormone levels. We DO NOT overdose patients with hormones or prescribe illegal anabolic steroids. Should you decide to start your HRT journey with us, you will sign a document that states that you have read, understand, and have had the opportunity to discuss and ask questions about the material in this document. It is imperative to us that we treat you in a safe, healthy, and effective manner that minimizes risks and adverse side effects. I strongly encourage all patients to research HRT on their own before deciding to begin therapy.

Menopause is a stage in life that most women experience around age 50. Menopause is characterized by decreased production of Estrogen, Progesterone (P), and Testosterone (T) by the ovaries, and it is not reversible. Lack of estrogen causes irritability, insomnia, hot flashes, as well as vaginal dryness and discomfort. Women need testosterone just as much as men do, just lower amounts. Testosterone affects every organ in the human body, and, without it, we tend to age at a much faster rate. Symptoms of low T include: decreased energy, decreased sex drive, decreased height, decreased strength, increased irritability, increased moodiness, night sweats, insomnia, difficulty concentrating, memory loss, decreased mental acuity, excessive daytime sleepiness, and difficulty functioning at work. Simply put, women with low testosterone have a hard time functioning mentally, emotionally and physically. This causes them to struggle in everyday life. Low testosterone in women is also a major risk factor for heart attack, stroke, cancer, and dementia. Therefore, optimizing testosterone helps slow the aging process and protects against heart attacks, stroke, cancer, osteoporosis, and dementia. It also increases lean muscle mass, burns fat stores, improves muscle tone, and enhances exercise.

The optimum range of total testosterone in women is 100-200. The average testosterone level of an untreated adult female is around 20, and many women have testosterone levels closer to 0. Testosterone can convert into Dihydrotestosterone (DHT). DHT causes side effects such as fluid retention, weight gain (up to 10lbs), acne, increased amount of body hair, and potential loss of scalp hair. We can decrease conversion to DHT by taking a daily medicine called Spironolactone, which is a potassium sparing diuretic. This helps prevent unwanted side effects. We are able to optimize T levels in premenopausal, perimenopausal, and postmenopausal women.

The major healthy estrogen in women is estradiol (E2). E2 levels fall to less than 30 in women who have symptomatic menopause. E2 is controlled in the body by a hormone released by the brain called FSH. E2 and FSH are inversely proportional. A healthy FSH level in a premenopausal woman is around 5 or less and it starts to rise at the start of menopause and stops at a level as high as 150. Because E2 levels can fluctuate greatly over the course of minutes/hours and FSH levels are relatively stable, healthcare providers use FSH to accurately assess the status of overall health of E2. The goal of HRT is to restore E2 levels to around 100 and reduce FSH levels to around 23 or less in postmenopausal women. E2 helps prevent hot flashes, improves vaginal dryness, and improves mood. Premenopausal women do not need E2 replacement with the exception that a small amount of E2 may help migraine sufferers and those experiencing Premenstrual Dysphoric Disorder (PMDD). E2 is contraindicated in women with a history of seizures, therefore, please inform your healthcare provider if you have a history of epilepsy.

Progesterone (P) must be used in women with a uterus who are receiving a substantial amount of E2 to prevent endometrial (uterine) cancer. There are several forms of P including medroxyprogesterone which has terrible risks and Micronized Progesterone which has very good benefits including heart attack plus stroke risk reduction and no risks (so we use this one). Micronized Progesterone (MP) does have one notable side effect, and that is fatigue. So when we prescribe MP for women, we use a pill form taken at bedtime that enables women to sleep better and feel more rested the next day. MP may also be used in women without a uterus to reduce insomnia and feel more balanced. MP has a generic commercially available pill form or it can be prescribed to a compounding pharmacy which can formulate a bioidentical pill.

The main goal in female HRT is to bypass the liver which can convert E2 and T taken orally into a lot of other hormones that are very unhealthy and can increase our risk of developing a heart attack, stroke, or cancer. When we swallow pills, they get absorbed and go to our liver. So we do not typically use E2 or T pills. Instead, we use forms of T and E2 that bypass the liver such as putting it on or under the skin so that it goes into our systemic circulation and bypasses the liver (or hepatic) circulation. Hormone patients also take an over-the-counter supplement called DIM (Diindolylmethane) to help modulate E2 levels and increase levels of free active T. Also, when T levels fluctuate rapidly during initial treatment, irritability is a common side effect. But when T levels are at an optimal level and relatively stable, patients are usually quite calm. Patients also take

Evening Primrose Oil (EPO) which promotes healthy E2 levels and reduces breast tenderness that may occur with initial treatment.

Low T/E2 is only successfully treated using methods that replace testosterone or estrogen. Over-the-counter T/E2 boosters are expensive, have unwanted side effects, and do not work! Sometimes, rigorous exercise may increase levels by a few points, but rarely does this result in optimum T levels. Therefore, there are two ways to optimize T/E2 levels: Topicals (gels, creams, and patches) and Subcutaneous Pellet Implantation (pellets or BioTE). Each is characterized as follows:

--Topicals:

- Pros: Painless, no down time, INS may cover, can be bioidentical, a rapid dissolvable tablet form is available as well
- Cons: Expensive, do not produce steady T/E2 levels in target zone, cause more irritability due to rapidly fluctuating levels, too many variables trying to get consistent penetration through the skin or mucus membranes, must apply daily at home, difficult to apply correctly, must be made by compounding pharmacy to provide best results, may rub off on others, may have a distinct smell
- Cost: Approximately \$250 every 4 weeks, or \$50/week cash (if compounded)

--Pellets/BioTE:

- Pros: Best and most cost-effective method, produces almost constant levels in the target zone, extensive amount of preventative data, auto-regulates, surgically inserted every 3-6 months in the office, natural and bioidentical (made from soy but soy free)
- Cons: Cash only (INS does not cover, painful to insert, 1 week of down time, may have complications such as extrusion (pellets ejecting themselves) or infection
- Cost: \$350 every 3-6 months, or \$15-\$30/week cash

Most women choose BioTE pellets due to the enormous benefits and advantages for the price. Once you decide on a method, we will start treatment, check labs in 4 weeks then have a follow up office visit 2 weeks later. After that, we will check labs and follow up at least twice yearly (one of those counts as a physical). Treatment will consist of prescribing gel or inserting the BioTE pellets (whichever you decide) combined with prescribing Spironolactone (if desired), recommending DIM and EPO, and recommending a healthy vitamin regimen to optimize Vitamin D and Vitamin B12 levels.

If you choose Topicals, your healthcare provider will prescribe them and discuss proper dosage and usage. Please read and follow all material that accompanies your prescription including pharmacist recommendations.

If you choose Pellets, we will insert them today or at another scheduled appointment. The insertion procedure takes only a few minutes, is performed at the top of either hip under local anesthesia through a small incision, and we will switch sides every time we insert. You will not have stitches, only a Steri-strip. The bandage stays on for 5-7 days. Please let us know if you are allergic to latex, anesthetic, or adhesive. Epinephrine that is used in the anesthetic may cause temporary palpitations, anxiety, and tremors that usually subsides within 30 minutes. Please ice the area for about 30 minutes that night to minimize swelling and post-op pain. Please do not do any physical activity that causes the pellets to bounce around to minimize extrusion risk for 1 week after insertion. This includes jogging, running, tennis, rigorous sexual activity, and basketball. Please do not get the incision area wet other than showering daily. You will be given a post-op sheet with these instructions as well.

Most patients begin feeling better in about a week. They usually notice an increase in cognition and energy first. It may take up to six months to notice an improvement in libido. HRT helps about 95% of patients, making it an extremely effective treatment. Most patients do not reach a maximum benefit for about 3-5 years although they usually realize 80-90% improvement in the first year. Because this is a journey and a process where individual results vary, we ask that you commit yourself to at least one year of treatment before you decide whether or not to continue. Most patients that discontinue treatment revert to the way they felt prior to treatment fairly quickly. However, patients may continue treatment forever if they wish.

In closing, we are very excited that you have chosen us to assist you in your HRT journey. Please do not hesitate to call us with any questions or difficulties that you may have. We sincerely hope that your HRT regimen will lead you to a much more productive and fulfilling life!

Sincerely and with Best Wishes,

Brian C. Procter MD & Staff