



Introduction

Estrogen and testosterone therapy by implantation of pellets is a safe and effective method of hormone therapy for both men and women. Long, continuous administration of hormones by pellets is convenient and economical for the patient. Pellet implantation has consistently proven more effective than oral, intramuscular, and topical hormone therapy with regard to bone density, sexual function, mood and cognitive function, urinary and vaginal complaints, breast health, lipid profiles, hormone ratios and metabolites.

What are Pellets?

Pellets are made up of either estradiol or testosterone. The hormones are pressed or fused into very small solid cylinders. These pellets are larger than a grain of rice and smaller than a 'Tic Tac'. In the United States, the majority of pellets are made by compounding pharmacists and delivered in sterile glass vials. There is an 'FDA approved' 75 mg testosterone pellet.

Data supports that hormone replacement therapy with pellet implants is the most effective and the most bio-identical method to deliver hormones in both men and women. Implants, placed under the skin, consistently release small, physiologic doses of hormones providing optimal therapy.

Why pellets?

Pellets deliver consistent, healthy levels of hormones for 3-4 months in women and 4-5 months in men. They avoid the fluctuations, or ups and downs, of hormone levels seen with every other method of delivery. Estrogen delivered by subcutaneous pellets, maintains the normal ratio of estradiol to estrone. This is important for optimal health and disease prevention. Pellets do not increase the risk of blood clots like conventional or synthetic hormone replacement therapy.

In studies, when compared to conventional hormone replacement therapy, pellets have been shown to be superior for relief of menopausal symptoms, maintenance of bone density, restoration of sleep patterns, and improvement in sex drive, libido, sexual response and performance.

Why haven't I heard about Pellets?

You may wonder why you haven't heard of pellets. Pellets are not patented and have not been marketed in the United States. They are frequently used in Europe and Australia where pharmaceutical companies produce pellets. Most of the research on pellets is out of Europe and Australia. Pellets were frequently used in the United States from about 1940 through the late 70's when oral patented estrogens were marketed to the public. In fact, some of the most exciting data on hormone implants in breast cancer patients is out of the United States. Today in United States, Blue Sky clinics specialize in the use of pellets for hormone therapy.

How and where are pellets inserted?

The insertion of pellets is a simple, relatively painless procedure done under local anesthesia. The pellets are usually inserted in the lower abdominal wall or upper buttocks through a small incision, which is then taped, closed.

Are there any side effects or complications from the insertion of the pellets?

Complications from the insertion of pellets include; minor bleeding or bruising, discoloration of the skin, infection, and the possible extrusion of the pellet. Other than slight bruising, or discoloration of the skin, these complications are very rare. Testosterone may cause a slight increase in facial hair in some women. Testosterone stimulates the bone marrow and increases the production of red blood cells.

Do men need hormone therapy?

Testosterone levels begin to decline in men beginning in their early 30's. Most men maintain adequate levels of testosterone into their mid 40's to mid 50's, some into their late 70's to early 80's. Men should be tested when they begin to show signs of testosterone deficiency. Even men in their 30's can be testosterone deficient and show signs of bone loss, fatigue, depression, erectile dysfunction, difficulty sleeping and mental decline. Most men need to be tested around 50 years of age. It is never too late to benefit from hormone therapy.

Do pellets have the same danger of breast cancer as other forms of hormone replacement therapy?

Pellets do not carry with them the same risk of breast cancer as high doses of oral estrogens that do not maintain the correct estrogen ratio or hormone metabolites. Nor, do they increase the risk of breast cancer like the synthetic, chemical progestins used in the Women's Health Initiative Trial.

Testosterone, delivered by pellet implantation, has been shown to decrease breast proliferation and lower the risk of breast cancer, even in patients on conventional hormone replacement therapy. Clinical studies show that bio-identical testosterone balances estrogen and is breast protective. This is not true of oral, synthetic methyl-testosterone found in Estratest®, which gets converted to a potent synthetic estrogen, which can stimulate breast tissue. In the past, testosterone implants have been used to treat patients with advanced breast cancer. In 1940, it was theorized that treating patients with testosterone implants earlier, at the time of diagnosis, would have an even greater benefit, preventing recurrence. Androgens have also been shown to enhance the effect of Tamoxifen® therapy in breast cancer patients.

Are there side effects to estrogen delivered by pellet implantation?

When a patient first starts on hormone therapy there may be mild, temporary breast tenderness, which resolves on its own. Hormone receptors may be very sensitive and take time to adjust. There may be a temporary water weight gain, which will also resolve on its own. Women may experience spotting or bleeding, which is typically due to inadequate progesterone coverage. However, if bleeding/spotting continues for more than a week, you should follow up with a medical provider to have this evaluated.

Will hormone therapy with estradiol and testosterone pellets help with hair loss?

Hormone deficiency is a common cause of hair loss and treatment with estradiol and testosterone implants can help to re-grow hair. Hair becomes thicker and less dry with pellet therapy.

How long until a patient feels better after pellets are inserted?

Some patients begin to 'feel better' within 24-48 hours while others may take a week or two to notice a difference. Diet and lifestyle, along with hormone balance are critical for optimal health. Stress is a major contributor to hormone imbalance and illness. Weight loss is often helpful to optimize the effectiveness of pellet therapy.

How long do pellets last?

The pellets usually last between 3 to 4 months in women and 4-5 months in men. The pellets do not need to be removed. They completely dissolve on their own.

Do patients need progesterone when they use the pellets?

Most times when estradiol is prescribed, progesterone is also prescribed even if the patient has had a hysterectomy. The main indication for the use of synthetic progestins, like Provera®, is to prevent the proliferation (stimulation) of the uterine lining caused by estrogen. However, there are progesterone (not progestin) receptors in the bone, brain, heart, bladder, breast and uterus where progesterone has been shown to have beneficial effects.

How are my hormones monitored?

Hormone levels will be drawn and evaluated before therapy is started. Levels will be reevaluated during hormone therapy 4 weeks after an initial insertion. Typically, every 3 to 4 months you will need to reinsert pellets.

Is there a need for testosterone pellet implants in a pre-menopausal female?

Testosterone pellets may be used in pre-menopausal females (women who have not stopped menstruating). Testosterone has been shown to; relieve migraine or menstrual headaches, help with symptoms of PMS, relieve anxiety and depression, and improve sex drive and libido. If a pre-menopausal female has a testosterone pellet inserted, she must use birth control. There is a theoretical risk of 'masculinizing' a female fetus (giving male traits to a female fetus).

Cost

If you have insurance, we are happy to file for your office visit and the procedure (which will require a co-pay). The Bio-identical pellets are not covered by your insurance and you are responsible for the medication (pellets - \$200 for females and \$350 for males). Self pay options are available if you do not have insurance or have a high deductible.

Discounts for Hormone therapy:

You are able to take advantage of our Sister Company – **Dermablue (dermatology)** for any Laser Hair Removal Service if needed. We offer **25% off any individual treatment or package for Blue Sky MD Hormone Therapy Patients.**