Testosterone Therapy for Women:
Pre-menopause, Peri-menopause, and Beyond

Is Testosterone for Men Only?

The misguided assumption that *testosterone = male* has resulted in widespread dismissal of testosterone as an essential hormone in female physiology. Believe it or not, throughout life, ***healthy female bodies produce many times more testosterone than the "female hormone" estrogen, and nearly all female body tissues have androgen receptors for binding testosterone to elicit vital physiologic effects.*** Diminishment in testosterone activity typically precedes the menopause by at least a decade, during a phase known as ***peri-menopause*.**

We emphasize testosterone as a vital and timely supplement for many women to initiate in the peri-menopausal period, typically in the late 30's to 40's, to curb an array of symptoms leading up to menopause and beyond:

> *irritable mood, anxiety, depression, fatigue, brain fog, sexual dysfunction (libido, orgasm, vaginal dryness/pain), difficulty gaining muscle mass, abdominal weight gain, muscle and joint pains, bladder control problems, poor work performance, and general lack of well-being – sometimes described as not feeling like yourself.*

Benefits of Testosterone Therapy in Adult Females

Published data (and our clinical experience) have reveal testosterone supplementation offers significant potential to improve long term health and quality of life for women. Below is a partial list of what has been observed.

- ***Stronger bones – Reversal of osteoporosis***
- ***Improved lean body mass and muscle development with workouts***
- ***Anti-inflammatory effects: Reduced symptoms of autoimmune conditions (MS, Crohn's, lupus, RA)***
- ***Less pain from arthritis and fibromyalgia***
- ***Improvement of bladder control issues – urinary leaks and urgency/frequency***
- ***Restored sexual health – comfort, libido, orgasm***
- ***Improvement in mood, energy, and focus***
- ***Relief from PMS, anxiety, severe depression – when other treatments failed***

Additionally, testosterone therapy has the potential ***to relieve most menopausal symptoms,*** providing an alternative for those who prefer not to include estrogen in their menopausal hormone supplement regimen.

Clinical Research on Testosterone for Women

There is a large volume of medical literature demonstrating the benefits and safety of testosterone therapy for women. Researchers have reported testosterone to have a protective effect on the breast. A 15-year clinical trial, *The Dayton Study*, demonstrated a ***47% decrease in breast cancer incidence for patients treated with testosterone implants*** – due to the anti-proliferative effects of testosterone through activation of androgen receptors in breast tissue.

Clinical studies have described optimal dosage and monitoring strategies for women to maximize benefit of testosterone therapy. It is reported that as testosterone levels naturally decline in midlife, other androgen hormones decline even more, leading to a ***profound loss of androgen receptor activation*** in the body, meaning it takes more testosterone than the normal or "physiologic" amount to restore the body's needs. This may explain the observation that higher dosing, or ***pharmacologic dosing, of testosterone produces far superior satisfaction*** in symptom relief.

Another factor contributing to success of higher vs lower dose regimens is that androgen receptors may become weaker with age, perhaps partly due to competitive binding of ***hormone disruptor*** substances we have all been exposed to, such as found in plastics and pesticides – ***toxins that have been shown to tightly bind and block androgen receptors***.

How is Testosterone Therapy Dosed and Monitored?

An individual's starting dose is based on the overall clinical picture – symptoms, lab values, and body weight are considered. As for monitoring, there are important concepts to keep in mind:

- When steroid hormones in the blood are measured, it ***cannot provide an accurate measure of hormone action in the body***. For steroid hormones to act, they must go inside of cells (where they can't be measured), and bind with nuclear receptors to stimulate protein synthesis – which then leads to the ultimate effect. Thus, ***the hormone's effectiveness can best be measured by observing the response*** experienced by the person.
- Lab normal ranges were not designed for use in the context of hormone therapy. ***Females experiencing positive effects maintain testosterone levels at 2 to 10 times above "normal"as shown on a lab report – <u>not</u> cause for alarm.***
- We do find value in blood tests to determine an individual's levels, thresholds, and trends in light of their response to treatment, but there is no target range to which we must adhere.

To be clear, there is no cap below which testosterone must remain to be safe for a female. If you hear otherwise, the source is not fully educated or experienced in actually <u>providing</u> this particular therapy. Even physicians or notable authors/podcasters who seem quite certain are only expressing their opinions – mere assumptions on their part.

Indeed, there is no report in the scientific literature demonstrating true harm from any therapeutic dose or level of testosterone in females in the context of hormone replacement therapy. Even a high dose administered for gender transition, where testosterone levels reach upper range of a male, followed over 30 years, found ***no increase in health risk*** – including cancer, cardiovascular disease, metabolic disease, or any significant medical condition.

Our management is designed to achieve relief of symptoms and a feeling of vitality and well-being, with manageable or no side effects.

What are Potential Side Effects?

Women using testosterone implants describe extreme satisfaction, most with no significant adverse effects. Some report facial hair or transient acne, particularly if problematic in the past. There are numerous simple, effective ways to manage these, and most prefer to do so rather than stop receiving all the beneficial effects of their testosterone therapy.

Very uncommon is mild voice change – usually reversible with dose adjustment. A few find enhanced blood flow to erectile tissues of the vulva may seem like prominence of the clitoris, particularly noted upon initiation of therapy. This is typically viewed as a positive change, not reaching a pathologic extreme, and after a while not as noticeable.

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