

# TESTOSTERONE IS CRITICAL FOR WOMEN, ESPECIALLY POST-MENOPAUSE

When discussing hormone replacement for menopausal women, most practitioners focus on estrogen. However, testosterone plays a critical role in energy, muscle maintenance, mood stability, metabolism, and overall resilience. While estrogen and progesterone levels drop significantly after menopause, testosterone remains the primary anabolic hormone left—yet it is often overlooked in traditional hormone therapy.

## Why Testosterone Matters for Women in Menopause

- *Muscle Mass & Strength*

Testosterone helps prevent sarcopenia (muscle loss), which accelerates after menopause due to declining estrogen and aging-related changes. Without sufficient testosterone, maintaining lean muscle becomes increasingly difficult.

- *Fat Metabolism & Insulin Sensitivity*

Low testosterone contributes to visceral fat gain and insulin resistance, increasing the risk of metabolic disorders. Maintaining optimal testosterone levels can help regulate glucose metabolism and prevent unwanted weight gain.

- *Cognitive Function & Mood*

Brain fog, depression, and a lack of motivation are common menopausal symptoms—often attributed solely to estrogen loss. However, research suggests that testosterone deficiency is a key contributor to cognitive decline and mood instability in postmenopausal women.

- *Bone Density & Osteoporosis Prevention*

While estrogen slows bone loss, testosterone actively stimulates bone formation by increasing osteoblast (bone-building cell) activity. This makes it a powerful factor in preventing osteoporosis and fractures in aging women.

- *Libido & Sexual Health*

Testosterone is the primary driver of desire, arousal, and sexual well-being in women. Many women experience a sharp decline in libido post-menopause—not due to estrogen loss, but due to insufficient testosterone levels, which are rarely addressed in hormone therapy.

## How to Optimize Testosterone After Menopause

- ✓ Strength Training & Resistance Workouts – Naturally stimulates testosterone production.
- ✓ Adequate Protein & Healthy Fats – Supports hormone synthesis and muscle retention.
- ✓ Sunlight & Vitamin D – Critical for testosterone regulation.
- ✓ Managing Stress & Sleep – Lower cortisol levels help maintain testosterone balance.
- ✓ Hormone Therapy (if needed) – Some women benefit from low-dose testosterone replacement as part of a personalized hormone strategy.

## Where Do Women Get Testosterone After Menopause?

After menopause, women continue to produce testosterone, but the sources and levels shift significantly:

- *Ovaries* (10-25%) – Even after menopause, the ovaries continue producing some testosterone, though at lower levels.
- *Adrenal Glands* (25-50%) – The adrenal glands contribute significantly to testosterone production via DHEA, a precursor hormone that can convert into testosterone.
- *Peripheral Tissues* (25-50%) – Fat cells, muscle, and the liver can convert DHEA into testosterone, but efficiency varies by individual.

Total testosterone levels decline by 50% or more between a woman's 20s and postmenopause, making it essential to support testosterone production through lifestyle or hormone therapy if needed.

## Testosterone: The Overlooked Key to Postmenopausal Health

Women naturally have 10 times more testosterone than estrogen—even before menopause.

- ✓ Muscle mass, metabolism, insulin sensitivity, libido, and energy all rely on testosterone.
- ✓ Most women are never tested for testosterone deficiency, despite its critical role in long-term health.
- ✓ The medical system prioritizes estrogen replacement, often ignoring testosterone's greater importance after menopause.

## How a Hysterectomy Impacts Testosterone

A hysterectomy (removal of the uterus) can further impact hormone balance, especially if ovaries are removed (oophorectomy):

- Hysterectomy Without Ovary Removal – Testosterone levels may decline slightly due to reduced ovarian function, but adrenal glands still provide some support.

- Hysterectomy With Ovary Removal – Causes a dramatic drop in testosterone, leading to muscle loss, increased fat gain, mood swings, and low libido. Women who undergo surgical menopause due to ovary removal often experience rapid aging symptoms and should focus on testosterone-supportive strategies.

## How Thyroid Function Affects Testosterone

The thyroid plays a critical role in testosterone regulation:

- Low Thyroid Function (Hypothyroidism) → Low Testosterone
  - Hypothyroidism reduces testosterone production and receptor sensitivity, making it harder to benefit from existing levels.
  - Symptoms like fatigue, muscle loss, and brain fog may be linked to low testosterone due to poor thyroid function.
- High Thyroid Function (Hyperthyroidism) → Increased SHBG
  - Excess thyroid hormones increase sex hormone-binding globulin (SHBG), which binds to testosterone and makes it inactive.
  - Even with normal total testosterone levels, high SHBG lowers the free testosterone available for use.

## Thyroid Optimization for Better Testosterone Balance

- ✓ Check TSH, Free T3, Free T4, and Reverse T3 levels.
- ✓ Ensure adequate iodine, selenium, and zinc intake for thyroid function.
- ✓ Avoid chronic low-carb diets, which can suppress thyroid function over time.

## Why Estrogen Isn't the Primary Concern After Menopause

Before menopause, estrogen plays a dominant role in fertility, menstruation, and fat storage. However, postmenopause, testosterone becomes the primary anabolic hormone. While estrogen loss does contribute to some symptoms, many issues—like fat gain, fatigue, and cognitive decline—are more directly linked to testosterone deficiency.

## When Estrogen Still Has a Role

- ◆ Brain & Cardiovascular Health – Some research suggests low-dose estradiol may protect against cognitive decline and heart disease.
- ◆ Severe Vaginal Atrophy – For women experiencing severe vaginal dryness or pain, localized estrogen can help.
- ◆ Severe Osteoporosis – While testosterone supports bone-building, some women with high fracture risk may benefit from a combined approach with estrogen.

## **Do Women Really Need Estrogen for Bone Health Post-Menopause?**

Estrogen plays a role in bone turnover, but its primary function is preserving bone density during reproductive years, when a woman needs to sustain fetal development.

After fertility declines, the body's need for high estrogen naturally decreases. While lower estrogen levels can accelerate bone loss, that doesn't mean replacing estrogen is the best solution. Testosterone and strength training play a far greater role in bone maintenance.

### **If Women Need Estrogen for Bone, Why Don't Men?**

- ◆ Men have denser bones despite naturally low estrogen.
- ◆ Testosterone—not estrogen—drives bone formation by stimulating osteoblasts.
- ◆ Men convert small amounts of testosterone into estrogen, but they don't need high circulating estrogen for bone maintenance.

If estrogen were the primary driver of bone health, men with low estrogen would develop osteoporosis early—but they don't.

### **What Really Matters for Bone Health After Menopause?**

- ✓ Testosterone & IGF-1 – Stimulate osteoblasts (bone-building cells).
- ✓ Mechanical Loading (Strength Training) – Increases bone density, regardless of hormone levels.
- ✓ Protein Intake – Bones are 50% protein by volume; low protein accelerates bone loss.
- ✓ Vitamin D & K2 – Essential for calcium absorption and mineralization.
- ✓ Magnesium – Works with Vitamin D to direct calcium into bones instead of soft tissues.

### **Should Women Use Estrogen for Bone Health Post-Menopause?**

For severe osteoporosis, low-dose estrogen might slow bone loss, but it isn't a long-term solution. Instead, testosterone—or even DHEA—may be a more effective approach for supporting bone, muscle, and metabolism without excess estrogenic effects.

Bone loss isn't a disease—it's an adaptation to disuse. Exercise and proper nutrition do more for bone health than simply adding estrogen.

### **DHEA: A Smarter Approach for Postmenopausal Women**

DHEA (Dehydroepiandrosterone) is a precursor to testosterone and supports adrenal-driven hormone production, making it a natural alternative to synthetic testosterone therapy.

## Why DHEA Is Beneficial for Women Post-Menopause:

- ✓ Supports Testosterone Production – Converts into testosterone and estrogen as needed, allowing the body to regulate hormone balance.
- ✓ Boosts Bone Density – Unlike estrogen, which slows bone loss, DHEA stimulates new bone formation via testosterone.
- ✓ Preserves Muscle & Metabolism – Helps prevent age-related muscle loss (sarcopenia) and supports fat metabolism.
- ✓ Enhances Energy & Mood – Improves motivation, cognition, and overall well-being.
- ✓ Improves Libido & Sexual Function – Naturally raises testosterone levels, improving desire and arousal.

## DHEA VS. ESTROGEN FOR POSTMENOPAUSAL WOMEN

Feature	DHEA	Estrogen
Supports Bone Density	✓ Yes (via testosterone)	✓ Yes (slows bone loss)
Builds Muscle & Strength	✓ Yes	✗ No
Boosts Metabolism & Fat Loss	✓ Yes	✗ No (may increase fat storage)
Increases Energy & Mood	✓ Yes	⚠ Variable
Improves Libido & Sexual Health	✓ Yes (via testosterone)	✗ Minimal impact
Supports Cognitive Function	✓ Yes	✓ Somewhat
Increases Cancer Risk?	✗ No (in moderate doses)	⚠ Possible (high doses)

## How to Use DHEA for Testosterone Optimization

- ✓ Start Low (5-10 mg daily) – Women don't need high doses.
- ✓ Take in the Morning – Aligns with natural adrenal hormone rhythms.
- ✓ Monitor with Blood Tests – Check DHEA-S, free testosterone, and estradiol levels.
- ✓ Pair with Strength Training – Maximizes anabolic benefits.

## How to Obtain DHEA & Recommended Dosage

### Where to Get DHEA

1. Over-the-Counter Supplements – In the U.S., DHEA is available as a dietary supplement in most health stores and online.
2. Compounded Prescriptions – Some practitioners prescribe custom-compounded DHEA, often in lower doses than typical store-bought supplements.
3. Bioidentical Hormone Therapy (BHRT) – Some anti-aging or functional medicine clinics offer DHEA as part of a hormone therapy protocol.

## **Dosage Recommendations for Women**

✓ 5-10 mg/day – Mild support for adrenal function and slight testosterone increase. Good starting dose.

✓ 15-25 mg/day – Moderate increase in testosterone & DHEA-S levels. Often used for muscle maintenance, bone health, and metabolism.

✓ 50 mg/day – Significant increase in testosterone, approaching lower male levels. Only recommended if tested and monitored by a practitioner.

### **Bottom Line:**

Women likely don't need estrogen for long-term health after menopause—testosterone, strength training, and proper nutrition play a far greater role.