

# UNDERSTANDING HORMONE THERAPY

*For Men*



By Dr Carla Russo





# Male Bioidentical Hormone Replacement Therapy (BHRT) Information & Treatment Options

## What Is Male BHRT?

Bioidentical Hormone Replacement Therapy (BHRT) also known as body identical hormone therapy restores testosterone to physiologic, optimal levels using hormones identical in structure to those produced by your body.

The goal is to relieve symptoms of testosterone deficiency (also known as andropause) and improve overall wellness.

### **Benefits of Balanced Testosterone:**

- Improved energy, stamina, and motivation
- Enhanced focus, mood, and cognitive clarity
- Healthier muscle mass and metabolism
- Improved sexual function and libido
- Stronger bones and cardiovascular support

## Symptoms of Low Testosterone

You may be a candidate for testosterone optimization if you experience several of these symptoms:

- Low libido or erectile dysfunction
- Fatigue or decreased motivation
- Midsection weight gain
- Loss of muscle tone or strength
- Brain fog or poor concentration
- Irritability, anxiety, or depression
- Sleep disturbances
- Decreased endurance or stamina

# POSSIBLE SIDE EFFECTS AND OUR MANAGEMENT APPROACH

Potential Side Effect	Cause / Mechanism	Management Strategy
<b>Elevated red blood cells (erythrocytosis)</b>	Testosterone stimulates bone marrow to produce more RBCs	Monitor CBC regularly; adjust dose or frequency, therapeutic blood donation, hydration, omega-3s or low-dose aspirin
<b>Acne or oily skin</b>	Increased DHT (dihydrotestosterone) conversion	Adjust dose; use finasteride/dutasteride if needed
<b>Hair thinning</b>	DHT-related	Topical minoxidil; 5-alpha-reductase inhibitor; dose adjustment
<b>Mood swings or irritability</b>	Peaks from injections or excess hormone	Adjust dose or delivery method; review estradiol balance
<b>Breast tenderness / gynecomastia</b>	Increased aromatization to estradiol	Lower dose or add aromatase inhibitor (anastrozole or letrozole)
<b>Testicular shrinkage / reduced sperm count</b>	Suppression of LH/FSH	Add Clomiphene or Gonadorelin to maintain fertility
<b>Water retention / swelling</b>	Elevated estrogen or sodium retention	Adjust dosing; monitor kidney and liver function
<b>Sleep apnea exacerbation</b>	Testosterone may worsen untreated OSA	Screen and treat sleep apnea; CPAP if needed

## MONITORING & SAFETY

We focus on hormone balance—not excess.

Baseline labs: Testosterone, Estradiol, CBC, PSA, CMP, Lipid panel

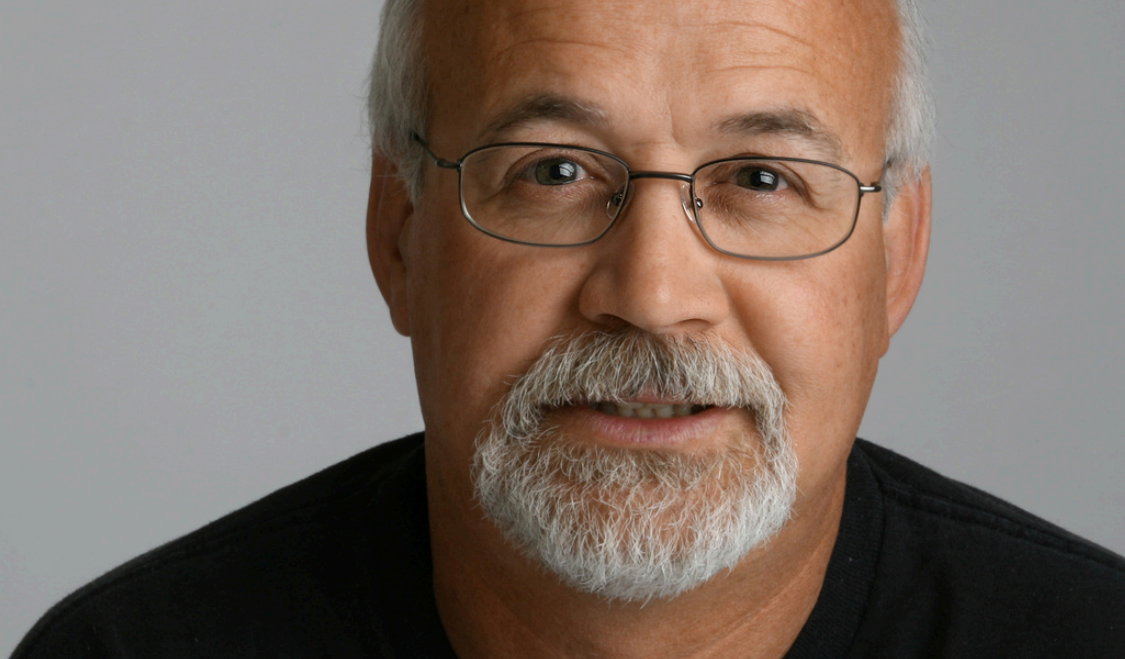
Follow-up: 8–12 weeks after starting, then every 3–6 months

Adjustments: Based on both labs and symptom response

Goal: Achieve optimal levels with minimal side effects

# TESTOSTERONE TREATMENT OPTIONS AND COST COMPARISON

Method	Description	Pros	Cons / Risks	Typical Dosing	Approx. Cost (No Insurance)
<b>Topical Creams / Gels (Compounded or Commercial)</b>	Absorbed through skin (applied daily to arm or thigh)	Easy, non-invasive	Variable absorption, risk of transference, less effective for men	50–200 mg daily	<b>\$60–90 / 90 days</b>
<b>FDA-Approved Injectables</b> ( <i>Cypionate, Enanthate, Xyosted, Aveed</i> )	Intramuscular (IM) injection	Predictable results, quick symptom improvement	Peaks and troughs, site soreness, higher erythrocytosis risk	100–200 mg weekly or 50–100 mg twice weekly	<b>\$85–132 / 10 weeks / possible insurance coverage</b>
<b>Compounded Injectable Testosterone (T ± DHEA or Anastrozole)</b>	Custom-blended formulations	Balanced estrogen control; fertility support possible	Compounding-only, usually self-pay	0.25–0.5 mL twice weekly	<b>\$65 / 10 weeks</b>
<b>Intranasal Testosterone (Natesto®)</b>	Nasal gel absorbed through mucosa	No needles; avoids skin transfer	Multiple daily doses; nasal irritation; short duration	11 mg per nostril every 8 hours	<b>≈ \$304 / month</b> ( <i>insurance often not covered</i> )
<b>Oral Testosterone (Jatenzo®)</b>	Oral capsule (first-pass liver metabolism)	Convenient oral option	Liver strain, increased SHBG, costly	237–396 mg twice daily	<b>\$478–946 / month</b> ( <i>dose-dependent; insurance often not covered</i> )
<b>Pellet Therapy (Bioidentical Testosterone Pellets)</b>	Small pellets inserted under the skin every 4–6 months	Longest duration; steady levels; no daily dosing	Minor in-office procedure; rare local irritation	Reinsert every 4–6 months	<b>\$650–750 per insertion</b> ( <b>~\$100–190 / month</b> )

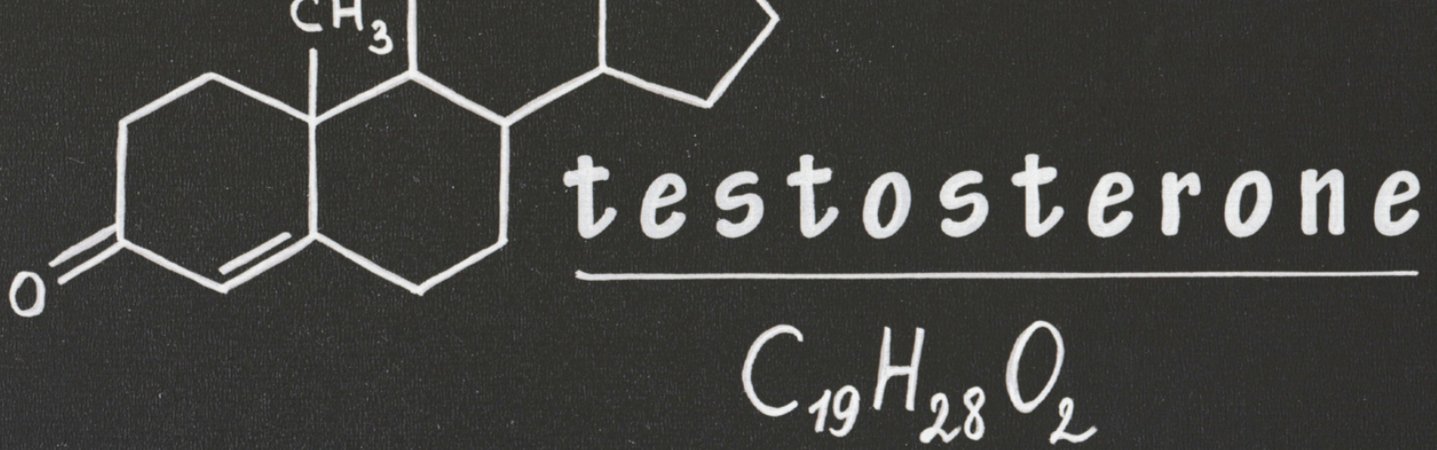


## **CLINICAL NOTE: BLOOD THICKENING (SECONDARY ERYTHROCYTOSIS) AND PELLETS**

One potential side effect of testosterone therapy is secondary erythrocytosis, an increase in red blood cells that can “thicken” the blood.

This is most common with injectable testosterone and much less frequent with pellets or transdermal therapies.

<b>Therapy Type</b>	<b>Erythrocytosis Risk</b>	<b>Why</b>
<b>Injectables</b>	<b>Higher (up to 40–60%)</b>	Weekly injections cause high testosterone peaks that overstimulate red blood cell production.
<b>Pellets (Bioidentical Testosterone)</b>	<b>Lower (~5–12%)</b>	Pellets release testosterone slowly and steadily, avoiding sharp peaks and excess stimulation.
<b>Topical / Transdermal</b>	<b>Lowest (&lt;2%)</b>	Gentle daily absorption produces stable, physiologic levels.



## WHY PELLETS ARE GENTLER:

- Maintain stable hormone levels—no sharp fluctuations.
- Less stimulation of bone marrow and erythropoietin.
- Fewer cardiovascular side effects compared to injectables (Donovitz et al., Ther Adv Endocrinol Metab, 2021).

## PREVENTION & MONITORING:

- Routine CBC every 3–6 months
- Stay hydrated and consider periodic blood donation
- Manage sleep apnea if present
- Dose or frequency adjusted if hematocrit >52%

## Note on Testicular Atrophy and Fertility

- About half of men ( $\approx 50\%$ ) who use testosterone therapy will notice some degree of testicular shrinkage (testicular atrophy) after several months of treatment.
- This occurs because external testosterone signals the brain to temporarily “turn off” natural testosterone and sperm production.
- In most cases, the change is mild and reversible once therapy is adjusted or discontinued.
- Approximately 10–20% of men may experience more significant testicular shrinkage during treatment, especially with higher-dose injectable or pellet therapies if not supported by fertility-preserving medication.
- Fertility may temporarily decline while on treatment, since sperm production depends on the same hormonal pathway.
- If fertility or testicular size preservation is important, we can prescribe supportive medications such as Clomiphene, Enclomiphene, or Gonadorelin, which help maintain natural testosterone and sperm production during therapy.



## ADJUNCTIVE / SUPPORTIVE THERAPIES

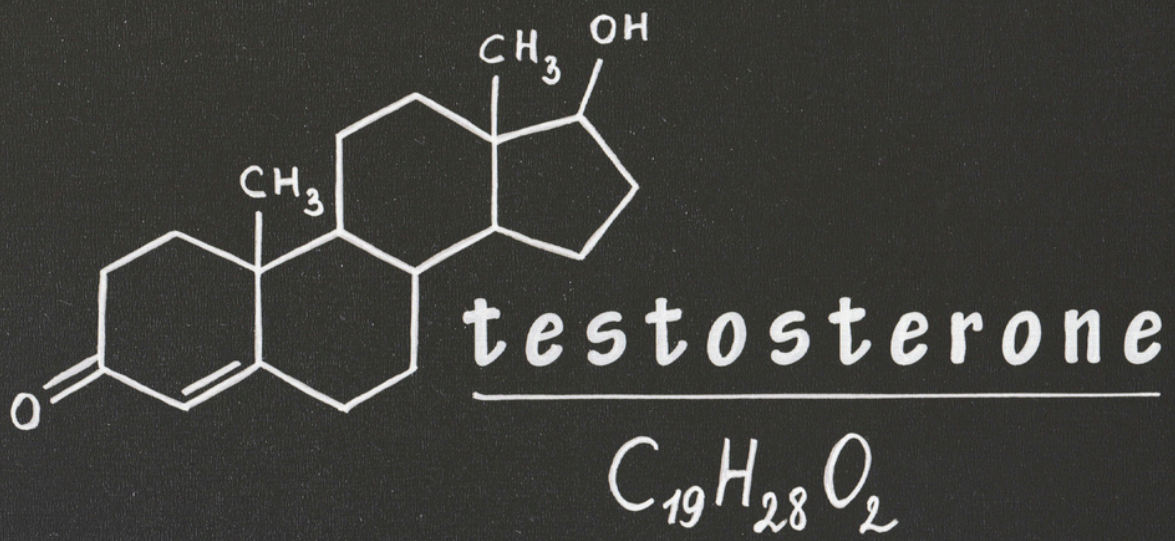
Therapy	Purpose	Typical Dosing / Notes
<b>Clomiphene Citrate</b>	Maintains natural LH/FSH for fertility and testicular size	25–50 mg orally, 5 days/week
<b>Gonadorelin (GnRH analogue)</b>	Stimulates endogenous testosterone and sperm production	100 mcg SQ twice weekly or 200 mcg RDT TIW
<b>Aromatase Inhibitors (Anastrozole / Letrozole)</b>	Reduces conversion of testosterone to estrogen	Anastrozole 0.25–0.5 mg 2–3×/week or Letrozole 1.25 mg every 2 weeks

### Important Note

This document is a summary of the information discussed with Dr. Russo regarding male bioidentical hormone replacement therapy (BHRT).

It is intended for patient education and review but is not a substitute for direct physician–patient discussion or shared decision-making. Every treatment plan is individualized based on your health history, lab results, and goals.

Please reach out to our office with any questions, concerns, or to confirm your treatment choice before starting or adjusting therapy.



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