SIEVEKING PLASTIC SURGERY

AGELESS SOLUTIONS

TESTOSTERONE REPLACEMENT:

WHY DOES YOUR DOCTOR KEEP MISSING THE MARK?

Your Weekly Newsletter

by Dr. Nick Sieveking

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Bio-Identical Testosterone replacement therapy (TRT) remains one of the most misunderstood areas of modern medicine. Despite decades of research, many patients are still told by there “trusted” doctors that testosterone causes prostate cancer, increases the risk of heart attacks, or is inherently dangerous. Such bad advice robs countless individuals— men and women— of many years of vitality, strength, independence, and overall well-being. In addition, with over 15 years of experience in hormone replacement medicine, I am still frustrated and dismayed at how poorly most primary care physicians interpret sex hormone lab results.

Current science tells a very different story.

Quick Summary of the Major Benefits of Properly Diagnosed and Managed Testosterone Replacement Therapy in Testosterone-Deficient Men and Women

In Men

Body Composition & Physical Performance

- Increased lean muscle mass
- Improved strength and exercise performance
- Reduced visceral (abdominal) fat
- Improved bone density and reduced fracture risk

Energy & Vitality

- Increased energy levels
- Reduced fatigue
- Improved motivation and drive
- Enhanced recovery from exercise

Sexual Health

- Increased libido
- Improved erectile function
- Enhanced sexual satisfaction

Mood & Cognitive Function

- Improved mood and sense of well-being
- Reduced irritability
- Improved concentration and cognitive performance
- Potential reduction in depressive symptoms

Metabolic & Cardiovascular Health

- Improved insulin sensitivity
- Better glucose metabolism
- Reduced risk factors associated with metabolic syndrome
- Potential improvements in cardiovascular risk markers

In Women

Sexual Health

- Increased libido and sexual desire
- Improved arousal and orgasmic function
- Enhanced sexual satisfaction

Energy & Quality of Life

- Improved energy levels
- Reduced fatigue
- Increased motivation and vitality
- Improved overall sense of well-being

Body Composition

- Improved maintenance of lean muscle mass
- Increased strength
- Reduced age-related muscle loss

Bone Health

- Support for bone density maintenance
- Potential reduction in osteoporosis risk

Mood & Cognitive Function

- Improved mood
- Better focus and concentration
- Enhanced mental clarity

The Bottom Line

In appropriately selected testosterone-deficient patients, testosterone replacement therapy can improve:

✓ Energy and vitality
✓ Muscle mass and strength
✓ Libido and sexual function

✓ Mood and cognitive performance
✓ Bone density
✓ Body composition
✓ Metabolic health
✓ Overall quality of life

So why are countless patients still being told to avoid testosterone therapy when their lab work (and reported symptoms) clearly shows they are testosterone deficient?

Because the doctors aren't educated on current science; yet, they are making life altering decisions for their patients based on this ignorance.

A Quick Note About Testosterone Lab Work

Standard lab ranges often list normal total testosterone as roughly **300–800 ng/dL in men** and **15–70 ng/dL in women**, but those broad ranges can be misleading when used in isolation.

A 25-year-old active man with a total testosterone of 310 ng/dL should not automatically be viewed in the same light as an 80-year-old man with the same T level. Likewise, a symptomatic woman at the very bottom of the "normal" range should not be dismissed simply because her value technically falls inside the lab reference range.

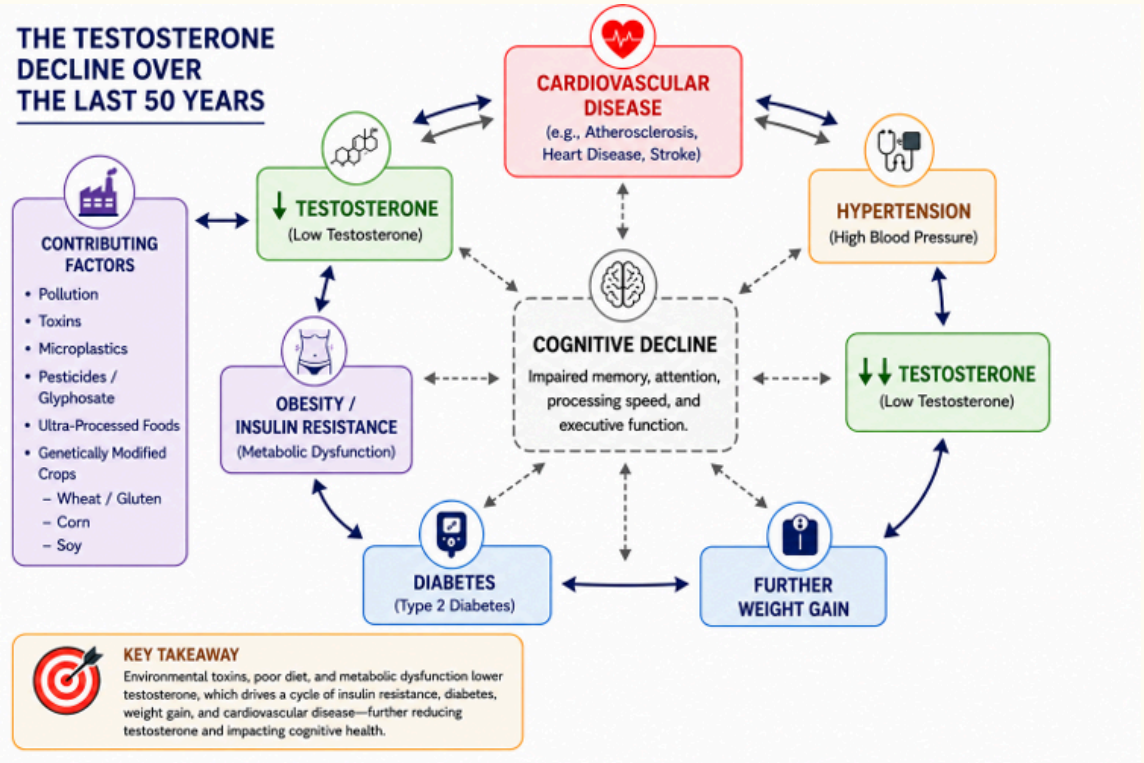
Reference ranges describe where many people fall statistically. They do not necessarily define what is optimal for a specific patient.

Historical data clearly shows that the average testosterone level for a male 50 years ago was 50% higher (on average) than a 50 year-old male today. Knowing this historical data, why have we compromised hormone therapy for men and women by accepting lower hormone levels in a "one-size-fits-all" approach in testosterone replacement therapy.

What are the drivers for the historical decline?

The list is extensive, but include issues such as:

- Pesticide
- Plastics
- Other environmental toxins
- Ultra processed foods
- Genetically engineered crops such as wheat and corn
- Occupational and financial stress
- Poor sleep habits
- Medications
- The rise in obesity and insulin resistance
- The skyrocketing incidence of diabetes



The Testosterone Problem: Why "Normal" May Not Be Normal Anymore

For decades, physicians have relied on laboratory reference ranges to determine whether a patient's testosterone level is "normal." The problem is that the definition of normal may itself be changing—and not for the better.

A growing body of research suggests that testosterone levels have been declining across the population for several decades, even after accounting for age. If this trend is real, then using modern reference ranges as the sole benchmark for health may be causing many men to be told they are "normal" when, in reality, they are far from optimal.

Evidence for a Secular Decline in Testosterone

Several studies have documented a significant decline in testosterone levels among men over time.

Israeli Population Study (2006–2019)

A large Israeli laboratory database found a highly significant, age-independent decline in total testosterone over just a 10–13 year period. Researchers observed that average testosterone levels continued to fall even after adjusting for age and obesity.

Reference: *Reproductive Biology and Endocrinology.* 2020 Mar 9;18:19.

U.S. Cohort Study

An earlier U.S. study compared men tested during three separate periods: 1987–1989, 1995–1997, and 2002–2004. In age-matched groups, median total testosterone levels declined substantially:

- 1987–1989: approximately 501 ng/dL
- 1995–1997: approximately 435 ng/dL
- 2002–2004: approximately 391 ng/dL

These findings suggest that men of the same age today have lower testosterone levels than men of previous generations.

Reference: Travison TG, et al. *Journal of Clinical Endocrinology & Metabolism*. 2007;92(1):196–202. doi:10.1210/jc.2006-1375.

Multiple Reviews Reach Similar Conclusions
Reviews evaluating numerous datasets have reached a similar conclusion: age-specific testosterone levels in men appear to have been on a slow but consistent downward trajectory for several decades.

Reference: *Journal of Clinical Endocrinology & Metabolism*. 2007;92(1):196–202.

Why Is Testosterone Declining?

No single factor explains the decline, but several contributors appear repeatedly throughout the scientific literature.

Obesity, Diabetes, and Metabolic Syndrome

Experts consistently identify rising rates of obesity, insulin resistance, type 2 diabetes, and metabolic syndrome as the most strongly supported contributors to declining testosterone levels at the population level.

Reference: *Reviews in Endocrine and Metabolic Disorders*. 2022 Jul 14;23(6):1233–1242.

Poor Diet and Physical Inactivity

Poor diet quality, reduced physical activity, and increasing rates of cardiometabolic disease are strongly associated with lower testosterone levels. Many experts believe these lifestyle factors explain a substantial portion of the secular decline observed among otherwise age-matched men.

Reference: *Cleveland Clinic Health Essentials*. September 20, 2022.

Aging Alone Does Not Explain the Decline

Testosterone naturally declines with age—typically around 1% per year after age 30–40. However, aging alone does not explain what researchers are observing.

Studies suggest that modern men have significantly lower testosterone levels than men of the same age several decades ago. This indicates that generational factors—including worsening metabolic health, obesity, physical inactivity, and environmental influences—may be contributing to an additional decline beyond normal aging.

Reference: *Journal of Clinical Endocrinology & Metabolism*. 2007;92(1):196–202.

The Problem With “Normal”

If the average testosterone level of the population has been declining for decades, then laboratory reference ranges may simply reflect a progressively less healthy population.

This creates an important question:

Should a 50-year-old man with symptoms of testosterone deficiency be reassured simply because his total testosterone falls within a modern laboratory reference range?

In many cases, I believe the answer is no.

A Real-World Example

I once evaluated a patient approaching 50 years of age. He had a BMI of 31, placing him in the obese category. He reported working out regularly with trainers yet making little progress despite significant effort.

He also complained of:

- Reduced sex drive
- Decreased energy
- Difficulty losing weight

- Early signs of erectile dysfunction

We performed an extensive laboratory evaluation.

The results showed:

- Insulin resistance
- Prediabetes
- Metabolic syndrome
- **Total** testosterone: 450 ng/dL
- **Free** testosterone: 6.7 ng/dL

Most physicians would look at a total testosterone of 450 ng/dL and conclude that the patient is “normal.”

But is he?

Not when he is symptomatic.

Not when he has metabolic syndrome.

Not when his **free** testosterone is only 6.7 ng/dL.

Why Free Testosterone Matters

One of the most common mistakes physicians make in hormone medicine is basing testosterone replacement decisions solely on **total** testosterone.

Total testosterone tells only part of the story.

The biologically active hormone is **free** testosterone—the fraction that is unbound, available to tissues, and responsible for testosterone’s effects throughout the body.

A patient can have a “normal” **total** testosterone level while simultaneously having a low **free** testosterone level and experiencing significant symptoms of hormone deficiency.

This is why two patients with identical total testosterone levels can have dramatically different symptoms and responses to treatment.

What Happened Next?

I placed this patient on testosterone replacement therapy using the oral testosterone formulation KYZATREX.

Within a relatively short period of time, he reported meaningful improvements in his symptoms.

However, when his primary care physician reviewed the laboratory results from our office, he strongly encouraged the patient to discontinue testosterone therapy.

The patient was told:

“Your testosterone is normal.”

and

“Testosterone replacement is going to give you a heart attack.”

I disagree.

There is nothing “normal” about a **free** testosterone level of 6.7 ng/dL in a patient who is obese, insulin resistant, prediabetic, and already demonstrating signs of vascular dysfunction through reduced libido and erectile dysfunction.

The Better Question

Which aspect of this patient’s health profile is more likely to contribute to cardiovascular disease?

A carefully monitored testosterone replacement program designed to restore physiologic hormone levels?

Or:

- Obesity
- Insulin resistance
- Prediabetes
- Metabolic syndrome
- Progressive vascular dysfunction

These are the questions physicians should be asking.

The Bottom Line

If you’re feeling slowed down, struggling to lose weight, noticing a decline in sex drive, experiencing erectile dysfunction, losing muscle mass, feeling chronically fatigued, or battling “brain fog,” don’t let anyone tell you that a **total** testosterone level of 450 ng/dL automatically means everything is normal.

Laboratory values should never be interpreted in isolation.

The patient’s symptoms matter.

The metabolic profile matters.

And **free** testosterone matters.

Far too many men—and women—continue to suffer from fatigue, reduced muscle mass, diminished libido, poor recovery, and other symptoms of hormone deficiency because treatment decisions are based solely on **total** testosterone while ignoring **free** testosterone and the clinical picture.

Good medicine treats patients—not laboratory reference ranges.

Let's look at the Myths and the Evidence

Myth #1: Testosterone Causes Prostate Cancer

This is probably the most persistent myth surrounding TRT (Testosterone Replacement Therapy).

The concern originated decades ago when physicians observed that advanced prostate cancer often responded to androgen deprivation therapy. Over time, many mistakenly assumed that increasing testosterone must therefore cause prostate cancer.

What the Evidence Shows

The largest prostate safety analysis ever performed as part of the TRAVERSE Trial found:

- 5,246 men with symptomatic hypogonadism were randomized to testosterone or placebo.
- Prostate cancer occurred in:
  - 0.5% of men receiving testosterone
  - 0.4% of men receiving placebo
- There was no statistically significant difference between groups.

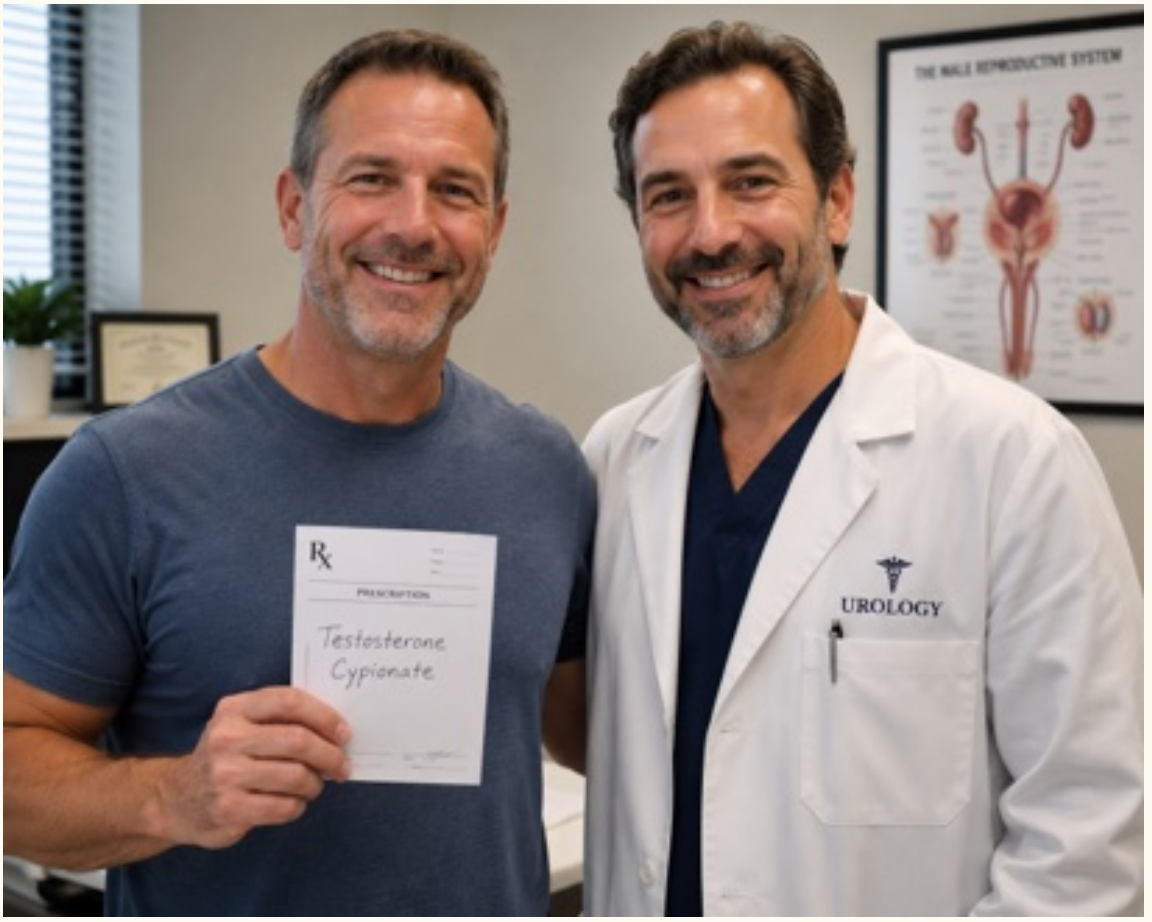
Reference: *Bhasin et al. JAMA Network Open*. 2023;6(12).
In addition, a 2024 systematic review and meta-analysis of randomized controlled trials found that testosterone therapy:

- Did not meaningfully increase PSA levels
- Did not promote prostate enlargement
- Did not increase prostate cancer incidence in monitored hypogonadal men

The Bottom Line

Men receiving TRT should still undergo appropriate prostate screening and monitoring, but current evidence does not support the claim that physiologic testosterone replacement causes prostate cancer.

Note: Even men with the history of prostate cancer are candidates for testosterone replacement therapy. Fortunately, more and more urologists are supporting their patients by safely providing testosterone therapy for men with a history of prostate cancer… so they don't have to live their lives emasculated.



Myth #2: Testosterone Causes Heart Attacks and Strokes

For years, patients were warned that TRT might increase cardiovascular risk. More recent high-quality research has challenged this belief.

What the Evidence Shows

The TRAVERSE Trial, published in the New England Journal of Medicine in 2023, evaluated cardiovascular safety in 5,246 men with symptomatic hypogonadism who already had cardiovascular disease or were at elevated cardiovascular risk.

The primary endpoint included:

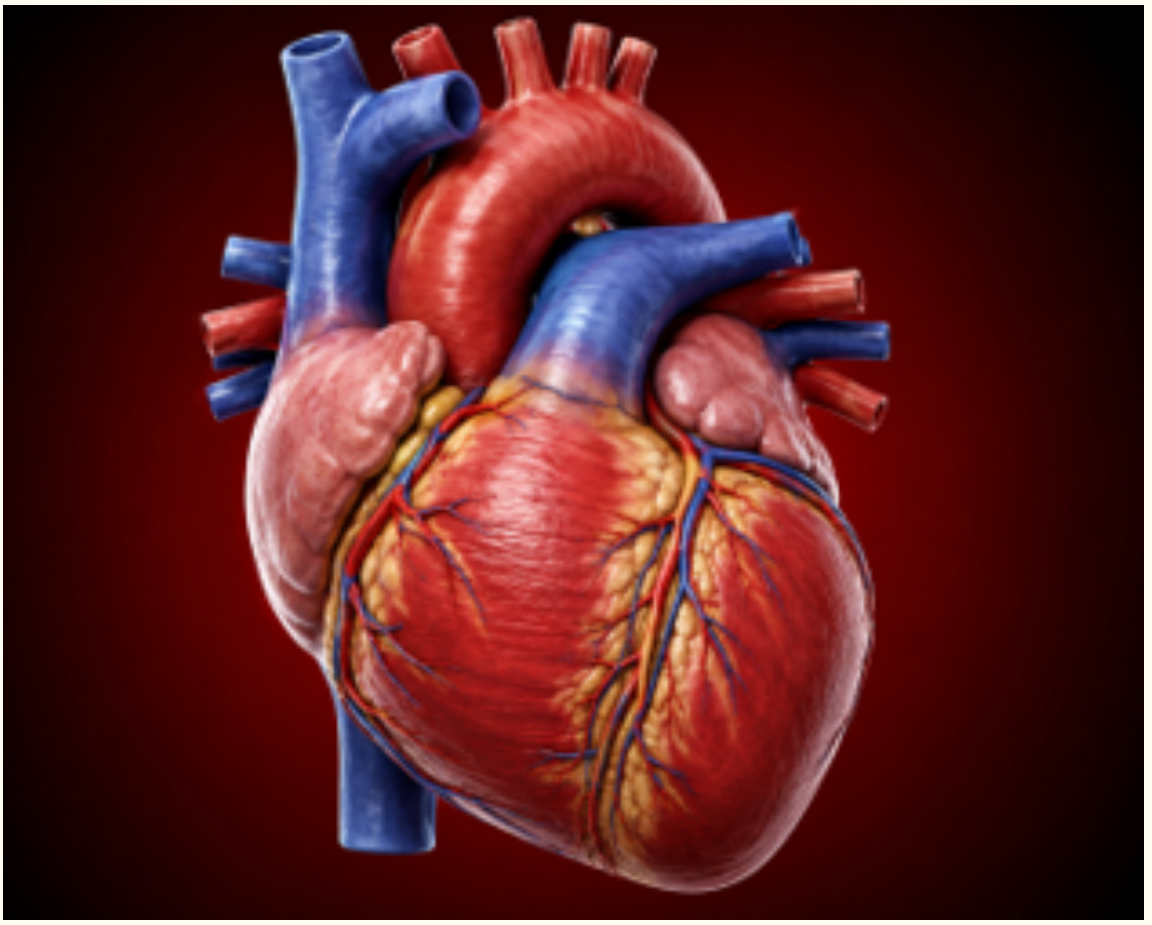
- Cardiovascular death
- Nonfatal heart attack
- Nonfatal stroke

Results:

- Testosterone group: 182 events (7.0%)
- Placebo group: 190 events (7.3%)

- Hazard Ratio: 0.96 (95% CI 0.78–1.17)
- **The study found that testosterone replacement therapy did not increase the risk of major cardiovascular problems compared with not taking testosterone.**

Reference: *N Engl J Med*. 2023;389:107-117. *DOI*: 10.1056/NEJMoa2215025



In 2025, following review of the TRAVERSE data, the FDA removed broad language suggesting TRT increases cardiovascular risk, while maintaining warnings regarding potential blood pressure elevation.

What Often Gets Overlooked...SO IMPORTANT!!

Low testosterone itself is associated with:

- Increased cardiovascular mortality
- Metabolic syndrome
- Type 2 diabetes
- Visceral obesity
- Coronary artery disease
- Reduced muscle mass and strength

In other words, untreated testosterone deficiency carries significant multifactorial health risks.

The Bottom Line

Appropriately prescribed testosterone replacement has not been shown to increase the risk of heart attack, stroke, or cardiovascular death in properly selected and monitored men.

Monitoring remains essential and should include:

- Hematocrit
- Blood pressure
- Lipid profile
- Sleep apnea assessment
- Cardiovascular risk factors

Myth #3: Testosterone Causes Breast or Gynecologic Cancer in Women

Another common misconception is that testosterone therapy increases cancer risk in women.

What the Evidence Shows

Several recent reviews and clinical studies have **not** demonstrated an increased risk of breast cancer among women using testosterone therapy. Some studies have even reported **lower** breast cancer incidence among testosterone-treated women.

Similarly, recent research evaluating transmasculine and gender-diverse patients found **no** increased risk of:

- Endometrial cancer
- Ovarian cancer
- Vaginal cancer
- Vulvar cancer

after approximately five years of testosterone exposure.

Reference: *The Journal of Sexual Medicine*. 2024;21(5):414–419.

The Bottom Line

Current evidence does not support the claim that appropriately prescribed testosterone therapy increases the risk of breast or gynecologic cancers.

Donovitz, *European Journal of Breast Health* — 2021
A 9-year retrospective study of testosterone and testosterone/estradiol pellet users reported a **35.5% lower invasive breast cancer incidence.**

The Real Takeaway

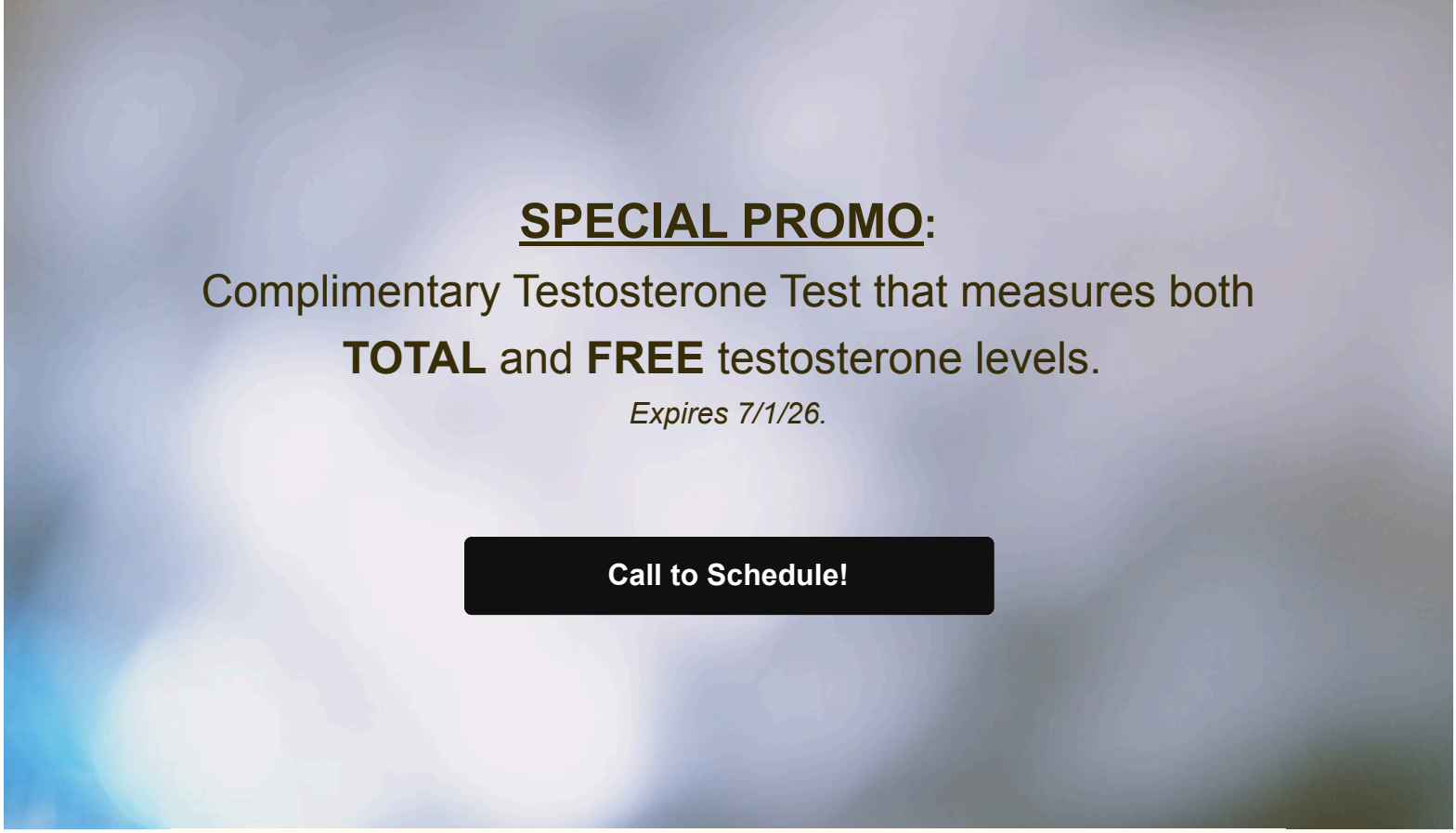
Testosterone replacement therapy is not a fountain of youth, nor is it without risks. However, many of the fears surrounding TRT are based on outdated assumptions and physicians stuck in the “dark age”… rather than modern evidence.

When prescribed to properly evaluated patients and monitored appropriately, current evidence shows that testosterone replacement therapy:
✓ Does not appear to cause prostate cancer
✓ Does not increase major cardiovascular events
✓ Has not been shown to increase breast or gynecologic cancer risk

The goal of TRT is not supraphysiologic hormone levels. The goal is restoration of normal physiologic testosterone levels, improvement of symptoms, and optimization of long-term health.

Takeaways from this newsletter:

1. If you have symptoms of low testosterone, get tested and make sure the test includes both **Total** and **Free Testosterone** levels.
2. If you doctor tells you TRT cause heart attacks…find a new doctor.
3. If your doctor tells you TRT causes cancer…find a new doctor.
4. The most important question is not, "What are the risks of testosterone replacement therapy?" Rather, it is, "What are the risks of leaving testosterone deficiency untreated when both symptoms and laboratory findings suggest a true deficiency?"



STAY TUNED!

Be on the lookout for next week's newsletter, *"Beyond Fillers: The New Era of Injectable Collagen Stimulation."*

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