

TESTOSTERONE, AFIB, AND BLOOD CLOTS



WHAT THE EVIDENCE ACTUALLY SHOWS.

TWENTY META-ANALYSES. ONE VERDICT.

For anyone who has heard testosterone therapy can cause an irregular heartbeat or a blood clot, and wants the actual studies behind that concern.



TESTOSTERONE INTELLIGENCE · THE PAPERS
VOLUME 10 · TESTOSTERONE, AFIB, AND BLOOD CLOTS

THE PAPERS · BY REBELLION HEALTH

WHAT A PAPER IS

IN MEDICINE

A paper is the evidence: peer-reviewed, rigorous, the record of what is actually known.

IN A REVOLUTION

The papers are how the truth travels, passed hand to hand, faster than the gatekeepers can stop it.

AT REBELLION HEALTH

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Because medicine moves, a Paper is never finished. When the science changes, we change the Paper, revised, re-dated, reissued, and we tell you what changed. Keeping these current is our responsibility, not yours. It is how the movement stays true.

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TESTOSTERONE INTELLIGENCE · THE PAPERS

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What the Evidence Actually Shows, Including the Signals TRAVERSE Flagged

Rebellion Health's Testosterone and the Heart Paper covered the TRAVERSE trial. This companion Paper goes deeper, into the full 2024 Androgen Society position paper that reviewed three large randomized trials, twenty meta-analyses, and dozens of observational studies, and into the specific studies behind the atrial fibrillation and clotting signals TRAVERSE flagged.

It has now been conclusively determined that testosterone therapy is not associated with increased risks of heart attack, stroke, or cardiovascular death.

THE ANDROGEN SOCIETY, 2024 POSITION PAPER

PART ONE

HOW TWO FLAWED STUDIES STARTED A DECADE OF FEAR

The modern cardiovascular fear traces to two specific 2013 to 2014 studies, both since substantially discredited. Vigen and colleagues originally reported, in JAMA's own abstract and text, that the absolute rate of adverse events was higher with testosterone therapy, 25.7 percent versus 19.9 percent. That number was wrong. The corrected absolute rate showed testosterone therapy at 10.1 percent versus 21.2 percent for no therapy, roughly half the rate, not double it.

Twenty-nine medical societies petitioned the journal to retract the article. A second correction later revealed the supposedly all-male study population had inadvertently included women, and that the study design had wrongly excluded over 1,000 patients who suffered a stroke or heart attack from the comparison group.

A second study, Finkle and colleagues, compared heart attack rates in the three months after a testosterone prescription against the twelve months before it, periods that are not actually comparable, since doctors were naturally less likely to prescribe testosterone to men who had just had a heart attack. That structural flaw alone inflated the apparent risk. Together, these two studies triggered the FDA's 2015 boxed cardiovascular warning that shaped a decade of clinical practice.

Of twenty meta-analyses that have directly assessed this question, nineteen found no increased cardiovascular risk. The one outlier used incorrect adverse-event values and included a 1986 study of men with liver cirrhosis given custom oral testosterone at more than four times the upper limit of normal, a dose no clinician today would prescribe.

PART TWO

TRAVERSE, DIRECTLY FROM THE TRIAL'S OWN AUTHORS

TRAVERSE was a noninferiority trial, meaning it was statistically designed to rule out a meaningful increase in risk, not merely to look for a decrease. It enrolled 5,246 higher-risk men, 55 percent with existing cardiovascular disease, specifically to stress-test safety.

A primary cardiovascular event occurred in 182 patients (7.0%) on testosterone versus 190 patients (7.3%) on placebo, hazard ratio 0.96, meeting the trial's noninferiority threshold with a P value below 0.001. The trial's own authors report, without euphemism, a higher incidence of atrial fibrillation, acute kidney injury, and pulmonary embolism in the testosterone group.

Two Other Large Randomized Trials Point the Same Direction

- The Testosterone Trials (790 men, 2016): 9 major cardiac events on testosterone versus 16 on placebo over two years of follow-up
- T4DM (1,003 men, 2021): 2 major cardiac events on testosterone versus 6 on placebo over two years, while also reducing progression to type 2 diabetes

PART THREE

ATRIAL FIBRILLATION AND CLOTTING, EXAMINED ON THEIR OWN

TRAVERSE's AF and clotting signals deserve their own dedicated look, not a footnote.

On atrial fibrillation, a Veterans Administration study of 76,639 men found something more nuanced than TRAVERSE alone shows: it is not testosterone therapy in the abstract that matters, it is whether the therapy actually normalized testosterone levels. Men whose therapy achieved a normal testosterone level had a significantly lower risk of atrial fibrillation than both men whose therapy failed to normalize levels and men who received no therapy at all, and there was no meaningful difference between those latter two groups.

On clotting, a dedicated case-control study of 30,572 commercially insured men found testosterone therapy was not associated with increased venous thromboembolism risk, and this held true across all three common delivery routes, topical, transdermal, and intramuscular, and across exposure windows extending out to 60 days.

These signals are real and belong in an honest counseling conversation. But the deeper literature on both AF and VTE, examined independently of TRAVERSE, does not support a broad causal alarm, and in the AF case actually points toward normalized testosterone being protective rather than harmful.

PART FOUR

HOW THE FEAR BECAME PUBLIC NARRATIVE

A 2016 media case study by Traish, Vance, and Morgentaler traces how a single 2014 New York Times editorial helped calcify a thin evidentiary signal into what they call medical hysteria, widespread coverage of an alleged risk that outpaces the actual evidence and interferes with rational care.

They draw a direct parallel to the 2002 Women's Health Initiative. The WHI's actual finding was an increased absolute event rate of just 19 per 10,000 person-years in the estrogen-progesterone arm, a difference so small that, in their framing, a single woman in a family line would need roughly 1,000 years to see one extra adverse event from it. That result was statistically significant and clinically almost meaningless, yet it drove sweeping changes in medical practice for a generation.

The testosterone cardiovascular scare followed the same pattern: a technically real but clinically tiny signal, amplified by authoritative-sounding coverage into public and even clinical consensus.

PART FIVE

THE FULL RECORD, IN ONE PLACE

Three large randomized trials. Nineteen of twenty meta-analyses. Dozens of observational and registry studies. A dedicated look at the two signals TRAVERSE did flag, both of which hold up to closer scrutiny rather than collapsing under it. The Androgen Society calls this settled science, and argues the FDA's 2015 warning label, already removed in 2025, should never have been added in the first place.

What This Does Not Settle

- This evidence applies to men with confirmed testosterone deficiency treated to a physiologic range, not to supraphysiologic dosing or non-indicated use
- The Androgen Society is a professional advocacy organization; several authors, including Morgentaler, disclose industry consulting relationships, disclosed transparently within the paper itself
- This Paper addresses cardiovascular risk only. Prostate cancer risk is covered in a separate Rebellion Health Paper

This resource is an educational overview of the Androgen Society's 2024 position paper and related studies on testosterone and cardiovascular risk, with balancing caveats. It does not replace an individualized evaluation. Always consult your provider before starting, adjusting, or stopping any hormone therapy.