HORMONE HEALTH

Lean Men With Diabetes Had Lower Testosterone Than Obese Men Without It

160 men. The lean diabetic group sat at 302 ng/dL, below the obese men without diabetes at 510, despite the same median BMI and waist.

Swipe

THE OLD ASSUMPTION

Everyone Blames the Waistline First

Almost every man who worries about his testosterone looks at his weight before anything else. This study asked whether that instinct is even pointing at the right variable.

THE SETUP

Four Groups, Matched on Everything Except Diabetes

80 men with type 2 diabetes, 80 without, split lean versus obese. The two main groups were statistically the same age, same BMI, same waist circumference. Only the diabetes status differed.

THE NUMBERS

302 vs 510 ng/dL

Median total testosterone: lean with diabetes 302, obese with diabetes 284.5, lean without diabetes 505, obese without diabetes 510. The two diabetes groups sat together at the bottom regardless of weight.

AFTER MATCHING

Diabetes Moved the Number, Not Body Fat

With age, weight and waist neutralized: total testosterone 297.5 vs 510 ng/dL, free testosterone 6.15 vs 9.22 ng/dL, SHBG 21.7 vs 42.15 nmol/L. All at p less than 0.001.

THE STRONGEST RESULT

Two Blood Tests Explained Half the Difference

Insulin resistance (HOMA-IR) and HbA1c together accounted for an adjusted R-squared of 0.513, roughly 51.3 percent of the variation in total testosterone between men.

RULING OUT THE EASY EXPLANATION

It Was Not Just the Carrier Protein

SHBG fell steeply in the diabetes group, but so did free testosterone, the unbound, usable fraction. If SHBG alone explained it, free testosterone should have held steady or risen. It did not.

THE BOTTOM LINE

Being Slim Does Not Exempt You

160 men, one center, association not causation, direction unresolved. A signal, not a verdict. If your HbA1c is drifting, the hormone question deserves to be asked alongside the glucose question.