

## Supplementary Online Content

Roy CN, Snyder PJ, Stephens-Shields AJ, Artz AS, Bhasin S, et al. Association of testosterone levels with anemia in older men: a controlled clinical trial [published online February 21, 2017]. *JAMA Intern Med*. doi:10.1001/jamainternmed.2016.9540

**eTable 1.** Hemoglobin and Associated Testosterone Concentrations in Men Who Developed Erythrocytosis

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**eFigure 4.** Association between change in hemoglobin and changes in walking distance (top panel) and FACIT-Fatigue Scale (bottom panel) in all anemic participants in the Testosterone Trials

This supplementary material has been provided by the authors to give readers additional information about their work.

**EFFECT OF TESTOSTERONE ON ANEMIA IN OLDER MEN WITH LOW  
TESTOSTERONE:  
A CONTROLLED CLINICAL TRIAL**

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**On-line Only Supplemental 1 Materials**

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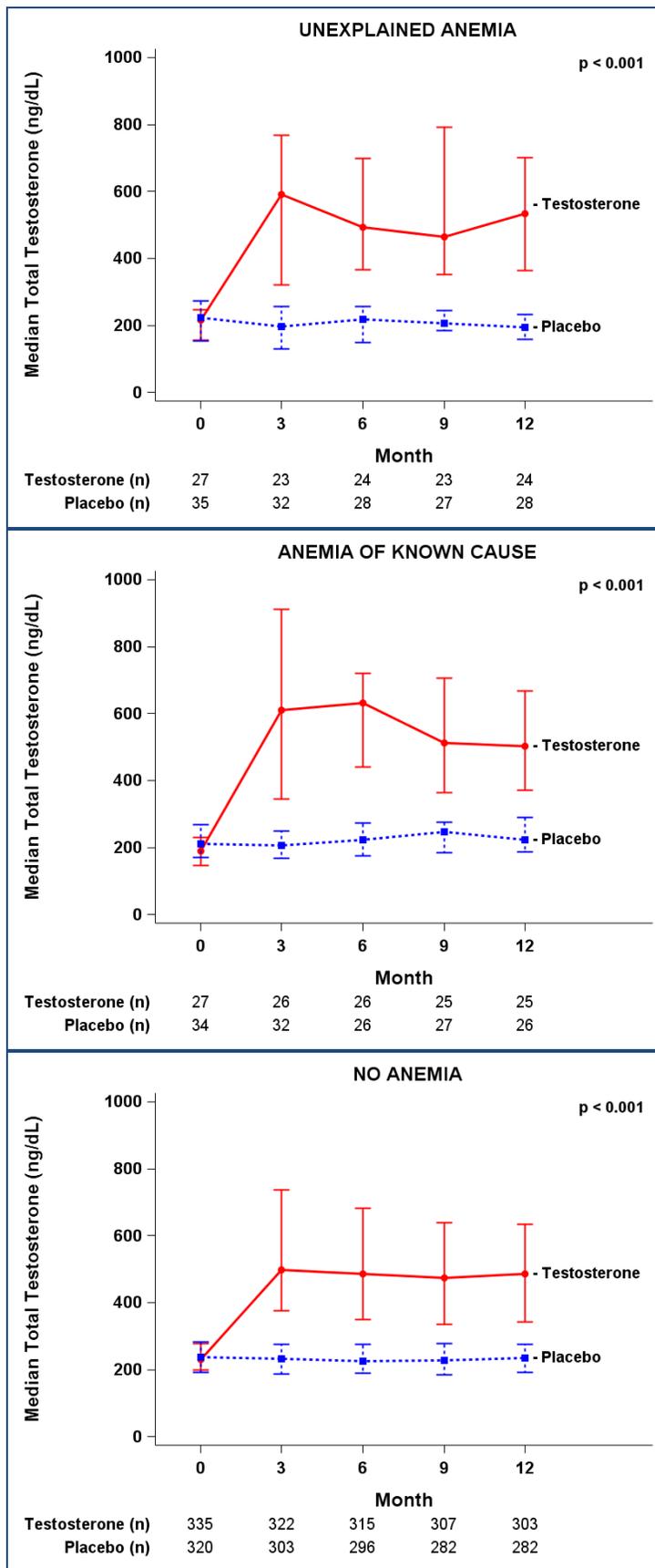
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**Effect of testosterone on anemia in older men with low testosterone: a controlled clinical trial**

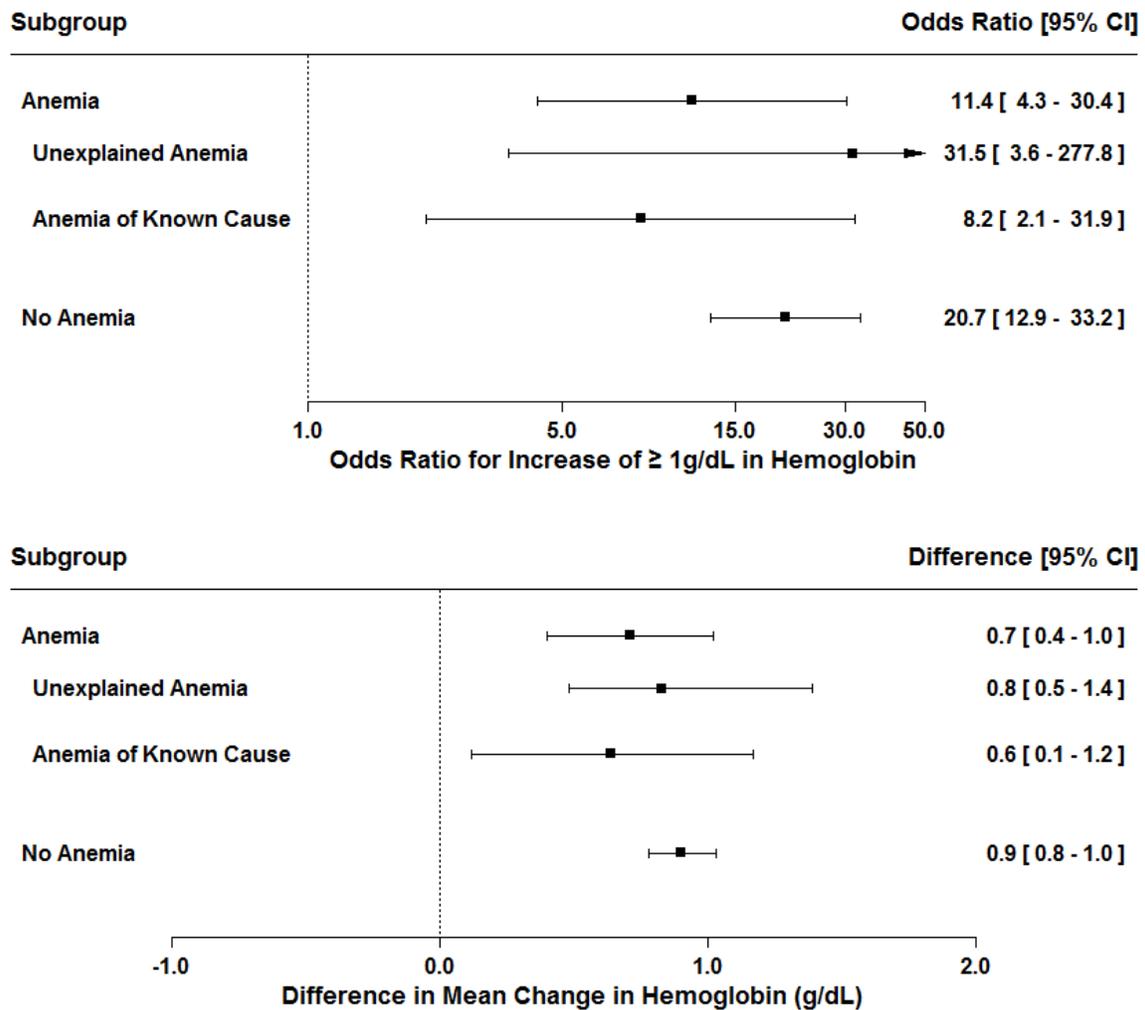
**eTable 1. Hemoglobin and Associated Testosterone Concentrations in Men Who Developed Erythrocytosis<sup>1</sup>.**

Participant	Hemoglobin (g/dL)			Testosterone (ng/dL)	
	Baseline	Initial Elevated Value	Repeat value	Baseline	When Hgb Elevated
120953	15.5	17.9	17.8	242	784
192709	16.1	17.9	18.6	359	1025
192351	15.8	18.0	18.3	165	440
171838	16.0	18.6	17.8	208	901
210257	14.1	18.0	17.6	181	1086
170739	14.5	17.8	17.5	299	1330

<sup>1</sup>Hemoglobin concentration  $\geq 17.5$  g/dL



**eFigure 1.** Serum testosterone concentration from baseline to 12 months in men with unexplained anemia (top panel), anemia of known cause (middle panel) and no anemia (bottom panel)

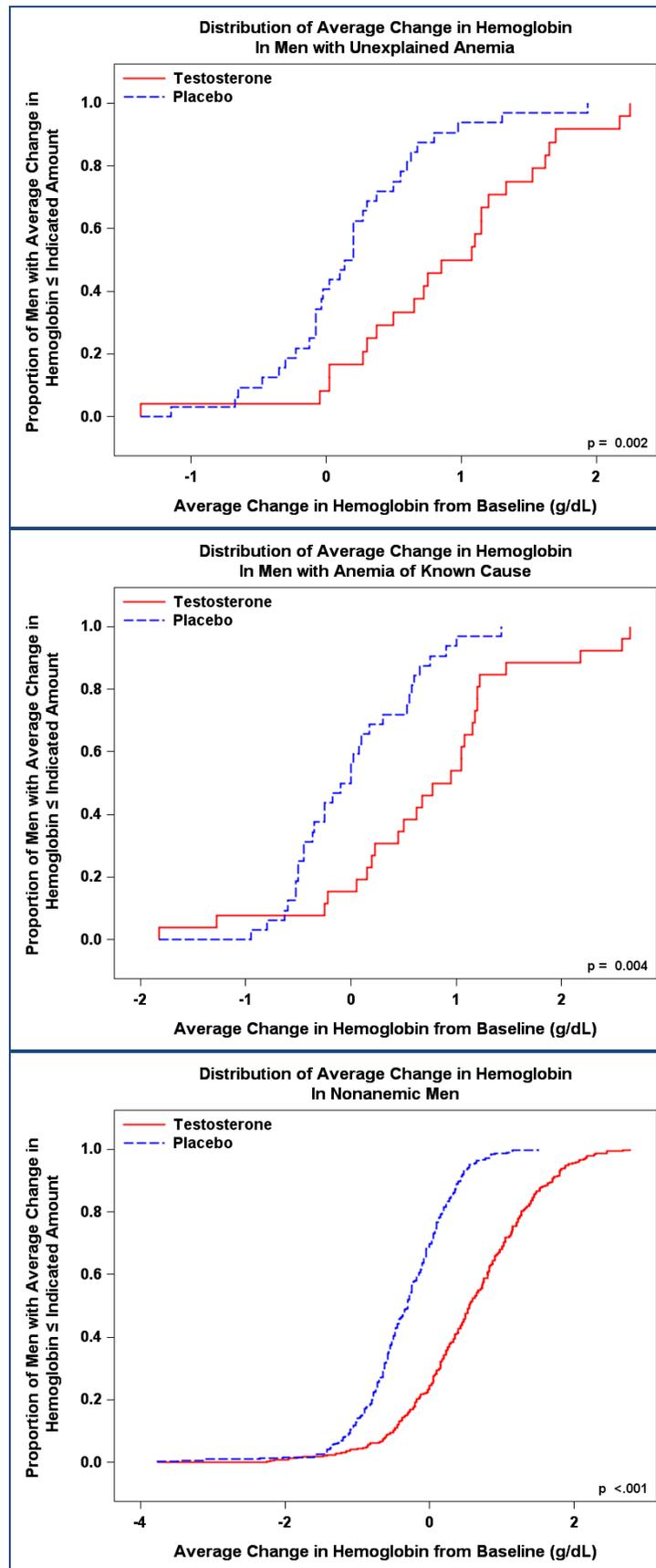


**eFigure 2. Forest plots of the effect of testosterone on dichotomous (top panel) and continuous (bottom panel) change in hemoglobin by baseline anemia classification**

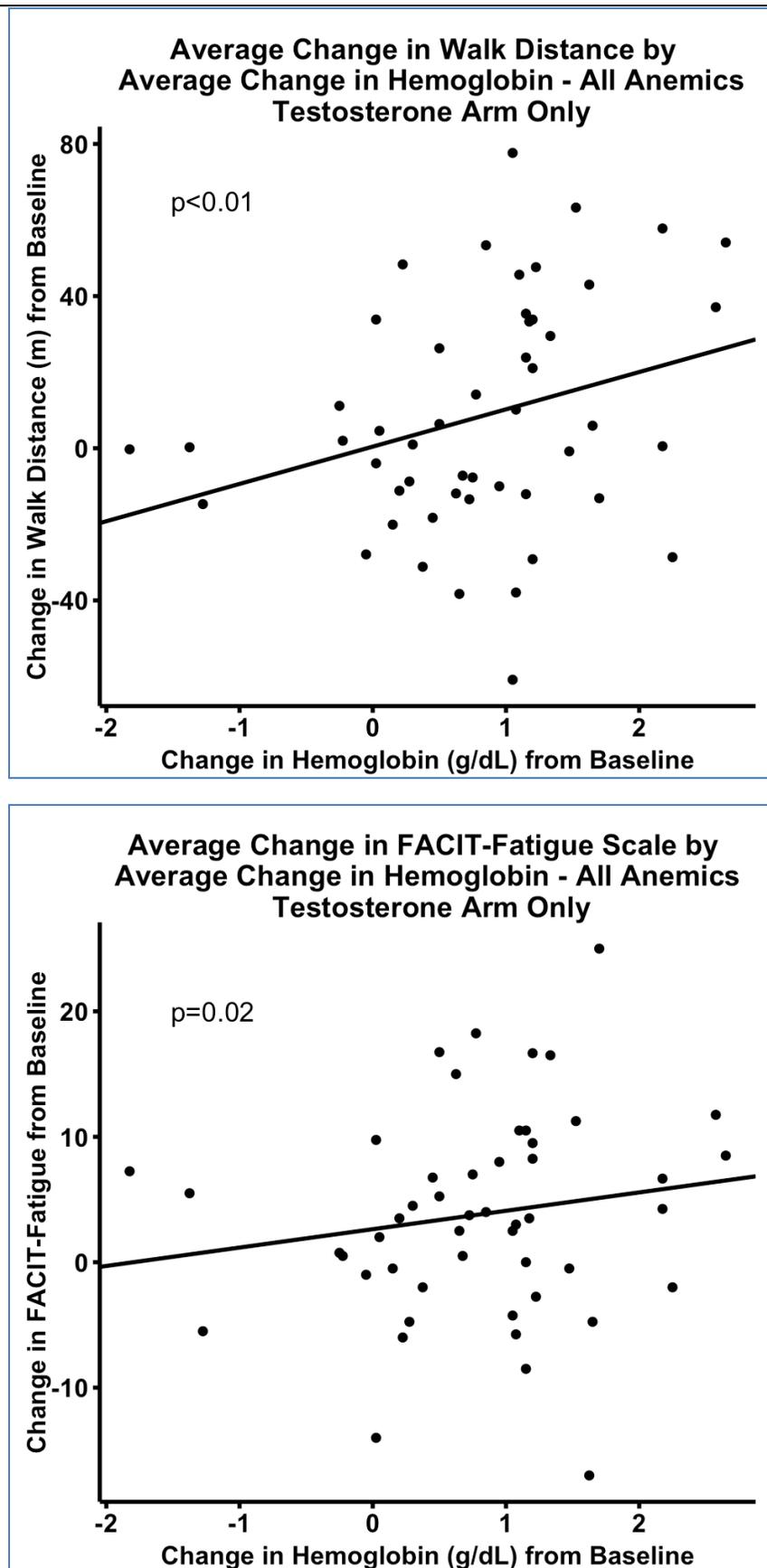
**Legend**

**Top Panel:** Odds ratios and 95% confidence intervals for an increase in hemoglobin  $\geq 1.0$ g/dL from baseline for men allocated to testosterone compared to men allocated to placebo were estimated by stratified logistic mixed effects models with stratification by baseline anemia classification. An odds ratio greater than 1 indicates that men who were allocated to testosterone were more likely to increase hemoglobin by  $\geq 1.0$  g/dL. A difference in the odds ratio across anemia groups was tested by an interaction of treatment and baseline anemia classification. The effect of testosterone on binary change in hemoglobin did not differ by anemia group ( $p=0.09$ )

**Bottom Panel:** Differences in mean change in hemoglobin (g/dL) from baseline for men allocated to testosterone compared to men allocated to placebo and 95% confidence intervals were estimated by stratified linear mixed effects models with stratification by baseline anemia classification. Differences greater than 0 indicate that men who were allocated to testosterone on average had greater increases and/or smaller decreases in hemoglobin than men who were allocated to placebo. A difference in the effect of testosterone on change in hemoglobin across anemia groups was tested by an interaction of treatment and baseline anemia classification. The effect of testosterone on continuous change in hemoglobin did not differ by baseline anemia group ( $p=0.43$ ).



eFigure 3. Cumulative distribution functions of change in hemoglobin from baseline in men with unexplained anemia (top panel), anemia of known cause (middle panel) and men who were not anemic (bottom panel)



eFigure 4. Association between change in hemoglobin and changes in walking distance (top panel) and FACIT-Fatigue Scale (bottom panel) in all anemic participants in the Testosterone Trials.