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Media Advisory: To contact Peter J. Snyder, M.D., email Abbey Anderson at Abbey.Anderson@uphs.upenn.edu or call 215-349-8369.

**Related materials:** The *JAMA* editorial, “**Testosterone and Male Aging**,” by David J. Handelsman, M.B.B.S., Ph.D., F.R.A.C.P., F.A.H.M.S., of the University of Sydney and Concord Hospital, Sydney, Australia; the *JAMA Internal Medicine* editorial, **“Further Elucidation of the Potential Benefits of Testosterone Therapy in Older Men,”** by Eric Orwoll, M.D., of the Oregon Health & Science University, Portland; and the *JAMA Internal Medicine* editorial, **“Addressing Ethical Lapses in Research,”** by Bernard Lo, M.D., of the Greenwell Foundation, New York, and *JAMA Internal Medicine* deputy editor Deborah Grady, M.D., M.P.H., of the University of California, San Francisco, also are available on the For The Media [website](http://media.jamanetwork.com)

***JAMA* and *JAMA Internal Medicine***

**Studies in *JAMA, JAMA Internal Medicine* Examine Effect of Testosterone Treatment on Various Health Outcomes**

Four new *JAMA* and *JAMA Internal Medicine* studies published online compare a variety of health outcomes in men with low testosterone who used testosterone.

The studies are from the Testosterone Trials, a group of placebo-controlled, coordinated trials designed to determine the efficacy of testosterone gel use by men 65 or older with low testosterone for no apparent reason other than age. The studies examined the health outcomes of memory and cognitive function, bone density, coronary artery plaque volume and anemia.

***JAMA***

In this study, researchers tested if treating older men with low testosterone with a testosterone gel for a year would slow the progression of coronary artery plaque volume compared with a placebo gel. The study included 138 men (73 who received testosterone gel and 65 who received placebo gel).

**Findings:** Among the men, using testosterone gel for one year compared with placebo gel increased the amount of coronary artery noncalcified plaque, an early sign of increased risk of heart problems. Larger studies are needed to understand the clinical implications of this finding.

**Authors:** Peter J. Snyder, M.D., of the University of Pennsylvania, Philadelphia, and colleagues as part of the Testosterone Trials.

**To place an electronic embedded link to this study in your story:** This link will be live at the embargo time: <http://jamanetwork.com/journals/jama/fullarticle/10.1001/jama.2016.>21043

***JAMA***

Researchers also wanted to know if older men with low testosterone who used testosterone gel for one year compared with placebo gel improved their memory and cognitive function. Among 493 men with age-associated memory impairment (AAMI), 247 received testosterone gel and 246 received placebo for one year.

**Findings:** Using testosterone gel for one year compared with placebo gel was not associated with improved memory or cognitive function.

**Authors:** Peter J. Snyder, M.D., of the University of Pennsylvania, Philadelphia, and colleagues as part of the Testosterone Trials.

**To place an electronic embedded link to this study in your story:** This link will be live at the embargo time: <http://jamanetwork.com/journals/jama/fullarticle/10.1001/jama.2016.21044>

***JAMA Internal Medicine***

In this study, researchers wanted to determine if older men with low testosterone and mild anemia could improve their anemia by using testosterone gel for one year. Of the 788 men enrolled in the Testosterone Trials, 126 were anemic at the start and, of those, 62 had anemia of known causes.

**Findings:** Testosterone gel increased hemoglobin levels and corrected the anemia (of both known and unknown causes) in older men with low testosterone more than placebo gel.

**Authors:** Peter J. Snyder, M.D., of the University of Pennsylvania, Philadelphia, and coauthors as part of the Testosterone Trials.

**To place an electronic embedded link to this study in your story:** This link will be live at the embargo time: <http://jamanetwork.com/journals/jamainternalmedicine/fullarticle/10.1001/jamainternmed.2016.9540>

***JAMA Internal Medicine***

Another question researchers examined was whether using testosterone gel would help older men with low testosterone improve their bone density and strength. This study included 211 men, of whom 110 received testosterone gel and 101 got the placebo gel.

**Findings:** Using testosterone gel for one year by older men with low testosterone increased bone density and strength compared with placebo, more so in the spine than hip and more so in trabecular bone than cortical-rich peripheral bone.

**Authors:** Peter J. Snyder, M.D., of the University of Pennsylvania, Philadelphia, and coauthors as part of the Testosterone Trials.

**To place an electronic embedded link to this study in your story:** This link will be live at the embargo time: <http://jamanetwork.com/journals/jamainternalmedicine/fullarticle/10.1001/jamainternmed.2016.9539>

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