

# Low testosterone may be linked to heart problems

September 24 2013

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Men who have low testosterone levels may have a slightly elevated risk of developing or dying from heart disease, according to a recent study accepted for publication in The Endocrine Society's *Journal of Clinical Endocrinology & Metabolism* (JCEM).

Testosterone is a key male sex hormone that helps maintain sex drive, sperm production and bone health. Over time, low testosterone may contribute to an increase in body fat, loss of body hair and muscle bulk.

"When we reviewed the existing research into testosterone and cardiovascular disease, a growing body of evidence suggested a modest connection between the two. A specific pathogenesis did not come forward, but perhaps less frequently investigated events may play a role, such as thrombosis where a blood clot develops in the circulatory system or arrhythmia, where there is a problem with the [heart](#) beat or rate," said the study's lead author, Johannes Ruige, MD, PhD, of Ghent University Hospital in Belgium. "Based on current findings, though, we cannot rule out that low testosterone and [heart disease](#) both result from poor overall health."

Treating low testosterone with replacement therapy did not have any beneficial effect on cardiovascular health, Ruige said. Although the number of older and middle-aged men who are being prescribed testosterone replacement therapy is rising rapidly, there is debate about whether the practice is too widespread. In its [testosterone therapy clinical practice guidelines](#), The Endocrine Society recommends treating

only men who have unequivocally [low testosterone levels](#) and consistent symptoms.

The clinical review examined findings from studies on cardiovascular disease and testosterone published between 1970 and 2013. Although the studies suggested some sort of relationship, existing research found little evidence of a connection between low testosterone and atherosclerosis, the hardening and narrowing of arteries that can cause heart attacks and strokes. The reviewed studies also found no relationship between [testosterone levels](#) and heart attacks.

Many of the studies had cross-sectional designs that do not provide information about causality, but the review also looked at 19 prospective observational studies that can provide additional information about whether one condition causes another. Because these studies did not completely rule out some potential preceding causes of both low testosterone and cardiovascular disease, additional research is needed to confirm the relationship between the two conditions, Ruige said.

"Gaps still remain in our understanding of low testosterone and [cardiovascular disease](#)," he said. "Ultimately, the goal is to more accurately assess the impact [testosterone](#) substitution therapy may have on the heart health of men who qualify for the treatment."

**More information:** The article, "Beneficial and Adverse Effects of Testosterone on the Cardiovascular System in Men," was published online, ahead of print.

Provided by The Endocrine Society

Citation: Low testosterone may be linked to heart problems (2013, September 24) retrieved 3

May 2024 from <https://medicalxpress.com/news/2013-09-testosterone-linked-heart-problems.html>

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