

Testosterone therapy may help improve pain in men with low testosterone

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Testosterone therapy is associated with decreased pain perception in men with low testosterone levels related to opioid (narcotic) pain relievers (analgesics), a new study finds. The results were presented Monday at The Endocrine Society's 95th Annual Meeting in San Francisco.

"In this study, we attempted to determine whether testosterone replacement improves [pain perception](#) and [tolerance](#), and quality of life in men with [low testosterone levels](#) due to narcotic analgesics," said the study's lead author Shehzad Basaria, MD, Medical Director, Section of Men's Health, Aging, & Metabolism at Brigham & Women's Hospital, Harvard Medical School, in Boston, MA. "We found that testosterone administration in these men was associated with a greater reduction in several measures of pain sensitivity during laboratory pain testing compared with men who were on placebo."

Opioids belong to a class of pain-reducing drugs that are used to relieve chronic pain from injuries, surgery and cancer treatment. These drugs include morphine, codeine, fentanyl and oxycodone, and are among the most frequently prescribed medications in the United States today.

In addition to being highly addictive, opioid use is associated with a number of side effects, including suppression of the hypothalamic-pituitary-gonadal axis in both women and men, resulting in decreased testosterone production. Low testosterone, in turn, can result in sexual dysfunction, decreased muscle mass, increased fat mass and decreased quality of life.

Previous animal research has demonstrated that castration of rodents is associated with increased pain perception while testosterone replacement reduces pain perception, suggesting an analgesic effect of this sex steroid. Whether these beneficial effects can be replicated in humans, however, remained unclear.

In this study, investigators found that, compared to placebo, testosterone therapy significantly improved pain perception and tolerance during laboratory pain testing. Testosterone therapy also improved some aspects of quality of life.

"If larger studies confirm these findings, [testosterone therapy](#) in this patient population may be beneficial in improving pain perception," Basaria said.

The study included 84 men ages 18-64 years old with opioid-induced testosterone deficiency. Their average age was 49 years. Of this group, 65 participants completed the study. Investigators randomly assigned participants to receive either testosterone gel, applied to the skin, or placebo, for 14 weeks. Thirty-six men received the [testosterone](#) gel, and 29 received a placebo.

At the beginning of the study, and then again at 14 weeks, the investigators assessed [pain](#) measures and quality-of-life parameters.

Solvay (now Abbott) Pharmaceuticals, Inc. funded the study.

Provided by The Endocrine Society

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