Restoring testosterone production in men may be as effective as replacing it, without compromising their fertility. Two phase III clinical trials show that a drug that restores the body's natural production of testosterone has no negative effect on a man's sperm count while a topical testosterone gel causes a significant drop. The findings, which are published in *BJU International*, could change the way men are treated for low testosterone.

While testosterone replacement therapy can boost men's energy levels, sex drive, and mood, the treatment can fool the body into thinking that it is producing enough testosterone, so that it in turn starts making less of its own. This can result in a significant decrease in sperm count—leading to infertility—because the body needs its own testosterone to

produce sperm.

An alternative approach to testosterone replacement is based on restoring the body's natural production of testosterone with drugs similar to those used to help women ovulate. Edward Kim, MD, urologist at the University of Tennessee Medical Center and Professor at the University of Tennessee Graduate School of Medicine in Knoxville, and his colleagues compared such a drug, called Enclomiphene citrate, with testosterone replacement therapy (Androgel) in overweight men with low testosterone, or hypogonadism. In the randomized studies, 44 men started on 12.5 mg of oral enclomiphene citrate daily, with 25 men being up-titrated to 25 mg; 42 men received a topical 1.62 percent

AndroGel; and 41 men received a placebo. Over five months, patients had 10 clinic visits with one overnight stay.

The investigators found that Enclomiphene citrate restored blood testosterone levels to normal after 16 weeks while maintaining sperm concentrations, whereas Androgel restored blood testosterone levels but caused marked reductions in sperm concentrations by suppressing the function of the testes.

"One of the basic tenets in medicine is to do no harm. As this study has shown in a randomized, double-blind, double-dummy, placebo-controlled manner, exogenous testosterone therapy with Androgel can

clearly decrease sperm production and potentially impact fertility," said Dr. Kim. "This study confirmed that Enclomiphene can maintain spermatogenesis while restoring testosterone levels to normal."