

No link found between erectile dysfunction drugs and risk of prostate cancer

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While some previous studies have indicated that taking erectile dysfunction (ED) drugs may reduce the likelihood of developing prostate cancer, new research published in *The Journal of Urology* found that these drugs do not play a role in preventing prostate cancer.

ED is a common problem with a prevalence of 20% to 40% in the sixth decade of life and approaching 75% in the seventh decade. Drugs such as tadalafil, sildenafil, and vardenafil are phosphodiesterase type 5 inhibitors (PDE-5is) commonly used to treat ED. Since PDE-5is were first introduced in 1998, their durability, safety, and efficacy for treating ED have been clearly demonstrated.

"In vitro mouse studies have suggested that these drugs might have some anticancer activity, but the evidence in human subjects is mixed," said lead investigator Stephen J. Freedland, MD, Division of Urology, Department of Surgery at the Samuel Oschin Comprehensive Cancer Institute at Cedars-Sinai in Los Angeles, CA. "Given the routine use of PDE-5i and the possibility that these agents may have anticancer activity, we wanted to test the association between their use and risk of developing [prostate cancer](#)."

Using data from REDUCE, a four-year, multicenter study testing the effect of daily dutasteride to treat benign prostatic hyperplasia on prostate cancer risk in men, the authors analyzed whether ED [drug](#) use by more than 6,500 patients may have affected overall prostate cancer risk and disease grade (Gleason 2-6 and 7-10). All participants in the

REDUCE study were required to undergo biopsies at two and four years after enrollment, which facilitated uniform cancer assessments across the entire group. In this way, the basic science linking PDE-5i and [anticancer activity](#) could be explored.

Of the 6,501 men in the study 364 (5.6%) used PDE-5i at baseline. During the study, prostate cancer was diagnosed in 71 of these men (19.5%) compared to 1,391 of 6,137 (22.7%) men who did not take PDE-5i, which was not significantly different. An analysis of prostate cancer grade also showed no correlation between PDE-5i use and low or high grade cancer. Because PDE-5i use was significantly higher among North American men, the authors looked for a regional effect. They found some correlation between ED use and lower prostate cancer diagnosis in North American men, but this did not reach statistical significance.

"Future studies with longer followup and larger study populations are warranted to determine the association between PDE-5i and prostate cancer," said Juzar Jamnagerwalla, MD, [urology](#) resident at Cedars-Sinai and first author of the study.

More information: "The Association Between Phosphodiesterase Type-5 Inhibitors and Prostate Cancer: Results from the REDUCE Study," by Juzar Jamnagerwalla, Lauren E. Howard, Adriana C. Vidal, Daniel M. Moreira, Ramiro Castro-Santamaria, Gerald L. Andriole, and Stephen J. Freedland, *The Journal of Urology*, published online in advance of Volume 196, Issue 3 (September 2016)

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