

Marijuana use may increase risk of testicular cancer: study

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A new study from the University of Southern California (USC) has found a link between recreational marijuana use and an increased risk of developing subtypes of testicular cancer that tend to carry a somewhat worse prognosis. Published early online in *Cancer*, a peer-reviewed journal of the American Cancer Society, the findings suggest that the potential cancer-causing effects of marijuana on testicular cells should be considered not only in personal decisions regarding recreational drug use, but also when marijuana and its derivatives are used for therapeutic purposes in young male patients.

[Testicular cancer](#) is the most common cancer diagnosed in young men ages 15 to 45 years. The malignancy is becoming more common, and researchers suspect this is due to increasing exposure to unrecognized environmental causes.

To see if recreational drug use might play a role, Victoria Cortessis, MSPH, PhD, assistant professor of [preventive medicine](#) at the Keck School of Medicine of USC in Los Angeles, and her colleagues looked at the self-reported history of recreational drug use in 163 young men diagnosed with testicular cancer and compared it with that of 292 healthy men of the same age and race/ethnicity.

The investigators found that men with a history of using marijuana were twice as likely to have subtypes of testicular cancer called non-seminoma and mixed [germ cell tumors](#). These tumors usually occur in younger men and carry a somewhat worse prognosis than the seminoma subtype. The

study's findings confirm those from two previous reports in *Cancer* on a potential link between marijuana use and testicular cancer.

"We do not know what marijuana triggers in the testis that may lead to carcinogenesis, although we speculate that it may be acting through the [endocannabinoid system](#)—the [cellular network](#) that responds to the active ingredient in marijuana—since this system has been shown to be important in the formation of sperm," said Cortessis.

The researchers also discovered that men with a history of using cocaine had a reduced risk of both subtypes of testicular cancer. This finding suggests that men with testicular cancer are not simply more willing to report a history of using recreational drugs. While it is unknown how cocaine may influence testicular cancer risk, the authors suspect that the drug may kill sperm-producing germ cells since it has this effect on experimental animals.

"If this is correct, then 'prevention' would come at a high price," Cortessis said. "Although germ cells can not develop cancer if they are first destroyed, fertility would also be impaired. Since this is the first study in which an association between cocaine use and lower testis cancer risk is noted, additional epidemiological studies are needed to validate the results."

More information: "Population-based case-control study of recreational drug use and testis cancer risk confirms association between marijuana use and non-seminoma risk." John Charles A. Lacson, Joshua D. Carroll, Ellenie Tuazon, Esteban J. Castelao, Leslie Bernstein, and Victoria K. Cortessis. *Cancer*; Published Online: September 10, 2012 ([DOI: 10.1002/cncr.27554](https://doi.org/10.1002/cncr.27554)).

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