

## Brachytherapy reduced death rates in high-risk prostate cancer patients, study finds

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Brachytherapy for high-risk prostate cancers patients has historically been considered a less effective modality, but a new study from radiation oncologists at the Kimmel Cancer Center at Jefferson suggests otherwise. A population-based analysis looking at almost 13,000 cases revealed that men who received brachytherapy alone or in combination with external beam radiation therapy (EBRT) had significantly reduced mortality rates.

Their findings are reported online January 23 in the *International Journal of Radiation Oncology, Biology, Physics*.

Brachytherapy involves the precise placement of radiation sources directly at the site of a tumor and is typically used to treat low and intermediate risk [prostate](#) cancers. However, brachytherapy treatment for high-risk patients is less common and controversial, given in part to early retrospective studies that found it to be associated with lower cure rates compared to EBRT.

Many experts believe that these early series were limited by poor brachytherapy technique, and that high-quality contemporary brachytherapy may be an effective tool against high-risk [prostate cancer](#).

"The study contradicts traditional policies of using brachytherapy in just low and intermediate risk patients by suggesting there may instead be an improvement in prostate cancer survival for high-risk patients," said co-author Timothy Showalter, M.D., assistant professor in the Department

of Radiation Oncology at Thomas Jefferson University Hospital, and associate research member of Jefferson's Kimmel Cancer Center.

"Although studies like this cannot prove an advantage for brachytherapy, our report does suggest that brachytherapy is no less effective than EBRT and should be considered for some men with high-risk prostate cancer."

Researchers identified 12,745 Surveillance, Epidemiology and End Results database patients diagnosed from 1988 to 2002 with high-grade prostate cancer of poorly differentiated grade and treated with brachytherapy (7.1 percent), EBRT alone (73.5 percent) or brachytherapy plus EBRT (19.1 percent). The team used multivariate models to examine patient and tumor characteristics associated with the likelihood of treatment with each radiation modality and the effect of radiation modality on prostate cancer-specific mortality.

Treatment with brachytherapy alone or brachytherapy in combination with EBRT, the researchers found, was associated with significant reduction in prostate cancer-specific [mortality rates](#) compared to EBRT alone.

Significant predictors of use of brachytherapy or brachytherapy plus EBRT were younger age, later year of diagnosis, urban residence and earlier T-stage.

According to the researchers, including lead author Xinglei Shen, M.D., a resident in Jefferson's Department of [Radiation Oncology](#) and a part-time master's degree student in the Jefferson School of Population Health, the study's findings provide ample evidence to further study brachytherapy as part of an effective treatment strategy for men with high-grade prostate cancer.

"Today, for the most part, brachytherapy is not being used for these high-

risk patients or even recommended," Dr. Shen said. "But if you look at the biology and theory behind it, it makes sense: you can really give a lot more dose with [brachytherapy](#) than with EBRT alone to the prostate. And this presents an opportunity for high-risk patients."

Provided by Thomas Jefferson University

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