

# Prognostic markers for prostate cancer patients who receive radiation after surgery

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Removal of the prostate gland often eradicates early-stage cancer. But patients whose cancer has spread may need to follow up with what is known as salvage radiation therapy. Researchers at Fox Chase have now determined a better way to monitor outcomes after this procedure.

A team led by Mark Buyyounouski, M.D., M.S., radiation oncologist at Fox Chase who will present the results at the annual meeting of the American Society for Radiation [Oncology](#), found that levels of a prostate-specific protein up to 18 months after salvage radiation therapy predict mortality and progression of the disease.

"It's important because if you can identify people who are more likely to die of [prostate cancer](#) early, you can talk with them about doing another treatment very quickly, with the hope that it will prolong their lives," says Buyyounouski.

Prostate cancer, the most common cancer in men and the second leading cause of cancer deaths in men, causes nearly 220,000 new cases and more than 30,000 deaths each year. The presence of the disease is indicated by the amount of a protein called prostate-specific antigen (PSA). For men who do not undergo surgery, reaching a PSA level of 2 ng/mL within 18 months after radiation treatment is associated with spread of the disease and higher mortality rates. Buyyounouski and his team were curious about whether the same criterion is important for patients who receive radiation after surgery.

In the study, the scientists looked at 222 patients who went through salvage [radiation therapy](#) at Fox Chase between 1991 and 2007. They found that roughly half of the men who surpassed threshold PSA levels in the [bloodstream](#) within 18 months after treatment experienced spread of the disease or died within five years. By contrast, men whose PSA levels did not reach the threshold within 18 months did not die within five years, and the likelihood that the disease metastasized was only 17% during that time period. The more quickly the PSA rises, the greater the likelihood the disease will attack other organs and cause death.

"These results provide us with an opportunity to identify patients who should be treated aggressively, before we see any other evidence of prostate cancer," Buyyounouski says. On the other hand, men who approach a PSA level of 2 ng/mL 18 months after treatment or later may not require immediate hormonal therapy, he adds. To confirm the findings, Buyyounouski and his team will next extend the investigation to multiple institutions and a larger set of patients.

Provided by Fox Chase Cancer Center

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