

Hormone Therapy May Not Benefit Most Men Receiving Radiotherapy After Prostate Surgery

Study findings could help patients avoid side significant effects and improve quality of life.

February 27, 2026 By Denise Heady and UCLA Health

A new study led by [UCLA Health Jonsson Comprehensive Cancer Center](#) investigators suggests that adding hormone therapy to post-operative radiotherapy may provide little survival benefit for most men with prostate cancer, especially for those with very low PSA levels before treatment.

The researchers found that for men with low PSA levels prior to radiotherapy, adding hormone therapy, whether short-term or long-term, did not improve overall survival. Men with higher PSA levels before radiation may see modest improvements in survival and metastasis-free survival, suggesting hormone therapy may be beneficial primarily for this higher-risk group.

[The results](#) were published today in The Lancet and presented by [Dr. Amar Kishan](#), professor and executive vice chair of radiation oncology at the David Geffen School of Medicine at UCLA, during the plenary session of the American Society of Clinical Oncology Genitourinary Cancers Symposium in San Francisco.

“Hormone therapy, which impacts the ability of testosterone to stimulate prostate cancer growth and repair, has been shown to improve outcomes when combined with radiotherapy in men whose prostates are still intact. However, whether it has a similar benefit for men receiving radiotherapy after prior surgery has remained unclear,” said Kishan, first author of the study and co-director of the cancer molecular imaging, nanotechnology and theranostics program at the UCLA Health Jonsson Comprehensive Cancer Center. “At the same time, hormone therapy carries significant side effects, including severe fatigue, hot flashes, sexual dysfunction, weight gain, bone loss and metabolic changes that can increase cardiovascular risk. Our findings show that for most men with detectable but low PSA levels (<0.5 ng/mL), after surgery to remove the prostate, post-operative radiotherapy is highly effective on its own. By safely omitting hormone therapy in these patients, we can potentially spare them months of treatment that may substantially affect their quality of life without extending survival.”

To better understand the impact of hormone therapy in this setting, the researchers conducted a large-scale, individual patient-level meta-analysis through the MARCAP Consortium, an

international collaboration co-led by Kishan that is designed to evaluate long-term outcomes across randomized clinical trials.

The team analyzed data from 6,057 men enrolled in six randomized trials comparing post-operative radiotherapy alone to radiotherapy combined with either short-term (4-6 months) or long-term (24 months) hormone therapy. By pooling individual patient data rather than relying on summary trial results, investigators were able to examine outcomes in greater detail, including how pre-radiation PSA levels influenced treatment benefit.

Patients were followed for a median of nine years, allowing researchers to assess long-term overall survival, metastasis-free survival and recurrence outcomes. The analysis also enabled direct comparisons between short-term and long-term hormone therapy to determine whether extending treatment duration improved outcomes.

The researchers found that overall, 83.6% of men who received post-operative radiotherapy alone were alive after 10 years, compared with 84.3% for those who received post-operative radiotherapy plus hormone therapy.

Researchers found that pre-radiotherapy PSA levels, a measure of prostate-specific antigen in the blood after prostatectomy, played a crucial role. Men with low PSA levels before radiotherapy (≤ 0.5 ng/mL) saw no benefit from hormone therapy. In contrast, men with higher PSA levels showed modest improvements in survival, suggesting that hormone therapy may only be worthwhile for those with elevated PSA.

The study also examined the duration of hormone therapy. Short-term therapy did not improve overall survival, though it slightly reduced the risk of cancer spreading. Long-term therapy showed a small survival benefit, particularly for men with higher PSA levels after prostatectomy. However, the team's statistical analysis demonstrated that extending short-term therapy to long-term therapy did not further improve survival, although it did modestly lower the risk of metastasis.

"Our goal is always to treat the cancer while minimizing harm," said Kishan. "This study helps us move toward more personalized care for men with prostate cancer. By better identifying who truly benefits from hormone therapy, we can make treatment smarter, reduce unnecessary interventions and focus on improving patients' overall well-being."

Building on those findings, ongoing research is working to further refine that approach. Trials such as the [BALANCE Trial](#) aim to pinpoint biomarkers that can identify which men are most likely to benefit from hormone therapy after surgery, helping tailor treatment decisions even more precisely.

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This [news release](#) was published by UCLA Health on February 26, 2026.

