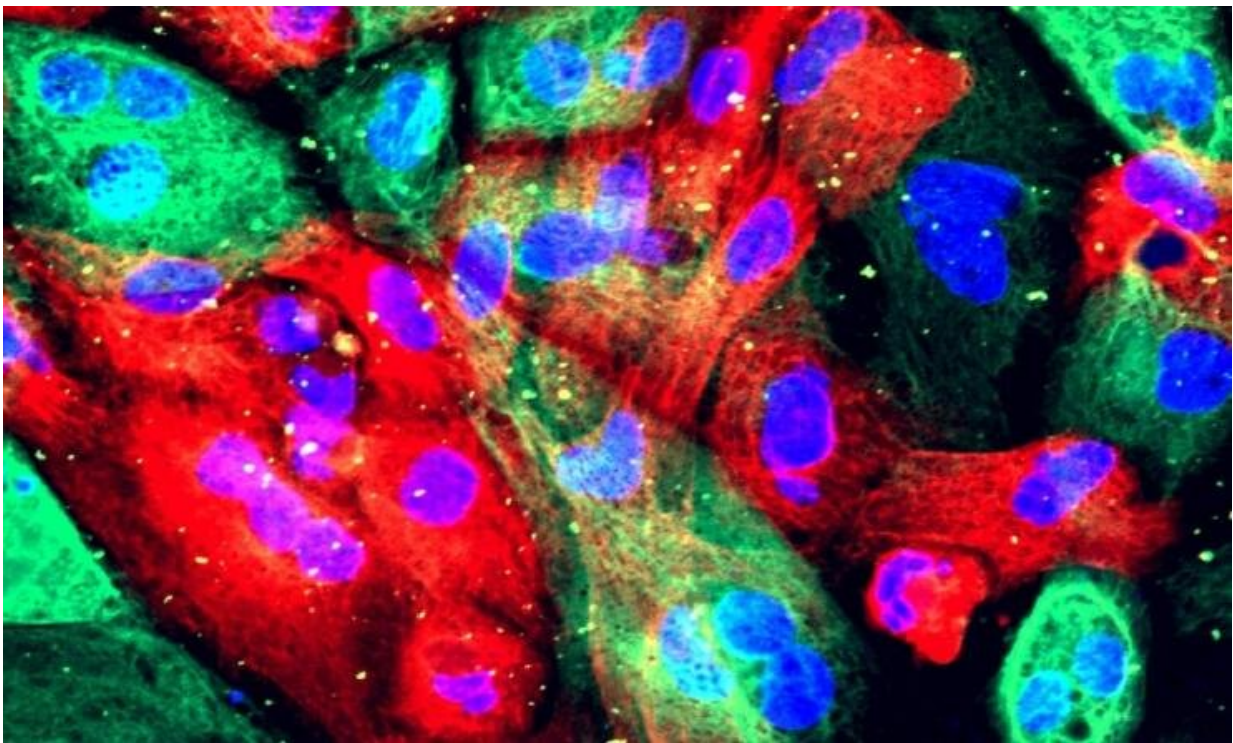


Increased survival rate in prostate cancer patients with addition of hormone therapy treatments

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Prostate cancer cells. Credit: NIH Image Gallery

Prostate cancer is the leading cause of cancer in men worldwide, and radiotherapy is one of the common forms of treatment. In a first-of-its kind meta-analysis, published today in *The Lancet Oncology*, researchers

from University Hospitals (UH) and Case Western Reserve University show that there is consistent improvement in overall survival in men with intermediate- and high-risk prostate cancer with the addition of hormone therapy to radiotherapy treatments.

Throughout the past 40 years, randomized trials have been conducted on the impact of adding [hormone therapy](#) to [prostate cancer](#) treatments. While these trials individually show the benefit of hormone therapy, there are inconsistencies in timing and duration of treatment recommendations.

"Our research team set out to conduct a first-of-its-kind, comprehensive analysis by collecting individual patient data from each and every [randomized trial](#) conducted around the world, and performed a meta-analysis of the impact of various treatment intensification strategies using hormone therapy with radiation therapy for localized prostate [cancer](#)," said senior author Daniel E. Spratt, MD, Vincent K. Smith Chair in Radiation Oncology at UH Seidman Cancer Center, Professor in the Department of Radiation Oncology at Case Western Reserve School of Medicine, and Member of the Developmental Therapeutics Program at Case Comprehensive Cancer Center. "Our goal is to better personalize therapy for prostate cancer patients, by providing the most precise and accurate estimates of the benefit of hormone therapy."

In this analysis, the team made three key discoveries:

- 1) Men with intermediate- and high-risk prostate cancer have an increased survival rate from the addition of hormone therapy to [radiotherapy](#). This was seen in both younger and older men, and in men treated with lower and higher doses of radiotherapy.

- 2) Survival rate in men with prostate cancer improves with the prolongation of adjuvant hormone therapy to radiotherapy. This benefit

was seen in both younger and older men, in men treated with lower and higher doses of radiotherapy, and in men with both intermediate- and high-risk prostate cancer. Prior to this analysis, no trial was large enough to show a clear benefit in intermediate risk disease from extending the duration of adjuvant hormone therapy.

3) The prolongation of neoadjuvant hormone therapy before radiotherapy did not benefit men in any outcome measured. This is an important finding, because some countries routinely give extended durations of hormone therapy before radiotherapy. The team showed that this method isn't advantageous over shorter durations.

"We now have estimates that show the benefit of adding and prolonging adjuvant hormone therapy for clinically relevant subsets of patients," explained Dr. Spratt. "Our team showed that treating a group of approximately ten to 15 men with hormone therapy or extended adjuvant hormone therapy, for at least 18 months, prevented one man from developing metastatic disease ten years after treatment. This is dependent on patient and tumor specific factors, but gives us a more precise estimate to work with when it comes to recommending treatment options."

The Meta-Analysis of Randomized Trials in Cancer of the Prostate (MARCAP) Consortium, is the first, comprehensive, [international collaboration](#) of randomized phase III clinical trial individual patient data. The ability to analyze data from every clinical trial group in the world, investigating the impact of hormone therapy with radiotherapy, demonstrates immense progress in the prostate oncology field.

"This work from the MARCAP consortium will bring confidence in recommending various treatment intensification strategies, and allow providers to have more accurate, shared-decision making conversations with patients about the benefits of using [hormone therapy](#) with

radiotherapy for [prostate](#) cancer treatment," emphasized Dr. Spratt.

In this MARCAP analysis, 12 randomized trials were included. The research team now has more than 20 trials, and that number is continuing to grow, from groups from around the world that have agreed to share data. In the next steps for this research, this repository will be used to investigate additional clinically relevant questions regarding optimal dosing of radiotherapy, fractionation, use of pelvic nodal radiotherapy, and extending studies into the recurrent and advanced disease states.

More information: Amar U Kishan et al, Androgen deprivation therapy use and duration with definitive radiotherapy for localised prostate cancer: an individual patient data meta-analysis, *The Lancet Oncology* (2022). [DOI: 10.1016/S1470-2045\(21\)00705-1](https://doi.org/10.1016/S1470-2045(21)00705-1)

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