

New ASTRO/ASCO/AUA guideline for prostate cancer supports shortened radiation therapy

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Three prominent medical societies today issued a new clinical guideline for physicians treating men with early-stage prostate cancer using external beam radiation therapy (EBRT). Adoption of the guideline could make treatment shorter and more convenient for many patients with prostate cancer, the most common malignancy among American men.

Developed by a panel of experts from the American Society for Radiation Oncology (ASTRO), American Society of Clinical Oncology (ASCO) and American Urological Association (AUA), the new guideline recommends offering [patients](#) a [treatment](#) option known as hypofractionated [radiation therapy](#) as an alternative to longer, conventional courses of radiation. ASTRO, ASCO and AUA published the guideline in their respective journals, [Practical Radiation Oncology](#), [Journal of Clinical Oncology](#) and [The Journal of Urology](#).

"Conclusive evidence from several large, well-designed randomized trials now confirms that dose escalation can almost universally benefit men with early-stage prostate cancer who choose to manage their disease with external radiation," said Howard Sandler, MD, FASTRO, FASCO, chair and professor of radiation oncology at Cedars-Sinai Medical Center and co-chair of the guideline panel. "Significant advances in treatment planning and delivery have enabled oncologists to deliver more powerful, life-saving doses of radiation in fewer visits and without

compromising quality of life."

External beam radiation therapy is a standard definitive treatment option that [confers outcomes equivalent to radical prostatectomy](#) for men with localized prostate cancer. When EBRT is hypofractionated, patients receive larger radiation doses across fewer treatment sessions—typically completing treatment in four to five weeks, compared with eight to nine weeks for conventional radiation. Extremely hypofractionated courses, also known as ultrahypofractionation, stereotactic body radiation therapy (SBRT) or stereotactic ablative radiation therapy (SABR), can be completed in as few as five treatments.

The recommendations apply to patients who require or prefer treatment instead of surveillance and have opted for EBRT instead of radical prostatectomy, brachytherapy or other treatment options for localized prostate cancer. Key recommendations are as follows:

- For men who have opted for EBRT, moderate hypofractionation (fraction size of 240-340 centigray (cGy)) should be offered as an alternative to conventional fractionation (180-200 cGy) regardless of cancer risk group, patient age, comorbidity, anatomy or baseline urinary function.
 - Suggested regimens for moderate hypofractionation include the two schedules used with the largest number of patients in randomized clinical trials: 6,000 cGy delivered in 20 fractions of 300 cGy over four weeks, or 7,000 cGy delivered in 28 fractions of 250 cGy over five and a half weeks.
 - While moderately hypofractionated EBRT confers similar early cancer control and side effects to conventional fractionation, physicians should counsel patients about a small increased risk of short-term gastrointestinal toxicity and discuss how data are limited

for oncologic outcomes beyond five years post-treatment.

- Ultrahypofractionation (≥ 500 cGy) guidance varies by prostate-cancer risk: for low-risk patients who have opted for EBRT, it may be offered as an alternative to conventional fractionation; for intermediate-risk disease, it may be offered, but the [expert panel](#) strongly encourages treating these patients as part of a clinical trial or multi-institutional registry; for high-risk disease, the panel does not suggest offering ultrahypofractionation outside of a trial or registry. Recommendations for ultrahypofractionation were graded by the panel as "conditional," reflecting the limited base of current evidence on this approach.
 - Suggested regimens for ultrahypofractionation include the two schedules used most commonly in published studies: 3,500 cGy in five fractions of 700 cGy, or 3,625 cGy in five fractions of 725 cGy. For five-fraction regimens, the expert panel recommends against total radiation doses larger than 3,625 cGy outside of clinical trials or registries. Consecutive daily treatments also should be avoided when using five fractions.
- Recommendations also address the technical aspects of planning and delivering hypofractionated prostate radiation, including target and normal tissue volumes, dose constraints, margin definitions and delivery techniques. The expert panel universally recommends the use of image-guided radiation therapy (IGRT) and avoidance of non-modulated conformal techniques.
- Fraction sizes between 340 and 500 cGy have been examined in very few studies and were therefore outside the scope of the guideline. Also excluded from the current guideline are treatment for locally advanced or metastatic disease, post-operative radiation, salvage therapy and re-irradiation.

"Men who opt to receive hypofractionated radiation therapy will be able to receive a shorter course of treatment, which is a welcomed benefit to

many men. When clinicians can reduce overall treatment time while maintaining outcomes, it's to our patients' benefit, as they can spend less time away from family and less time traveling to and from treatment," said Scott Morgan, MD, FRCPC, assistant professor of [radiation oncology](#) at the University of Ottawa and co-chair of the guideline panel.

"Image guidance and other advances in radiation therapy delivery have enabled radiation oncologists to treat [prostate cancer](#) with a therapeutic dose of [radiation](#) in a shorter treatment period than was previously possible," said Daniel Barocas, MD, associate professor of urology at Vanderbilt University Medical Center and guideline co-author. "Results so far show comparable early cancer control to conventional fractionation, while maintaining an acceptable side effect profile. This has benefits to the patient in terms of reducing the treatment burden and cost, and may increase the acceptability of [external beam radiation](#) therapy."

To develop this guideline, a 16-member expert panel of clinicians, researchers and a patient advocate reviewed studies published from December 2001 through March 2017; sixty-one articles, including four large prospective randomized clinical trials with more than 6,000 patients, were evaluated. The guideline was approved by the ASTRO, ASCO and AUA Boards of Directors following a period of public comment. It has been endorsed by the Society of Urologic Oncology (SUO), the European Society for Radiotherapy and Oncology (ESTRO) and the Royal Australian and New Zealand College of Radiologists (RANZCR).

More information: Scott C. Morgan et al, Hypofractionated Radiation Therapy for Localized Prostate Cancer: Executive Summary of an ASTRO, ASCO, and AUA Evidence-Based Guideline, *Practical Radiation Oncology* (2018). [DOI: 10.1016/j.prro.2018.08.002](https://doi.org/10.1016/j.prro.2018.08.002)

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