

Single Dose of Radiation as Effective as 5-Week Course for Lung Cancer

Dr. Mark Farrugia of Roswell Park Comprehensive Cancer Center describes new approach to post-operative radiation therapy for NSCLC.

October 6, 2025 By Roswell Park Comprehensive Cancer Center

BUFFALO, N.Y. — Research from a team of radiation oncology experts at Roswell Park Comprehensive Cancer Center has been selected as one of the “most clinically relevant” presentations at the annual meeting of the American Society for Radiation Oncology (ASTRO), [held September 27 to October 1] in San Francisco.

The study reports the results of a clinical trial at Roswell Park demonstrating that a single dose of highly precise radiation delivered post-operatively to patients with non-small cell lung cancer provides the same local disease control as the traditional five-week course of radiation — but is less toxic, causing fewer side effects.

Study first author [Mark Farrugia, MD, PhD](#), Clinical Assistant Professor of Oncology in the Department of Radiation Medicine at Roswell Park, will discuss the findings Monday, Sept. 29, in an [oral abstract presentation](#). The work was also included in a Science Highlights Session on Sunday, September 28, featuring top-rated lung cancer abstracts as determined by ASTRO.

“Patients with locally advanced lung cancer who undergo surgical resection can be at high risk for recurrence within the lymph nodes of the lung,” says Dr. Farrugia explains. “Historically, patients underwent a five-week course of radiation therapy to reduce that risk, but that approach was not found to improve survival, likely due to the significant side effects of the treatment. The five-week course is no longer routinely offered, and local control remains a concern. Our clinical trial at Roswell Park tested whether using a single dose of highly precise radiation could reduce the chance of a recurrence within the lymph nodes of the lung without causing toxicity to the esophagus, heart and lungs.”

“Our results show that a single dose of highly precise radiation yielded a similar benefit in local control to the conventional method without significant side effects,” says Dr. Farrugia. “This approach could represent the new standard of care for patients with locally advanced non-small cell lung cancer.”

Led by senior author [Anurag Singh, MD](#), Professor of Oncology and Director of Radiation Research

at Roswell Park, the prospective single-arm clinical trial enrolled 48 patients with NSCLC between 2019 and 2024.

At a median follow-up of 28.1 months, the team found that outcomes of the single-dose regimen were comparable to the five-week regimen but less toxic. Estimated disease-free survival (DFS) was 49.3 months, with an estimated three-year DFS of 57.3%. Median overall survival (OS) had not yet been reached, with an estimated three-year OS of 71.9%. There were 11 (22.9%) grade 1-2 adverse events (mild or moderate), with none at grade 3 (severe).

Presentation details: [Abstract 272: “A Feasibility and Toxicity Analysis of Single-Fraction Stereotactic Body Radiation Therapy for Post-Operative Non-Small Cell Lung Cancer”](#)

This [news release](#) was published by Roswell Park Comprehensive Cancer Center on September 29, 2025.

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