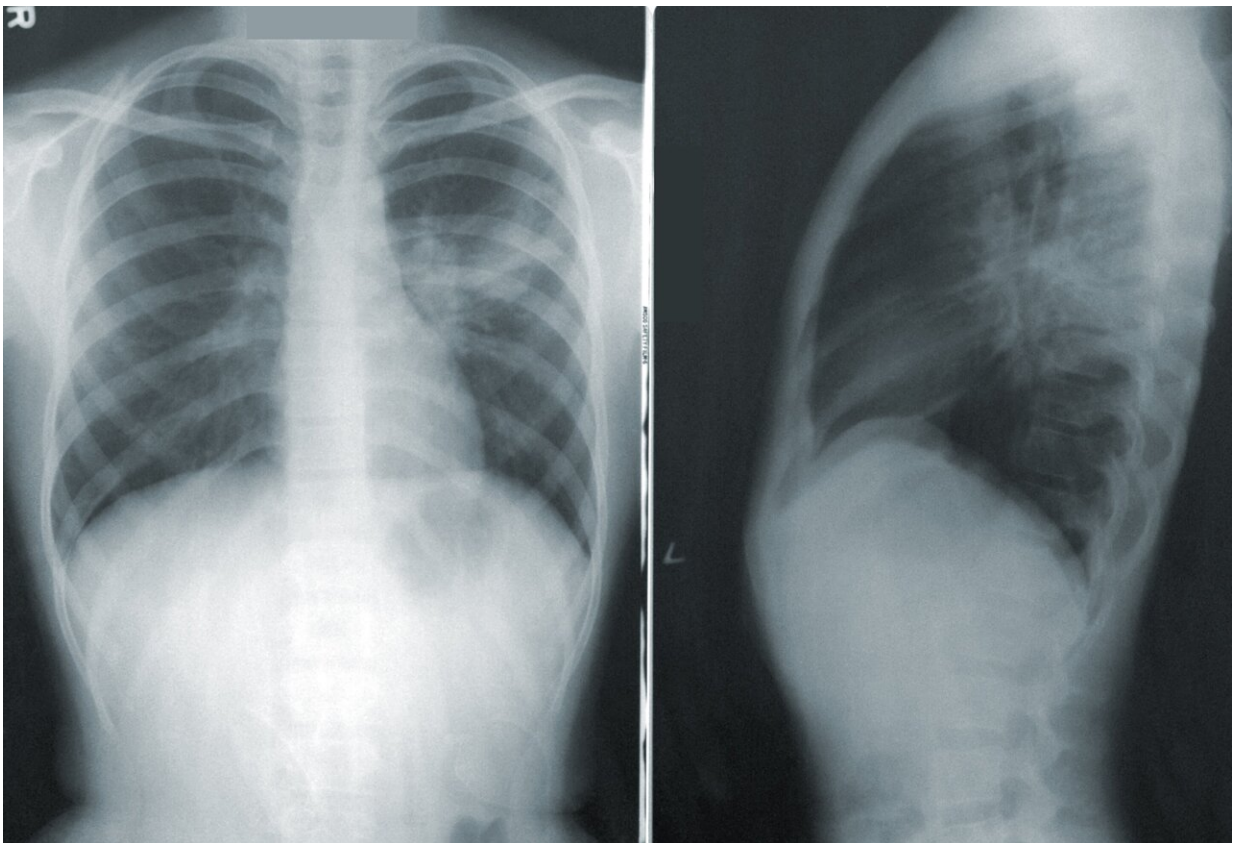


Intensity-modulated radiation therapy provides long-term benefits to patients with locally advanced lung cancer

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Intensity-modulated radiation therapy (IMRT) should be the preferred

choice when treating patients with locally advanced non-small cell lung cancer (NSCLC), as it reduces radiation exposure to the heart and lungs, according to researchers at The University of Texas MD Anderson Cancer Center.

Results from a long-term secondary analysis of the NRG Oncology-RTOG 0617 Phase III study, with a median follow-up of 5.2 years, revealed that [patients](#) receiving IMRT had a more than two-fold reduction in severe lung inflammation (pneumonitis) compared to those who received 3D-conformal radiotherapy (3D-CRT), 3.5% versus 8.2%.

The findings were presented today at the International Association for the Study of Lung Cancer [2023 World Conference on Lung Cancer](#) by Stephen Chun, M.D., associate professor of Radiation Oncology.

"IMRT spared more [normal tissue](#) than 3D-CRT, which translated into a clinically meaningful benefit to patients," Chun said. "Despite historical concerns of IMRT generating a low-dose radiation bath to a large area of normal lung tissue, we found no excess cancers, increased adverse events or survival detriment over the long term related to this approach."

For decades, 3D-CRT has been the standard of care for locally advanced [lung cancer](#) when surgery is not an option. However, it is less precise than IMRT, which sculpts and molds radiation beams to tumor targets, reducing [radiation exposure](#) to certain organs.

The NRG Oncology-RTOG 0617 study enrolled 482 NSCLC patients from 2007 to 2011 and compared a high dose of radiation (74 Gy) to a standard dose (60 Gy). All patients underwent concurrent chemotherapy (carboplatin/paclitaxel, with or without cetuximab) and either 3D-CRT (53%) or IMRT (47%).

Although patients treated with both techniques had similar survival rates,

closer inspection of the data demonstrated a correlation between survival and radiation exposure to the heart. IMRT treatment plans achieved significantly lower cardiac [radiation](#) doses.

Both the 3D-CRT and IMRT groups had similar rates of new cancer development over time. Scientists also saw no evidence that age impacted survival, meaning that age is no reason to exclude [elderly patients](#) from curative-intent chemoradiation for locally advanced NSCLC.

"The data from our study makes a compelling argument that we should use IMRT for locally advanced lung [cancer](#). As a randomized clinical trial comparing 3D-CRT and IMRT is unlikely to be performed, this study represents the strongest prospective evidence we will ever have in support of IMRT," Chun said.

More information: Abstract for "Long-Term Outcomes by Radiation Technique for Locally-Advanced Non-small Lung Cancer: A Secondary Analysis of NRG Oncology-RTOG 0617 at 5-years" available at [cattendee.abstractsonline.com/ ... ng/10925/Session/112](https://cattendee.abstractsonline.com/...ng/10925/Session/112)

Provided by University of Texas M. D. Anderson Cancer Center

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