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# Minimal dose CT superior to chest X-ray for detection of recurrent lung cancer

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Lung cancer is associated with very high mortality, in part because it is hard to detect at early stages, but also because it can recur frequently after surgical removal. The question arises as to what is the best way to follow lung cancer patients after surgery in order to spot problems early enough, before symptoms become obvious, so that patients may still be eligible for new interventions. In this study presented at the 93rd AATS Annual Meeting, investigators from the University of Toronto departments of Thoracic Surgery and Diagnostic Radiology show that minimal dose computed tomography (MnDCT) of the thorax offers much greater sensitivity at detecting new or recurrent lung cancer, with equivalent amount of radiation, compared to conventional chest x-rays.

"Up to a few years ago, we were using chest x-rays to monitor patients after surgery for lung cancer, but this follow-up was ineffective, and many patients still died of recurrent lung cancer, comments lead investigator Waël C. Hanna, MDCM, MBA, of the Department of Thoracic Surgery at the University of Toronto. "While CT scans can effectively be used to monitor lung cancer after surgery, there was significant concern about the large amount of radiation that will be delivered to patients, and standard dose CT scans were not used routinely in the follow-up of lung cancer. More recently, new technology allowed us to develop MnDCT."

As reported in this study, the majority of new or recurrent cancer was detected by MnDCT at a subclinical, intrathoracic stage, within two years of surgery. This allowed for the delivery of curative treatment in

the majority of patients with asymptomatic cancer and was associated with long survival.

The study followed 271 patients with lung cancer (80% Stage I, 12.5% Stage II) who underwent curative resection of lung cancer. Repeated imaging occurred at 3, 6, 12, 18, 24, 36, 48 and 60 months using both standard chest x-rays and MnDCT.

Investigators found that MnDCT detected 94% of recurrent cancers compared to only 21% with standard x-rays (p