

# Radiation from CT scans associated with increased risk for cancer

19 November 2019

A new study in *JNCI Cancer Spectrum* finds that exposure to radiation from CT scans is associated with higher risks of developing thyroid cancer and leukemia.

Researchers here conducted study from a National Health Insurance dataset in Taiwan between 2000 and 2013. The study followed 22,853 thyroid cancer, 13,040 leukemia, and 20,157 non-Hodgkin lymphoma cases. Researchers consulted data from the National Health Insurance program to study demographic and [medical information](#) on disease diagnoses, procedures, and drug prescriptions, and the enrollment profiles of all patients. Patients were excluded if they were under 25 years at the time of the cancer diagnosis, had less than three years of follow-up before cancer diagnosis, or had a history of a cancer before the year 2000.

Results showed that patients who developed thyroid cancer and leukemia had significantly higher likelihood of having received CT scans. In studies that combined patients across age groups, exposure to medical CT scans was not associated with increased risk for non-Hodgkin lymphoma. However in patients between 36 and 45 years of age, there was a three-fold increased risk of non-Hodgkin lymphoma associated with CT scans. In [older patients](#) the association between exposure to CT scans and non-Hodgkin lymphoma was not evident.

Researchers concluded that patients receiving CT scans had in general marked increases in the risk of developing thyroid cancer and leukemia, especially in [female patients](#) and patients younger than 45.

"Our study found that CT scans are associated with an increased risk of [thyroid cancer](#) and leukemia in adults in all ages and with non-Hodgkin lymphoma in [young adults](#)," said Yu-Hsuan Joni Shao, one of the paper's authors. "The

risk is stronger in patients who have higher cumulative doses from multiple scans. The increased numbers of people undergoing CT scans have become a public health issue."

**More information:** Yu-Hsuan Shao et al, Exposure to Tomographic Scans and Cancer Risks, *JNCI Cancer Spectrum* (2019). [DOI: 10.1093/jncics/pkz072](#)

Provided by Oxford University Press

APA citation: Radiation from CT scans associated with increased risk for cancer (2019, November 19)  
retrieved 3 December 2022 from <https://medicalxpress.com/news/2019-11-ct-scans-cancer.html>

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