# FLARE RT

FLARE RT: precise treatment to preserve lung health and target cancer.

Lung cancer is the leading cause of cancer deaths in the United States. Survival rate for patients with lung cancer is only 17.4% overall.

Based on data from SEER 18 2005-2011. Gray figures represent those who have died from lung cancer. Green figures represent those who have survived 5 years or more.

Radiation therapy is often used to treat lung cancer (either alone or in combination with chemotherapy and surgery). However, lung cancer sometimes comes back after treatment. Using advanced cancer imaging, we are predicting which tumors are more likely to come back, and intensifying treatment to those tumors. This also helps spare excess radiation to patients whose tumors are not likely to come back.

Pre-therapy   **Post-therapy**
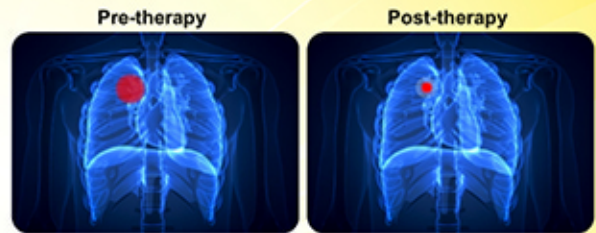
Cancer imaging (red) can identify tumors that are more likely to come back and help us to precisely intensify treatment.

Beyond curing more lung cancers, we are also decreasing side effects from treatment, by using specialized lung imaging to avoid treating healthy parts of the lung with radiation. Healthy lung sparing allows for safer treatment intensification in select patients.

Pre-therapy   **Post-therapy**

Lung imaging can help us avoid treating healthy lung and minimize side effects.

Healthy Lung   +   **Cancer Function**   =   **FLARE RT**
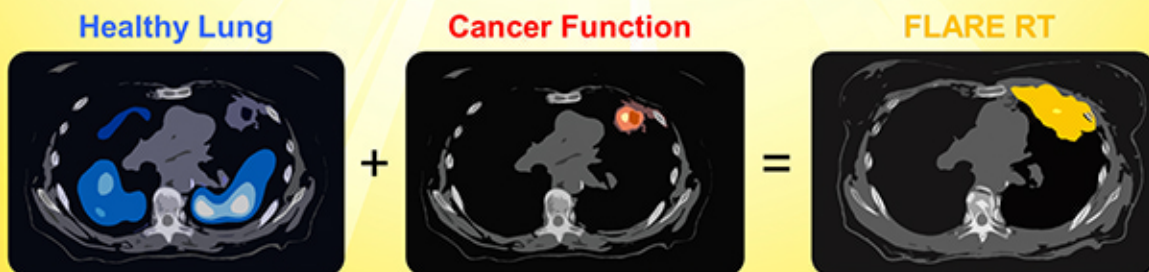
By imaging and mapping out the healthy lung tissue (blue in left figure), and imaging and mapping out lung tumors that are at high risk of coming back after treatment (red in middle figure), we are developing radiation treatments (yellow in right figure) that cure lung cancers without causing excess side effects. Adding imaging of healthy lung and imaging of cancer function together produces a more personalized therapy, known as FLARE RT.