Proton Therapy for Patients with Lung Cancer

Talk to your doctor about how Proton Therapy can help.

**Precision Therapy. Fewer side effects.**

Proton therapy is an advanced form of radiation cancer treatment that precisely targets tumors. This causes less damage to healthy tissue. Proton therapy patients experience fewer side effects than with standard X-ray radiation. Proton therapy is effective in treating a broad range of tumors including brain, prostate, head and neck, central nervous system, lung, breast, sarcoma, gastrointestinal and many pediatric cancers.

**Particularly effective in treating lung cancer**

Doctors and scientists have been studying the results of proton therapy in the treatment of Non-small cell lung cancer (NSCLC). One study in particular showed that patients with stage III NSCLC who were treated with proton therapy experienced lower rates of pneumonitis and esophagitis (inflammations of the lungs and esophagus) compared to patients treated with x-ray radiation therapy such as three-dimensional conformal radiotherapy (3-D CRT) and intensity modulated radiation therapy (IMRT). At the same time, proton therapy achieved similar efficacy as 3-D CRT and IMRT.

Lung Cancer treatment with protons compared to treatment with conventional radiation/X-rays/IMRT

With proton therapy, much of the healthy tissue and critical organs surrounding the cancer is spared from receiving additional radiation. This is a major concern when it comes to radiation treatment for lung cancer because the cancer may be close to your heart, healthy lung, and other critical organs. The unique properties of protons allow proton radiation to better conform to your cancer, reducing excess radiation to the healthy tissues and organs around it.

In the chart below, the grey/white areas indicate no radiation exposure, while the colored areas indicate radiation exposure.

Proton therapy provides the precision to target your tumor while avoiding the healthy tissue and organs around it. This is especially important when it comes to lung cancer because the cancer may be close to your heart, uninvolved lung, and other vital organs.

**Proton Therapy may be an option if you:**

- Have stage III NSCLC
- Need concurrent chemotherapy
- Had prior radiation therapy
- Have limited or poor pulmonary function