**Proton Therapy for Patients with Breast Cancer**

*Talk to your doctor about how Proton Therapy can help.*

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**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 breast cancer**

Proton therapy significantly reduces radiation to normal tissues. Lung and heart doses were compared to 3-D conformal radiotherapy (3-D CRT) and intensity-modulated radiation therapy (IMRT) with considerable improvement.

These remarkable results show that proton therapy is a great treatment option for women who are concerned about potential side effects from radiation treatment.

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

Proton therapy has unique attributes that reduce radiation exposure to normal, healthy organs. This is especially important in left-sided breast cancer, as the cancer is close to critical organs such as the heart and the lungs.

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

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

- Have stage III breast cancer
- Have other risk factors that indicate the inclusion of lymph node irradiation
- Will be receiving cardiotoxic chemotherapy
- Have preexisting vascular comorbidity, cardiac disease, lung disease, or increased risk of developing a secondary malignancy
- Have unfavorable anatomy that places normal organs at elevated risk of radiation exposure
