Proton Therapy for Patients with Cancer
Talk to your doctor about how proton therapy can help.

Precision therapy. Few side effects.
Proton therapy is a next-generation radiation treatment that precisely targets tumors, minimizing radiation to healthy tissue and improving the lives of patients with cancer. Proton therapy deposits the greatest amount of radiation right into the tumor and then stops, allowing patients to receive high doses with less risk of damage to nearby healthy tissue. This more targeted form of radiation is especially useful for pediatric cancers, where the impact of excess, harmful radiation causes long-term damage. Research shows proton therapy can minimize short- and long-term side effects, reduce the occurrence of secondary tumors and improve patients' quality of life.

Effective in treating a broad range of tumors.
Although tumors can be treated with surgery, chemotherapy and standard X-ray radiation, proton therapy can be particularly beneficial for patients with certain types of cancer as well as some non-cancerous tumors and arteriovenous malformations. The ability of protons to deposit more energy directly in the tumor makes proton therapy an ideal treatment option for many patients, especially those whose tumors are near critical organs or structures, or those who have exhausted other treatment options.

The most important benefit of proton therapy is that protons result in less damage to healthy tissue compared to other forms of radiation treatment.

Brain tumor comparison:

**Brain tumor treatment with X-rays/IMRT.**
With X-rays/IMRT, much of the healthy tissue and critical organs surrounding the tumor receives radiation. The extra dose to healthy tissue from X-ray radiation therapy is equivalent to exposing the brain to 75,000 - 450,000 dental X-rays. Colored area indicates radiation exposure.

**Brain tumor treatment with protons.**
Proton therapy spares much of the healthy tissue and critical organs surrounding the tumor from receiving additional radiation. Some of the normal brain tissue receives 50% less radiation than with X-rays/IMRT.

Source of treatment plans: ProCure Training and Development Center