More than 268,000 new cases of prostate cancer are diagnosed in men every year. For most patients with prostate cancer, radiation therapy is a treatment option. However, excess radiation from standard therapy that uses X-rays can cause side effects years or decades later. These side effects include erectile and bladder dysfunction, and a small risk of secondary cancers. To avoid treating healthy tissue, doctors often reduce the optimal dose to the prostate. An alternate option to standard therapy using X-rays is proton therapy.

**Advantages of Proton Therapy**

Proton therapy with Pencil Beam Scanning (PBS) is a next-generation, precisely targeted radiation technology developed to treat tumors. With proton therapy, radiation oncologists can deliver higher, more effective doses while minimizing radiation to healthy tissue because protons can be more precisely controlled to release most of their energy within the prostate.

One study found that proton therapy does not suppress testosterone in patients with prostate cancer.1 Testosterone is the major male hormone that controls sex drive and overall energy and stamina. Clinical trials report that patients with lower-risk prostate cancer who get proton therapy have a cure rate of 90-99% at five years. These trials also reported only a 1-2% risk of serious side effects and great quality of life.
About Proton Therapy

The Bragg Peak

During proton therapy, a beam of subatomic particles called protons is sped up in an accelerator and then aimed at the tumor. The nature of protons is such that the radiation dose increases suddenly, in what is called a Bragg Peak. Then the radiation falls effectively to zero. This allows radiation oncologists to precisely target tumors, minimize radiation to healthy tissue in front of the tumor, and avoid healthy tissue behind the tumor. Radiation oncologists can spread the Bragg Peak to cover the entire tumor.

The advantages of Pencil Beam Scanning (PBS)

PBS is the latest proton technology that allows for even greater accuracy when treating cancer with proton radiation. PBS uses a narrow proton beam to paint the tumor with radiation. Because the pencil beam can be targeted even more precisely, higher, more effective doses can be used. The pencil beam deposits radiation starting at the deepest layer, and works slice by slice through the tumor.

About our specialists

All our radiation oncologists are faculty at the University of Washington School of Medicine and all are board certified. All our physicians are experts in proton therapy and other forms of radiation. They will provide you with an expert recommendation.

Many patients with prostate cancer are good candidates for proton therapy. To better understand the use of proton therapy in your treatment, call to schedule a consultation with a radiation oncologist. The radiation oncologists who practice at Fred Hutchinson Cancer Center and UW Medicine use many forms of radiation to treat prostate cancer. They will provide you with an expert treatment recommendation to consider.

References


Find out more.

To learn more about proton therapy for brain cancer or to schedule a consultation, please call us at 888.645.6934 or visit fredhutch.org/protontherapy

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Fred Hutchinson Cancer Center is an independent organization that serves as UW Medicine’s cancer program.