PROTON THERAPY TODAY



New Option for Cancer Patients: Proton Comes to South Jersey

Proton therapy has come to South Jersey, now giving many cancer patients another important option in treatment. At the new Penn Medicine | Virtua Health Proton Therapy Center, located on the campus of Virtua Voorhees Hospital, high-energy, finely targeted proton beams can reach tightly defined tumor targets, stopping at and destroying cancer with minimal impact on surrounding tissue.

"Proton therapy is the most advanced form of radiation, and is particularly good for targeting tumors in hard-to-reach places near critical organs, or to re-irradiate treated tumors that have recurred," said radiation oncologist Catherine Kim, MD, Medical Director, Penn Medicine | Virtua Health Radiation Oncology.

Concentrated Impact on Target Location

Proton therapy effectively reaches tumor tissue that may not lend itself as well anatomically to traditional X-ray/photon therapy. Evidence shows advantages for proton therapy against tumors near delicate structures and in sensitive areas. Studies suggest that proton therapy may cause fewer side effects than traditional radiation, with the chance to produce less functional loss in some cases, and quicker healing and recovery in many.

"With proton, we can adjust the beam to limit its area of impact and spare nontargeted tissue," said Penn Medicine | Virtua Health radiation oncologist Joseph A. Marascio, MD.

In destroying the targeted tumor with precision while sparing healthy tissue, proton therapy may also help to prevent another potential long-term side effect: the occurrence of radiation-induced secondary cancers as patients age. The therapy can also fit into the sequencing strategy with surgery and chemotherapy in the same way as traditional radiation. Thus, as cost and efficacy evaluations continue, proton therapy may become a first-line option for a broader set of patients.

Partner Experience, Highly Individualized Plans

Penn Medicine is a global leader in the field of proton therapy. With more than a dozen years of experience, Penn advises and trains many of the clinicians using proton therapy around the world.

For patients and referrers interested in proton therapy at the Virtua Voorhees location, a dedicated proton coordinator answers questions and arranges consultations. An oncology nurse navigator assists patients with details of treatment, ensuring a seamless experience. Insurance specialists are also available to advocate for patients regarding treatment plan coverage. The team works closely with referring physicians to apprise them of each point of patient care.

"No two patients or cancers are alike. When radiation is indicated, it's important to come for a full evaluation in which we can make the best recommendation, whether for photons, protons, or brachytherapy," said Penn Medicine | Virtua Health radiation oncologist Graeme Williams, MD, MBA. "Everyone's disease is different and every plan is particular to the patient. Our experienced team provides all forms of treatment options, with protons giving us another great alternative in many cases."



The Penn Medicine | Virtua Health Proton Therapy Center, located on the campus of Virtua Voorhees Hospital, as seen during a recent preview event.

To learn more or refer a patient to the Penn Medicine | Virtua Health Proton Therapy Center for a consultation, contact our proton coordinator at 856-247-7334.





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Proton Therapy for a Range of Cancers

Protons have little or no exit dose after their maximum dose dispersal, known as the Bragg peak. Currently, radiation oncologists are using proton beams to target a varied list of cancers:

Thoracic cancer

These are predominantly lung cancers, with a particular focus on stage III non-small cell lung cancer and using special techniques for such moving tumors. Also applied to sarcoma, malignant mesothelioma, and thyroid tumors.

Head and neck cancers

Importantly, proton can effectively treat oropharyngeal cancers with a lower dose of radiation to the oral cavity and major salivary glands, reducing late moderatesevere xerostomia in head and neck cancer patients. A key example is use for HPV+ squamous cell cancer. The approach can minimize debilitating damage from radiation therapy that can affect eating and swallowing.

Genitourinary cancers

Prostate cancer is an area of special focus. Proton therapy reduces exposure of the rectum and other nearby tissues. The therapy also treats bladder cancer and testicular cancer.

Gynecologic cancers

Includes effective treatments for cervical cancer and endometrial cancer.

Adult brain/CNS tumors

This application includes brain tumors—thus minimizing dose to critical areas such the eye and other optic structures, brainstem, and the rest of brain—as well as spinal cord tumors, in the latter case reducing radiation exposure to the bowel and kidneys.

Gastrointestinal tumors

Proton therapy can treat anal, colorectal, esophageal, and liver cancers. For unresectable hepatocellular carcinoma, proton therapy has the potential to reduce dose and damage to cirrhotic livers.

Breast

The therapy is especially useful in reducing radiation dose to the heart in patients with left-sided breast cancer requiring comprehensive nodal irradiation and those with challenging anatomy making it difficult to treat with conventional radiation therapy.

Proton therapy is also applicable to lymphoma and kidney cancer, and is useful in treating cancer that has recurred in areas previously treated with conventional radiation therapy.

Virtua plans to begin accruing patients into clinical trials for proton therapy later this year.

Medicare covers proton therapy; while, coverage for patients with private insurance is still catching up, variable, and often individualized according to the case. But as such coverage solidifies, the above list and the clinical experience and data it represents are expected to do the same.



The gantry rotates around the patient in a 360-degree radius, allowing radiation oncologists to precisely target the tumor without harming surrounding tissue.