MedStar Health | MEDSTAR GEORGETOWN UNIVERSITY HOSPITAL

Proton therapy—frequently asked questions.

What is the difference between proton therapy and conventional radiation?

Traditional radiation therapy uses photons to treat tumors. Photons radiate not only tumor cells but also everything in their path, including healthy cells and structures around and behind the tumor.

Proton therapy uses protons to treat tumors. Protons can be controlled better than conventional radiation, making this treatment more precise and accurate. As a result, proton therapy can treat tumors without radiation continuing past the tumor (an "exit dose" of radiation). This protects surrounding tissues from harm.

How does proton therapy work?

Proton therapy uses pencil beam scanning to deliver radiation and match each tumor's exact shape and size in 3-D. This allows a single layer of a tumor to be treated at a time, in effect painting the tumor with radiation layer-by-layer and slice-by-slice until the entire area has been treated.

What are the benefits of proton therapy?

Proton therapy is more accurate and precise than most other forms of radiation therapy. Because it involves significantly less radiation exposure to normal tissues, proton therapy also lowers the risk of side effects and secondary, radiation-induced cancers. Additionally, proton therapy can treat recurrent cancers and children with cancer.

This advanced technology:

- Targets and destroys tumors with pinpoint accuracy
- Provides better protection to surrounding healthy tissues
- Requires less radiation
- Leaves virtually no exit dose; i.e., little to no radiation continues past the tumor
- Lowers the risk of radiation-induced secondary cancers
- Results in fewer side effects and better quality of life
- Is highly customizable, tailored to your needs

What types of cancers or tumors can proton therapy treat?

Proton therapy can treat cancer anywhere in the body, including:

- Brain tumors
- Breast cancer
- Gastrointestinal (GI) cancers
- Gynecologic cancers
- Head and neck tumors
- Lung and chest cancers
- Lymphomas and leukemias
- Pediatric tumors
- Prostate cancer
- Recurrent, previously irradiated tumors
- Sarcoma, soft tissue tumors, and bone tumors
- Spinal cord tumors

Who is a candidate for proton therapy?

An adult or child of any age may be a potential candidate for proton therapy. An evaluation by a radiation oncologist will determine whether proton therapy or another course of treatment is the best option for you.

Is proton therapy appropriate for children?

Yes. Proton therapy is generally accepted as part of the standard of care treatment for many pediatric cancers. It can be particularly beneficial for children because:

- Children are less likely to develop a secondary cancer later in life when treated with proton therapy as it treats tumors while keeping healthy surrounding cells unharmed.
- Proton therapy lowers a child's exposure to radiation, avoiding unnecessary exposure to healthy tissues and resulting in less growth impairment as they develop.
- Proton therapy causes fewer side effects compared to traditional radiation, allowing children to maintain normal activities during treatment.

How do I know if proton therapy is right for me?

You will first meet with a radiation oncologist for an evaluation that will include reviewing your medical records, all possible radiation treatments that may be appropriate for your specific health needs, and the risks and benefits of each option. You and your physician will then determine the best plan of care based on a number of factors, including the type of cancer; the tumor's location, size, and stage; and how well it may respond to different radiation therapies under consideration.

What happens next?

If proton therapy is determined to be your best option, your radiation oncologist and physicist will work together to build a treatment plan. Each plan is carefully configured to meet your needs.

If proton therapy is not the best treatment option for you, we offer the full range of radiation therapies available today and can address your needs.

How many proton therapy treatments will I need?

The length of the course of treatment depends on each patient's specific diagnosis, and is determined by the radiation oncologist. In general, the number of individual treatment sessions ranges from 10 to 40, depending upon the type of tumor. However, every patient is unique, so the actual number of treatment sessions may vary.

Does insurance cover proton therapy?

Medicare is covering proton therapy.

Proton therapy is a standard of care for pediatric patients, so insurance plans will cover most patients under the age of 21 or 19, depending on the plan.

If you are a candidate for the proton therapy, your insurance will be contacted to find out if it is a covered benefit for you. We have a team that will help you work through and obtain authorization and assist in the appeal process, if necessary.

We anticipate that insurance plans will cover most patients who need proton therapy, which is just a new way to deliver radiation, a treatment that has been around for decades. We will keep you informed as we pursue the process.

How do I make an appointment?

If you would like to make an appointment, please contact Senit Hailemariam, administrator, Department of Radiation Medicine: **senit.t.hailemariam@gunet.georgetown.edu** or **202-444-4036.**

It's how we treat people.