Proton Therapy for Patients with Cancer
How Proton Therapy Can Help

**Powerful, precise targeting**
Northwestern Medicine Proton Center offers proton therapy, an advanced form of radiation treatment that precisely targets tumors/cancers. This precision minimizes damage to surrounding healthy tissue with the goal of fewer side effects.

**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 and some non-cancerous tumors. The ability of protons to deposit more energy directly in the tumor makes proton therapy ideal for patients whose tumors are near critical organs or structures.

Proton therapy can help treat:
- Brain tumors
- Head and neck tumors
- Base-of-skull tumors
- Prostate cancer
- Pediatric tumors
- Tumors near the spine
- Melanoma of the eye
- Lung tumors
- Pituitary gland tumors
- Breast tumors
- Gastrointestinal cancers, including liver, esophageal and pancreatic

**Beneficial for children**
Children's bodies are still growing. This means they can have more serious short-term and long-term side effects from X-ray radiation than adults.¹ ² Research shows that proton therapy can reduce the risk of developmental and growth delays and abnormalities, reductions in IQ and other issues often linked with standard X-ray radiation. This is why proton therapy is often preferred when children need radiation treatment.

**Part of an expansive network**
Northwestern Medicine Proton Center is part of the expansive Northwestern Medicine Cancer Care Network (nm.org/cancer). The care team at Northwestern Medicine will review all your treatment options and collaborate with you to make the best, informed treatment decision.

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Factors that help the Northwestern Medicine Cancer Care Team determine if proton therapy is right for you, include your:

<table>
<thead>
<tr>
<th>Age</th>
<th>Tumor location</th>
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<tbody>
<tr>
<td>Tumor type</td>
<td>Tumor staging</td>
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<tr>
<td>Previous radiation treatment</td>
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Some ways you may benefit from proton therapy:

- Reduction of the short- and long-term side effects of radiation treatment
- Precise targeting of tumors and cancer cells
- Less radiation to surrounding healthy tissue and organs
- Limitation of radiation induced secondary tumor
- Ability to treat in an area that has received prior radiation
- Improved quality of life during and after treatment

Questions to ask your physician

- Is proton therapy an option for me? What are the pros and cons?
- How does proton therapy compare with my other options?
- What short-term and long-term side effects can I expect with each treatment option?
- How long would my treatment last at each appointment and the entire course?
- Where do I receive proton therapy?
- Once I have decided a course of treatment, what are the next steps?

Frequently asked questions

Can proton therapy be used with other forms of cancer treatment?

Yes. Depending on the diagnosis, proton therapy may be used with conventional radiation, chemotherapy, hormone therapy and/or as a follow-up to surgery.

Is proton therapy covered by most insurance plans?

Depending on the tumor type, proton therapy is covered by many insurance plans and Medicare. The team at the Northwestern Medicine Proton Center will work with you and your insurance provider.

What will I feel like during my proton therapy treatments? What are the side effects?

There is usually no to minimal discomfort or sensation during the actual radiation treatment. The short-term and late side effects will depend on the site of the radiation, and will be managed with medications and other recommendations from your doctor.

To learn more, visit protoncenter.nm.org, or call 877.887.5807 (TTY: 711).