

## Policy

EMHS Employee Health Plan (powered by Beacon Health) considers **Proton Beam Therapy** medically necessary for the following indications:

1. Benign or malignant central nervous system tumors to include but not limited to primary and variant forms of astrocytoma, glioblastoma, medulloblastoma, acoustic neuroma, craniopharyngioma, benign and atypical meningiomas, pineal gland tumors, and arteriovenous malformations
2. Intraocular melanomas
3. Pituitary neoplasms
4. Benign or malignant conditions of the base of the skull or axial skeleton including but not limited to chordomas and chondrosarcomas
5. Malignant lesions of the head and neck
6. Lung cancers, especially non-small cell lung cancer (NSCLC)
7. Unresectable retroperitoneal sarcoma and extremity sarcoma
8. Solid tumors in children up to age 18
9. Member is enrolled in an appropriate clinical trial/registry for planned assessment and publication.

## And

When all of the following are met:

1. The dose volume histogram (DVH) illustrates at least three (critical structures or organs protected by the use of proton beam therapy  
And
2. The dose to control or treat the tumor cannot be delivered without exceeding the tolerance of the normal tissue  
And
3. Documentation indicates that doses generally thought to be above the level otherwise attainable with other radiation methods might improve control rates  
Or  
Documentation indicates that higher levels of precision associated with proton beam therapy compared to other radiation treatments are clinically necessary.

**Limitations** - Proton beam therapy is not indicated for cancers that are widely disseminated, have hematogenous metastases, or as a short term palliative procedure

## Background

Proton Beam radiotherapy is a form of conformal external beam radiation treatment. Protons are positively charged atomic particles and have similar biological effects as conventional x-ray beams. However, unlike x-rays, proton particles deposit their radiation energy as they slow down, culminating in an intensity dose peak, also called the Bragg Peak. The depth of the peak can be controlled by the amount of the proton's

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energy. While the unaltered Bragg Peak is measured in millimeters, it can be spread out to encompass whole or partial volumes of a tumor. Like other conformal radiation modalities, proton beams can be precisely delivered to the tumor volume without harming surrounding healthy tissue or critical organs.

Some examples of the company systems used are:

- STAR® (Stereotactic Alignment for Radiosurgery)
- Conforma 3000®
- PROBEAT®

There is as yet no good comparative data to determine whether or not Proton Beam Therapy for prostate cancer is superior, inferior, or equivalent to external beam radiation or brachytherapy in terms of safety or efficacy.

### Codes:

CPT Codes / HCPCS Codes / ICD-10 Codes	
Code	Description
77520	Proton treatment delivery; simple, without compensation
77522	Proton treatment delivery; simple, with compensation
77523	Proton treatment delivery; intermediate
77525	Proton treatment delivery; complex

### References

1. American Brain Tumor Association: Stereotactic Radiosurgery. © 2012, ABTA, Accessed: 10/14/2016. Available at: <http://www.abta.org/siteFiles/SitePages/E7008E73A8ED85CCE76DC61A61A00C4D.pdf>
2. American College of Radiology [ACR]/American Society for Radiation Oncology [ASTRO] : Practice Parameter for the Performance of Stereotactic Body Radiation Therapy. Revised: Aug. 29, 2014. Available at: [http://www.acr.org/~media/ACR/Documents/PGTS/guidelines/Stereo\\_body\\_radiation.pdf](http://www.acr.org/~media/ACR/Documents/PGTS/guidelines/Stereo_body_radiation.pdf)
3. Aral IA, Aziz H, Godec C, et al. Prostate Cancer - External Beam Radiotherapy in Prostate Cancer. Medscape E-Medicine Updated: Sep 14, 2015. Available at: <http://emedicine.medscape.com/article/454283-overview>
4. Centers for Medicare and Medicaid Services (CMS). Local Coverage Determination (LCD). Proton Beam Therapy, LCD No. L30314 [RETIRED] End Date: 10/31/2013. [http://localcoverage.cms.gov/mcd\\_archive/viewlcd.asp?lcd\\_id=30314&lcd\\_version](http://localcoverage.cms.gov/mcd_archive/viewlcd.asp?lcd_id=30314&lcd_version)

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  - Radiological Society of North America, Inc. (RSNA): Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiotherapy (SBRT). RadiologyInfo.org. Reviewed July 14, 2015. Available at: <http://www.radiologyinfo.org/en/info.cfm?pg=stereotactic&bhcp=1>
  - The Spread-Out Bragg Peak Problem, unknown author. TRIUMF [Canada]. Accessed 10/14/2016. Available at: <http://exsitewebware.com/extrema/bragg.html>

### Disclaimer:

EMHS Employee Health Plan (powered by Beacon Health) medical payment and prior authorization policies do not constitute medical advice and are not intended to govern or otherwise influence the practice of medicine. The policies constitute only the reimbursement and coverage guidelines of EMHS Employee Health Plan (powered by Beacon Health) and its affiliated managed care entities. Coverage for services varies for individual members in accordance with the terms and conditions of applicable Certificates of Coverage, Summary Plan Descriptions, or contracts with governing regulatory agencies.

EMHS Employee Health Plan (powered by Beacon Health) reserves the right to review and update the medical payment and prior authorization guidelines in its sole discretion.

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Notice of such changes, if necessary, shall be provided in accordance with the terms and conditions of provider agreements and any applicable laws or regulations.

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