

Proton Beam Radiation Therapy (PBRT), Medical 101

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All requests for authorization for the services described by this medical policy will be reviewed per Early and Periodic Screening, Diagnostic and Treatment (EPSDT) guidelines. These services may be authorized under individual consideration for Medicaid members under the age of 21-years if the services are judged to be medically necessary to correct or ameliorate the member's condition. Department of Medical Assistance Services (DMAS), Supplement B - EPSDT (Early and Periodic Screening, Diagnosis and Treatment) Manual.*.

Purpose:

This policy addresses the medical necessity of Proton Beam Radiation Therapy.

Description & Definitions:

Proton beam radiation therapy (PBRT) is a type of external radiation treatment in which protons are targeted to specific tissue mass by using a stereotactic delivery system. Focused radiation is then delivered to the targeted area.

Criteria:

Proton Beam Radiation Therapy (PBRT) is considered medically necessary for **ALL** of the following:

- Specific cases where adjacent critical structures cannot be adequately spared with Intensity-modulated radiation therapy (IMRT) or stereotactic radiosurgery (SRS)
- Not amenable to surgical excision or other conventional forms of treatment
- Diagnoses with **one or more** of the following tumors:
 - Advanced and unresectable pelvic tumors with significant pelvic and/or peri-aortic nodal disease
 - Advanced stage and unresectable head and neck cancers (Malignant neoplasm of head and neck sites)
 - Cancers of the nasopharynx, nasal cavity, paranasal sinuses, and other accessory sinuses for **One or more** of the following:
 - Malignant neoplasm of nasopharynx;
 - Malignant neoplasm of nasal cavity and middle ear;
 - Malignant neoplasm of accessory sinuses
 - Malignant and benign primary CNS tumors (excluding Glioblastoma (GBM)), that are treated with curative intent and with potential for long term prognosis for **One or more** of the following:
 - Malignant neoplasm of meninges, brain, cranial nerves, spinal cord, pineal gland
 - Benign neoplasm of meninges, brain, cranial nerves, spinal cord

- Malignant pleural mesothelioma (Mesothelioma of pleura)
- Melanoma of the uveal tract (Ocular melanoma-iris, choroid or ciliary body)
- Non-metastatic retroperitoneal sarcomas for **One or more** of the following:
 - Malignant neoplasm of retroperitoneum
 - Malignant neoplasm of peritoneum
- Ocular tumors, including intraocular melanomas (Malignant neoplasm of ocular structures)
- Patient with a single kidney or transplanted pelvic kidney with treatment of an adjacent target volume and in whom maximal avoidance of the organ is critical
- Pediatric patients (age less than 21) for **ALL of the** following:
 - To treat all pediatric tumors in which radiation therapy is required
- Primary and metastatic tumors requiring craniospinal irradiation for **ALL** of the following:
 - Malignant neoplasm of meninges, brain, cranial nerves, spinal cord, pineal gland
- Primary cancers of the esophagus (Malignant neoplasm of esophagus)
- Primary malignant or benign bone tumors for **One or more** of the following:
 - Malignant neoplasm of bone and articular cartilage;
 - Benign neoplasm of bone and articular cartilage
- Primary spine or spinal cord tumors or metastatic tumors to the spine or spinal cord where organ at risk tolerance may be exceeded with conventional photon treatments for **One or more** of the following:
 - Malignant neoplasm of bones of vertebral column, sacrum, and coccyx;
 - Malignant neoplasm of spinal meninges;
 - Malignant neoplasm of spinal cord and cauda equina;
 - Benign neoplasm of vertebral column, sacrum, coccyx, spinal meninges, spinal cord
- Primary tumors of the mediastinum, including thymic tumors, mediastinal tumors, mediastinal lymphomas and thoracic sarcomas for **One or more** of the following:
 - Burkitt lymphoma, intrathoracic lymph nodes;
 - Diffuse large B-cell lymphoma, intrathoracic lymph nodes;
 - Follicular lymphoma grade IIIa, intrathoracic lymph nodes;
 - Follicular lymphoma grade IIIb, intrathoracic lymph nodes;
 - Lymphoblastic (diffuse) lymphoma, intrathoracic lymph nodes;
 - Lymphocyte depleted Hodgkin lymphoma, intrathoracic lymph nodes;
 - Lymphocyte-rich Hodgkin lymphoma, intrathoracic lymph nodes;
 - Malignant neoplasm of heart, mediastinum, and pleura;
 - Malignant neoplasm of trachea;
 - Mantle cell lymphoma, intrathoracic lymph nodes;
 - Mixed cellularity Hodgkin lymphoma, intrathoracic lymph nodes;
 - Nodular lymphocyte predominant Hodgkin lymphoma, intrathoracic lymph nodes;
 - Nodular sclerosis Hodgkin lymphoma, intrathoracic lymph nodes;
 - Other Hodgkin lymphoma, intrathoracic lymph nodes;
 - Small cell B-cell lymphoma, intrathoracic lymph nodes;
 - Other non-follicular lymphoma, intrathoracic lymph nodes
- Tumors base of skull, including but not limited to (Chordoma, Chondrosarcomas, Other histologies) arising in this site for **One or more** of the following:
 - Malignant neoplasm of bones of skull and face, mandible, vertebral column;
 - Malignant neoplasm of other endocrine glands and related structures;
 - Benign neoplasm of bone; Benign neoplasm of craniopharyngeal duct
- Various regions - Personal history of irradiation

Proton Beam Radiation Therapy (PBRT) is considered **not medically necessary** for any use other than those indicated in clinical criteria, to include but not limited to:

- Breast cancer
- Gastric cancer
- Glioblastoma (GBM)

- Gynecologic cancer
- Lung cancer
- Lymphoma (Hodgkin and non-Hodgkin)
- Pancreatic cancer
- PBT used in conjunction with IMRT
- Prostate cancer

Coding:

Medically necessary with criteria:

Coding	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

Considered Not Medically Necessary:

Coding	Description
	None

U.S. Food and Drug Administration (FDA) - approved only products only.

Document History:

Revised Dates:

- 2024: February
- 2022: April
- 2021: April
- 2019: November
- 2016: March, April
- 2015: March
- 2014: April, October, November
- 2013: March, October
- 2012: March, November
- 2011: January, March, May, July
- 2010: August
- 2009: July
- 2008: July

Reviewed Dates:

- 2023: March
- 2020: April
- 2018: October
- 2017: December
- 2014: March
- 2010: July, December

Effective Date:

- October 2007

References:

Including but not limited to: Specialty Association Guidelines; Government Regulations; Winifred S. Hayes, Inc; UpToDate; Literature Review; Specialty Advisors; National Coverage Determination (NCD); Local Coverage Determination (LCD).

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Special Notes: *

This medical policy express Sentara Health Plan's determination of medically necessity of services, and they are based upon a review of currently available clinical information. These policies are used when no specific guidelines for coverage are provided by the Department of Medical Assistance Services of Virginia (DMAS). Medical Policies may be superseded by state Medicaid Plan guidelines. Medical policies are not a substitute for clinical judgment or for any prior authorization requirements of the health plan. These policies are not an explanation of benefits.

Medical policies can be highly technical and complex and are provided here for informational purposes. These medical policies are intended for use by health care professionals. The medical policies do not constitute medical advice or medical care. Treating health care professionals are solely responsible for diagnosis, treatment and medical advice. Sentara Health Plan members should discuss the information in the medical policies with their treating health care professionals. Medical technology is constantly evolving and these medical policies are subject to change without notice, although Sentara Health Plan will notify providers as required in advance of changes that could have a negative impact on benefits.

The Early and Periodic Screening, Diagnostic and Treatment (EPSDT) covers services, products, or procedures for children, if those items are determined to be medically necessary to “correct or ameliorate” (make better) a defect, physical or mental illness, or condition (health problem) identified through routine medical screening or examination, regardless of whether coverage for the same service or support is an optional or limited service under the state plan. Children enrolled in the FAMIS Program are not eligible for all EPSDT treatment services. All requests for authorization for the services described by this medical policy will be reviewed per EPSDT guidelines. These services may be authorized under individual consideration for Medicaid members under the age of 21-years if the services are judged to be medically necessary to correct or ameliorate the member’s condition. *Department of Medical Assistance Services (DMAS), Supplement B - EPSDT (Early and Periodic Screening, Diagnosis and Treatment) Manual.*

Keywords:

Proton beam radiation, shp medical 101, PBRT, melanoma, uveal tract, chordoma, chondrosarcoma, basisphenoid region, cervical spine, pituitary adenoma