Molina Clinical Policy
Proton and Neutron Beam Radiation Therapy Services
Policy No. 464
Last Approval: 12/10/2025
Next Review Due By: December 2026

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This Molina Clinical Policy (MCP) is intended to facilitate the Utilization Management process. Policies are not a supplementation or recommendation for treatment; Providers are solely responsible for the diagnosis, treatment, and clinical recommendations for the Member. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (e.g., will be paid for by Molina) for a particular Member. The Member's benefit plan determines coverage – each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their Providers will need to consult the Member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a Member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid Members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this MCP and provide the directive for all Medicare members. References included were accurate at the time of policy approval and publication.

STATEMENT

General Information

- *It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*
- *Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations. This guideline is not a prescription for treatment. All individual treatment decisions are the responsibility of the treating physician.*
- *The guideline criteria in the following sections were developed utilizing evidence-based and peer-reviewed resources from medical publications and societal organization guidelines as well as from widely accepted standard of care, best practice recommendations.*

Purpose

This guideline provides indications for the use of Proton Beam Therapy (PBRT) and Neutron Beam Therapy (NBRT).

Clinical Reasoning

This guideline considers treatment endorsed by professional organizations (i.e., the American Society for Radiation Oncology and the National Comprehensive Cancer Network). It approves many treatment regimens that fall within that guidance, but it is also modified by significant factors such as toxicity and the level of available medical evidence.

INDICATIONS

Proton Beam Radiation Therapy (PBRT)

PBRT Indications for Specific Cancer Types

The following adult cancer types are indicated for treatment with PBRT:

- Liver (Hepatocellular Carcinoma) and intrahepatic bile duct cancers [1–6]
- Paranasal Sinus [7,8]
- Nasopharynx [9,10]
- Maxillary Sinus [8,11]
- Ethmoid Sinus [8,11]
- Cavernous Sinus [8,11]
- Chordomas and Chondrosarcomas Spine and Base of Skull [12]
- Meningioma, benign and non-benign [12–15]
- Arteriovenous Malformations (AVM) [16,17]
- Acoustic Neuroma [18–20]
- Pituitary Adenoma [21,22]
- Intraocular (Uveal) Melanoma [23,24]
- Other brain or spinal tumors that are adjacent critical structures such as an optic nerve, optic chiasm, brain stem, or spinal cord *AND* cannot be sufficiently spared using IMRT or SRS treatment.

PBRT Indications for Pediatric Cancers

- PBRT will be approved for *ALL* pediatric patients (≤18 years old). Patients <21 years old with cancers that display the same histology as common pediatric cancers may be approved (following manual review by a physician reviewer) in select cases. [25,26]

PBRT Indications for Cases of Re-Irradiation

Definitions

Re-irradiation is defined as the use of additional radiation treatment to treat an area of the body that has already received prior radiation to that same area.

The term "re-irradiation" does *NOT* apply to situations where a patient has received radiation treatment to one area of the body (i.e. the lung) and now requires radiation to a completely separate area of the body (i.e. the brain).

PBRT will be approved for ALL patients who have received any previous radiation to an anatomic location and who now require an additional course of radiation to that same anatomic area.

The radiation dose and the number of fractionations prescribed for each patient receiving re-irradiation will be different and based on that patient's prior treatment history. The dose and the number of fractionations will be left to the discretion on the treating physician and when possible, based on peer reviewed literature. [27,28]

Neutron Beam Radiation Therapy (NBRT)

NBRT Indications for Specific Cancer Types

- Salivary gland cancers that are:
  - Unresectable or recurrent [29]

CODING AND STANDARDS

Codes

32701, 61796, 61797, 61798, 61799, 61800, 63620, 63621, 77014, 77261, 77262, 77263, 77280, 77285, 77290, 77293, 77295, 77299, 77300, 77301, 77321, 77331, 77332, 77333, 77334, 77336, 77338, 77370, 77372, 77373, 77387, 77399, 77423, 77427, 77432, 77435, 77470, 77499, 77520, 77522, 77523, 77525, G0339, G0340, G6001, G6002, G6017

Applicable Lines of Business

☒	CHIP (Children's Health Insurance Program)
☒	Commercial
☒	Exchange/Marketplace
☒	Medicaid
☐	Medicare Advantage

SUMMARY OF EVIDENCE

Proton Beam Radiation Therapy (PBRT) [27]: PBRT is indicated for specific cancer types due to its precision in targeting tumors while minimizing damage to surrounding healthy tissues. This therapy is particularly beneficial for cancers located near critical structures that cannot be sufficiently spared using other radiation treatments like IMRT or SRS.

PBRT is also approved for all pediatric patients (≤18 years old) and for patients <21 years old with cancers that display the same histology as common pediatric cancers. Additionally, PBRT is indicated for cases of re-irradiation, where additional radiation treatment is required for an area that has already received prior radiation.

Neutron Beam Radiation Therapy (NBRT) [29]: NBRT is indicated for salivary gland cancers that are unresectable or recurrent. This therapy is beneficial due to its ability to deliver high-energy neutrons that can effectively target and destroy cancer cells.

ANALYSIS OF EVIDENCE

When choosing either proton beam radiation therapy (PBRT) or neutron beam radiation therapy (NBRT), several factors should be considered to ensure the most effective and appropriate treatment for the patient. [27,29]

1. **Cancer Type and Location**:
    - PBRT is particularly beneficial for cancers located near critical structures that cannot be sufficiently spared using other radiation treatments like IMRT or SRS. It is indicated for specific cancer types such as liver cancer, paranasal sinus cancer, chordomas, chondrosarcomas, meningiomas, arteriovenous malformations, acoustic neuromas, pituitary adenomas, intraocular melanomas, and other brain or spinal tumors adjacent to critical structures.
    - NBRT is indicated for salivary gland cancers that are unresectable or recurrent.
2. **Patient Age**:
    - PBRT is approved for all pediatric patients (≤18 years old) and for patients <21 years old with cancers that display the same histology as common pediatric cancers.
3. **Re-Irradiation**:
    - PBRT is indicated for cases of re-irradiation, where additional radiation treatment is required for an area that has already received prior radiation.
4. **Toxicity and Side Effects**:
    - The choice of PBRT or NBRT should consider the potential toxicity and side effects associated with each therapy. PBRT is known for its precision in targeting tumors while minimizing damage to surrounding healthy tissues.

APPROVAL HISTORY

12/10/2025	Removed unnecessary background and informational text, Updated citations, Removed Oropharynx Cancer from Indications, Added Clinical Reasoning Section, Added Summary of Evidence and Analysis of Evidence
12/11/2024	New policy

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