Proton Beam Radiation Therapy
Policy Number: PG0385
Last Review: 11/18/2016

GUIDELINES
This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder contract. Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards. This guideline is solely for explaining correct procedure reporting and does not imply coverage and reimbursement.

SCOPE
X Professional
✓ Facility

DESCRIPTION
Proton beam therapy (PBT) is a type of external radiation treatment in which positively charged subatomic particles (protons) are precisely targeted to a specific tissue mass using a sophisticated stereotaxic planning and delivery system. In comparison with conventional photon irradiation, proton beam radiation may deliver a higher dose to the target tissue, while minimizing exposure to surrounding healthy tissue.

Photon beams deposit their greatest amount of energy beneath the patient's surface with a gradual reduction in energy deposition along the beam path as photons pass through the target and then through an exit point out of the body. In contrast, the physical profile of a beam of proton particles allows for the majority of its energy to be deposited over a very narrow range of tissue at a depth largely determined by the energy of the proton beam. A proton beam deposits relatively less radiation energy upon entering the body compared to a photon beam. The energy deposition of the proton beam then rapidly increases over a narrow range of tissue at a desired depth to produce an intense dose distribution pattern called the Bragg peak. Beyond the Bragg peak, energy and dose deposition rapidly decrease, resulting in the absence of any significant exit dose deposited in normal tissue beyond the target.

POLICY
Proton beam radiation therapy does not require prior authorization for covered indications listed below.

COVERAGE CRITERIA
HMO, PPO, Individual Marketplace, Elite/ProMedica Medicare Plan, Advantage
Proton beam radiation therapy is proven and medically necessary for the following indications:
- Intracranial arteriovenous malformations (AVMs)
- Ocular tumors, including intraocular/uveal melanoma (includes the iris, ciliary body and choroid)
- Skull-based tumors (e.g., chordomas, chondrosarcomas or paranasal sinus tumors)
- Primary or benign solid tumors in children treated with curative intent
- Pituitary neoplasms when conventional stereotactic radiation is not an available option

Proton beam radiation therapy is unproven and not medically necessary for treating ALL other indications, including but not limited to:
- Age-related macular degeneration (AMD)
- Bladder cancer
- Brain and spinal cord tumors

PG0385 – 12/28/2020
- Choroidal hemangioma
- Esophageal cancer
- Gynecologic cancers
- Head and neck cancers
- Hepatocellular carcinoma
- Lung cancer (including non-small-cell lung carcinoma)
- Lymphomas
- Pancreatic cancer
- Prostate cancer
- Vestibular tumors (e.g., acoustic neuroma or vestibular schwannoma)

**CODING/BILLING INFORMATION**
The appearance of a code in this section does not necessarily indicate coverage. Codes that are covered may have selection criteria that must be met. Payment for supplies may be included in payment for other services rendered.

<table>
<thead>
<tr>
<th>CPT CODES</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>77520</td>
<td>Proton treatment delivery; simple, without compensation</td>
</tr>
<tr>
<td>77522</td>
<td>Proton treatment delivery; simple, with compensation</td>
</tr>
<tr>
<td>77523</td>
<td>Proton treatment delivery; intermediate</td>
</tr>
<tr>
<td>77525</td>
<td>Proton treatment delivery; complex</td>
</tr>
</tbody>
</table>

**REVISION HISTORY EXPLANATION**
**ORIGINAL EFFECTIVE DATE**: 11/18/2016

11/18/16: Policy created to reflect most current clinical evidence per The Technology Assessment Working Group (TAWG)

12/28/2020: Medical policy placed on the new Paramount Medical policy format

**REFERENCES/RESOURCES**
Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services
Ohio Department of Medicaid
Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets
Industry Standard Review
Hayes, Inc.