TITLE: PROTON BEAM RADIATION THERAPY

EFFECTIVE DATE: November 18, 2019

This policy was developed with input from specialists in oncology and radiation oncology and endorsed by the Medical Policy Committee.

IMPORTANT INFORMATION – PLEASE READ BEFORE USING THIS POLICY
These services may or may not be covered by all Medica plans. Please refer to the member’s plan document for specific coverage information. If there is a difference between this general information and the member’s plan document, the member’s plan document will be used to determine coverage.

With respect to Medicare and Minnesota Health Care Programs, this policy will apply unless those programs require different coverage.

Medica may use tools developed by third parties, such as MCG Care Guidelines®, to assist in administering health benefits. Medica utilization management (UM) policies and MCG Care Guidelines are not intended to be used without the independent clinical judgment of a qualified health care provider taking into account the individual circumstances of each member’s case. Medica UM policies and MCG Care Guidelines do not constitute the practice of medicine or medical advice. The treating health care providers are solely responsible for diagnosis, treatment, and medical advice.

Members may contact Medica Customer Service at the phone number listed on their member identification card to discuss their benefits more specifically. Providers with questions about this Medica UM policy may call the Medica Provider Service Center toll-free at 1-800-458-5512.

PURPOSE
To promote consistency between reviewers in utilization management decision-making by providing the criteria that generally determine the medical necessity of proton beam radiation therapy. The Benefit Considerations box outlines the process for addressing the needs of individuals who do not meet these criteria.

BACKGROUND
Definitions
A. Axial skeleton is the part of the skeleton that includes the skull, spinal column, sternum and ribs.
B. Central nervous system (CNS) is comprised of the brain and the spinal cord. CNS tumors can be either benign or malignant. Benign brain and spinal cord tumors grow and press on nearby areas, but rarely spread into other tissues.
C. Chondrosarcoma is a malignancy of the bone, and can occur in any location; however, most are located in a proximal location such as the pelvis, proximal femur, and proximal humerus.
D. Chordoma is a rare and slow-growing brain tumor. Chordoma is the second most common primary malignancy in the spine (behind myeloma) and is the most common primary malignancy of the sacrum.
E. Paranasal sinuses are comprised of four paired air-filled cavities that surround the nasal cavity. The maxillary sinuses are located under each eye; the frontal sinuses are located above each eye, and the ethmoid and sphenoid sinuses are behind each eye.
F. Proton beam radiation therapy (PBRT) involves directing a beam of accelerated subatomic, electrically charged particles to tissue mass (usually tumors). To penetrate the body, protons must be accelerated by cyclotrons and synchrotrons to attain 60% of the speed of light and deliver most of their energy at a defined depth, ideally the depth of the targeted tissues. Proton beam radiation therapy can be used alone
or in combination with traditional photon beam radiation therapy. The primary advantage of the use of protons over photons (conventional radiation) is decreased collateral damage to surrounding tissue.

G. **Sarcoma**, from the Greek word meaning ‘fleshy growth’, is a cancerous tumor found in connective tissue or other non-epithelial tissue. Different types of sarcoma are based on where the cancer forms. Connective tissue includes fat, blood vessels, nerves, bones, muscles, deep skin tissues, and cartilage.

H. **Uveal tract** is comprised of the iris, ciliary body, and choroid (the vascular middle coat of the eye).

**BENEFIT CONSIDERATIONS**

1. Prior authorization is required for proton beam radiation therapy. Please see the prior authorization list for product specific prior authorization requirements.
2. Proton beam radiation therapy is investigative for treatment of all other conditions, including but not limited to, breast cancer, prostate cancer, non-small cell lung cancer (NSCLS), or solid pediatric tumors.
3. Coverage may vary according to the terms of the member’s plan document. If the Medical Necessity Criteria are met, Medica will authorize benefits within the limits in the member’s plan document.
4. If the Medical Necessity and Benefit Considerations are met, Medica will authorize benefits within the limits in the member’s plan document.
5. If it appears that the Medical Necessity and Benefit Considerations are not met, the individual’s case will be reviewed by the medical director or an external reviewer. Practitioners are advised of the appeal process in their Provider Administrative Manual.

**MEDICAL NECESSITY CRITERIA**

I. **Indications**

   Proton beam radiation therapy is indicated for individuals with conditions not amenable to surgical excision or other conventional forms of treatment, as documented by the ordering physician in the medical record, AND one of the following diagnoses is met:

   A. Chordomas or chondrosarcomas arising at the base of the skull or along the axial skeleton without distant metastasis
   B. Malignant and benign CNS tumors, including primary or metastatic spine tumors ocular tumors, including melanoma of the uveal tract (iris, choroid, ciliary body) without extrascleral extension and with no evidence of metastasis
   C. Hepatocellular/hepatobiliary cancer
   D. Advanced head and neck cancer
   E. Paranasal sinus or other accessory sinus tumors
   F. Soft tissue sarcomas (e.g., non-metastatic retroperitoneal sarcomas).

II. **Contraindications**

   None of the following are present:

   A. Resectable tumor(s)
   B. Nonsolid tumors
   C. Tumors likely to metastasize (e.g. leukemia, multiple myeloma, and small-cell lung cancer)
   D. Evidence of metastasis.

**CENTERS FOR MEDICARE & MEDICAID SERVICES (CMS)**

- For Medicare members, refer to the following, as applicable at: [http://www.cms.hhs.gov/mcd/search.asp?](http://www.cms.hhs.gov/mcd/search.asp?)

**DOCUMENT HISTORY**

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<tr>
<th>Original Effective Date</th>
<th>September 1, 2012</th>
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<tbody>
<tr>
<td>MPC Endorsement Date(s)</td>
<td>06/2013, 09/2014, 06/2018, 09/2018, 09/2019</td>
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<tr>
<td>Began use of MCG Care Guidelines</td>
<td>12/01/2015 (19th edition)</td>
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<td>MCG Care Guidelines Edition Updates (Medica Effective Date)</td>
<td>20th edition: 10/10/2016, 21st edition: 08/31/2017</td>
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<tr>
<td>Administrative Updates</td>
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References:
Pre-05/2017 Medical Technology Assessment Committee (MTAC) and Pre-09/2014 MPC:


60. Janeway KA, Goorin AM, Maki R. Chemotherapy and radiation therapy in the management of osteosarcoma. In: UpToDate, Basow, DS (Ed), UpToDate, Waltham, MA, 2014.


75. Shih HA, Batchelor T. Adjuvant radiation therapy for high-grade gliomas. In: UpToDate, Basow, DS (Ed), UpToDate, Waltham, MA, 2014.
77. Singer RJ, Ogilvy CS, Rordorf G. Brain arteriovenous malformations. In: UpToDate, Basow, DS (Ed), UpToDate, Waltham, MA, 2014.
78. Snyderman C, Lin D. Chordoma and chondrosarcoma of the skull base. In: UpToDate, Basow, DS (Ed), UpToDate, Waltham, MA, 2014.

05/2017 MTAC:


06/2018 MPC:
No new references.

07/2018 MTAC and 09/2018 MPC:


2019 MPC:
No new references.