

Evidence Based Guideline

Charged Particle Radiotherapy

File Name: charged_particle_radiotherapy
Guideline Number: EBG.RAD5030
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Last Review: 3/2008
Next Review: 3/2010

Description of Procedure or Service

Charged particle radiotherapy is a treatment that targets the energy of a beam of proton or helium charged particles on a tumor. It is used for patients with uveal melanoma. It can occur in any or all of these areas of the eye: the [iris](#), the [choroid](#) and/or the [ciliary body](#). Charged particle irradiation is also used to treat other malignancies, such as chordoma or chondrosarcoma that occur at the back of the skull or in the spine (usually cervical). Charged particle beam radiotherapy requires specialized equipment to generate the beam particles (proton or helium ions). It also requires accurate localization of the cancer. A tomographic scan (with x-ray and/or magnetic resonance imaging) is used to precisely determine location of the affected site. The patient must be immobilized and positioned precisely and consistently relative to the beam each time a scan or treatment is performed.

Evidence Based Guideline for Charged Particle Radiotherapy

- A. Charged particle radiotherapy may be appropriate for treatment of uveal melanoma, chordoma, or chondrosarcoma of the basisphenoid region or spine (usually cervical) for the following indications:
 1. as primary therapy for patients with melanoma of the uveal tract ([iris](#), [choroid](#), or [ciliary body](#)), with no evidence of metastasis or extrascleral extension, and with tumors up to 24 millimeters in largest diameter and 14 millimeters in height.
 2. as post-operative therapy (with or without conventional high energy X-rays) in patients who have undergone biopsy or a partial resection of chordoma or low grade (I or II) chondrosarcoma of the basisphenoid region (skull-base chordoma or chondrosarcoma) or spine (usually cervical). Patients eligible for this treatment have residual localized tumor without evidence of metastasis.
- B. Charged particle radiotherapy may be appropriate for treatment of arteriovenous malformations (AVM) or acoustic neuromas that meet the following criteria:
 1. the lesion is unresectable **and**
 2. the lesion is too large (>3cm) and irregularly shaped to be treated with standard radiotherapy.
- C. Charged particle radiotherapy may be appropriate for treatment of pituitary adenomas and nasopharyngeal carcinoma that is recurrent after standard radiation therapy.
- D. Charged particle radiotherapy may be appropriate using standard treatment doses in patients with clinically localized prostate cancer.

Policy: Charged Particle Radiotherapy

Medical Evidence regarding Charged Particle Radiotherapy indicates it is not recommended in the following situations:

- A. For indications other than those listed above.
- B. For melanoma outside the eye, chondrosarcoma, or chordoma at sites other than the skull base or spine, **or**
- C. For any malignancies other than the ones stated above.

Benefits Application

Please refer to certificate for availability of benefit. This guideline relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore certificate language should be reviewed before applying the terms of the policy.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable codes: 77520, 77522, 77523, and 77525

Charged Particle Radiotherapy typically consists of a series of CPT codes describing the individual steps used. CPT codes 77520, 77522, 77523, and 77525 may be used for treatment delivery of proton beam therapy.

Medical Term Definitions

Choroid

the thin, pigmented, vascular coat of the eye; it furnishes blood to the retina and conducts arteries and nerves to the structures in the front of the eye.

Ciliary body

tissue that includes the group of muscles that act on the eye lens to produce accommodation (pupil constriction and dilatation).

Iris

the colored portion of the eye.

Scientific Background and Reference Sources

National Association TEC Review - 1/96

BCBS Association Medical Policy Reference Manual - 7/96

Medical Policy Advisory Group Review 3/99

BCBS Association Medical Policy Reference Manual - 11/99

Policy: Charged Particle Radiotherapy

Specialty Matched Consultant Advisory Panel - 10/2000

Medical Policy Advisory Group - 10/2000

Specialty Matched Consultant Advisory Panel - 6/2002

BCBSA Medical Policy Reference Manual [Electronic Version]. 8.01.10, 4/29/2003.

Specialty Matched Consultant Advisory Panel - 5/2004

BCBSA Medical Policy Reference Manual [Electronic Version]. 8.01.10, 4/1/2005.

Specialty Matched Consultant Advisory Panel - 3/2006

BCBSA Medical Policy Reference Manual [Electronic Version]. 8.01.10, 2/14/08.

Specialty Matched Consultant Advisory Panel - 3/2008

Policy Implementation/Update Information

- 3/96 Local policy issued.
- 11/96 Reaffirm: National Association issued policy 7/96.
- 3/99 Reaffirm
- 6/99 Reformatted, Definition of Procedure or Service revised, Medical Term Definitions added.
- 10/00 Specialty Matched Consultant Advisory Panel review. References to the cervical spine changed to "spine (usually cervical)". System coding changes. Medical Policy Advisory Group review. No further changes to criteria.
- 12/00 77520, 77522, 77523, and 77525 added to coding section. System coding changes.
- 11/01 Coding format change.
- 6/02 Specialty Matched Consultant Advisory Panel. No changes. Approve.
- 1/04 Benefits Application and Billing/Coding sections updated for consistency.
- 6/10/04 Specialty Matched Consultant Panel review. No changes to policy. Resources added. Notification given 6/10/2004. Effective date 8/12/2004.
- 4/10/06 Specialty Matched Consultant Advisory Panel review 3/15/2006. Added additional indications to "When covered" section to include; "B. Charged particle radiotherapy may be considered medically necessary for treatment of arteriovenous malformations (AVM) or acoustic neuromas that meet the following criteria: the lesion is unresectable and the lesion is too large (>3cm) and irregularly shaped to be treated with standard radiotherapy. C. Charged particle radiotherapy may be considered medically necessary for treatment of pituitary adenomas and nasopharyngeal carcinoma that is recurrent after standard radiation therapy." Rationale added to "Policy Guidelines" section. References added.
- 8/28/06 Medical Policy changed to Evidence Based Guideline.
- 6/2/08 Specialty Matched Consultant Advisory Panel review 3/17/08. Added additional indication to "When covered" section; "D. Charged particle radiotherapy may be appropriate using standard treatment doses in patients with clinically localized prostate cancer." Removed this indication from the "When not covered" section. References added.

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Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.