

Proton Beam, Neutron Beam and Carbon Ion Radiation Therapy



INDEPENDENT CARE HEALTH PLAN

Effective Date: 01/01/2024

Revision Date: Click or tap to enter a date.

Review Date: Click or tap to enter a date.

Policy Number: WI.PA-1195

Line of Business: Medicare

Medicare Advantage Medical Coverage Policy

Table of Contents

[Related Medicare Advantage Medical/Pharmacy Coverage Policies](#)

[Related Documents](#)

[Description](#)

[Coverage Determination](#)

[Coverage Limitations](#)

[Coding Information](#)

[References](#)

[Appendix](#)

[Change Summary](#)

Disclaimer

The Coverage Summaries are reviewed by the iCare Medicare Utilization Management Committee. Policies in this document may be modified by a member's coverage document. Clinical policy is not intended to preempt the judgment of the reviewing medical director or dictate to health care providers how to practice medicine. Health care providers are expected to exercise their medical judgment in rendering appropriate care. Identification of selected brand names of devices, tests and procedures in a medical coverage policy is for reference only and is not an endorsement of any one device, test, or procedure over another. Clinical technology is constantly evolving, and we reserve the right to review and update this policy periodically. References to CPT® codes or other sources are for definitional purposes only and do not imply any right to reimbursement or guarantee of claims payment. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any shape or form or by any means, electronic, mechanical, photocopying or otherwise, without permission from iCare.

Related Medicare Advantage Medical/Pharmacy Coverage Policies

None

Related Documents

Please refer to [CMS website](#) for the most current applicable CMS Online Manual System (IOMs)/National Coverage Determination (NCD)/ Local Coverage Determination (LCD)/Local Coverage Article (LCA)/ Transmittals.

Type	Title	ID Number	Jurisdiction Medicare Administrative	Applicable States/Territories
------	-------	-----------	--------------------------------------------	----------------------------------

			Contractors (MACs)	
LCD	Proton Beam Therapy	L35075	J6 - National Government Services, Inc. (Part A/B MAC)	IL, MN, WI
LCA	Billing and Coding: Proton Beam Therapy	A56827	JK - National Government Services, Inc. (Part A/B MAC)	CT, NY, ME, MA, NH, RI, VT
LCD	Proton Beam Therapy	L36658	J15 - CGS Administrators, LLC (Part A/B MAC)	KY, OH
LCA	Billing and Coding: Proton Beam Therapy	A55315		
LCD	Proton Beam Radiotherapy	L33937	JN - First Coast Service Options, Inc. (Part A/B MAC)	FL, PR, U.S. VI
LCA	Billing and Coding: Proton Beam Radiotherapy	A57669		

Description

Proton beam radiation therapy (PBRT) is a type of external beam radiation (EBR) that utilizes protons (positively charged particle beams) that are precisely targeted to the specific tissue being treated. As the protons pass through the tissues, its velocity decreases until it reaches the Bragg peak (designated stopping depth) at which most of the proton energy is deposited. Because PBRT focuses its energy on the tumor, there is less radiation exposure to surrounding healthy tissues or organs. This may make PBRT more effective for inoperable tumors or in an individual in which damage to healthy tissue would pose an unacceptable risk.

PBRT can be delivered by either active or passive spreading. Active spreading, also known as spot scanning or pencil-beam scanning, utilizes smaller beams on smaller fields with narrower beams. Passive spreading utilizes modifying devices (eg, compensators, collimators) which scatter the proton beams before it enters the body. PBRT may also be known as intensity-modulated proton therapy (IMPT), pencil-beam scanning, proton beam radiotherapy, proton therapy or spot scanning.

Neutron beam radiation therapy (NBRT) is a specialized type of EBR that uses high-energy neutrons (neutral charged subatomic particles). The neutrons are targeted toward tissue masses that are characterized by lower tumor oxygen levels and a slower cell cycle, since neutrons require less oxygen and are less dependent on the cell's position in the cell division cycle. Neutrons produce approximately 20 to 100 times more energy than conventional photon radiation and may be more damaging to surrounding tissues. For that reason, the radiation is provided utilizing a sophisticated planning and delivery system.

Carbon ion radiotherapy (CIRT) is a form of particle beam radiation similar to PBRT. Carbon ions are heavier than protons, which can create a higher mass and charge. It is theorized that this will provide greater

ionization when the carbon ions reach their target site. Currently, this technology is being studied but is not yet available in the United States.

Imaging guidance and/or positioning software provides real-time imaging of the target site during radiation therapy to allow for increased accuracy of the radiation beams and decreased exposure to surrounding tissues. Image guidance includes, but may not be limited to, computed tomography (CT), magnetic resonance imaging (MRI) or ultrasound.

Coverage Determination

iCare follows the CMS requirements that only allows coverage and payment for services that are reasonable and necessary for the diagnosis and treatment of illness or injury or to improve the functioning of a malformed body member except as specifically allowed by Medicare.

Please refer to the above CMS guidance for **proton beam, neutron beam and carbon ion radiation therapy**.

In interpreting or supplementing the criteria above and in order to determine medical necessity consistently, iCare may consider the following criteria:

Proton Beam, Neutron Beam and Carbon Ion Radiation Therapy

The use of the criteria in this Medicare Advantage Medical Coverage Policy provides clinical benefits highly likely to outweigh any clinical harms. Services that do not meet the criteria above are not medically necessary and thus do not provide a clinical benefit. Medically unnecessary services carry risks of adverse outcomes and may interfere with the pursuit of other treatments which have demonstrated efficacy.

Coverage Limitations

[US Government Publishing Office. Electronic code of federal regulations: part 411 – 42 CFR § 411.15 - Particular services excluded from coverage](#)

Coding Information

Any codes listed on this policy are for informational purposes only. Do not rely on the accuracy and inclusion of specific codes. Inclusion of a code does not guarantee coverage and/or reimbursement for a service or procedure.

CPT® Code(s)	Description	Comments
--------------	-------------	----------

77387	Guidance for localization of target volume for delivery of radiation treatment, includes intrafraction tracking, when performed	
77423	High energy neutron radiation treatment delivery, 1 or more isocenter(s) with coplanar or non-coplanar geometry with blocking and/or wedge, and/or compensator(s)	
77520	Proton treatment delivery; simple, without compensation	
77522	Proton treatment delivery; simple, with compensation	
77523	Proton treatment delivery; intermediate	
77525	Proton treatment delivery; complex	
CPT® Category III Code(s)	Description	Comments

No code(s) identified

HCPCS Code(s)	Description	Comments
G6003	Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: up to 5 mev	
G6004	Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 6-10 mev	
G6005	Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 11-19 mev	
G6006	Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 20 mev or greater	
G6007	Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: up to 5 mev	
G6008	Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 6-10 mev	
G6009	Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 11-19 mev	
G6010	Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 20 mev or greater	
G6011	Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; up to 5 mev	

G6012	Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 6-10 mev	
G6013	Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 11-19 mev	
G6014	Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 20 mev or greater	

References

1. Centers for Medicare & Medicaid Services (CMS). Local Coverage Article (LCA). Billing and coding: Proton beam radiotherapy (A57669). <https://www.cms.gov>. Published October 3, 2018. Updated October 1, 2021. Accessed November 1, 2023.
2. Centers for Medicare & Medicaid Services (CMS). Local Coverage Article (LCA). Billing and coding: Proton beam therapy (A55315). <https://www.cms.gov>. Published October 24, 2016. Updated October 5, 2023. Accessed November 1, 2023.
3. Centers for Medicare & Medicaid Services (CMS). Local Coverage Article (LCA). Billing and coding: Proton beam therapy (A56827). <https://www.cms.gov>. Published November 7, 2019. Updated October 1, 2021. Accessed November 1, 2023.
4. Centers for Medicare & Medicaid Services (CMS). Local Coverage Determination (LCD). Proton beam radiotherapy (L33937). <https://www.cms.gov>. Published October 1, 2015. Updated December 16, 2019. Accessed November 1, 2023.
5. Centers for Medicare & Medicaid Services (CMS). Local Coverage Determination (LCD). Proton beam therapy (L35075). <https://www.cms.gov>. Published October 1, 2015. Updated November 7, 2019. Accessed November 1, 2023.
6. Centers for Medicare & Medicaid Services (CMS). Local Coverage Determination (LCD). Proton beam therapy (L36658). <https://www.cms.gov>. Published October 24, 2015. Updated October 5, 2023. Accessed November 1, 2023.

Change Summary

- 01/01/2024 New Policy.