Clinical Policy: Intensity Modulated Radiation Therapy (IMRT)

Reference Number: MC.CP.MP.69 Coding Implications
Date of Last Revision: 04/24 Revision Log

See Important Reminder at the end of this policy for important regulatory and legal information.

Description

This policy outlines the medical necessity criteria for intensity modulated radiation therapy (IMRT). This policy criteria is sourced from Local Coverage Determination (LCD) Intensity Modulated Radiation Therapy (IMRT) (L36711) and is supported by American Society for Radiation Oncology (ASTRO) Practice Parameter for Intensity Modulated Radiation Therapy (IMRT). Additional indications have been sourced from National Comprehensive Cancer Network (NCCN) guidelines.

ASTRO guidelines are evidence- or consensus- based documents designed to assist medical professionals and patients in making appropriate and informed decisions about health screenings, prevention, and the treatment options for specific medical conditions. These documents are developed from the body of established literature complemented by expert opinion. NCCN guidelines are intended to guide decision making related to cancer screening, prevention, and supportive care for healthcare professionals as well as patients and caregivers. NCCN guidelines are continuously reviewed by a multidisciplinary panel of experts using the best available evidence and current recommendations in the cancer field.

Benefits of IMRT include sharper dose gradients than conventional or three-dimensional conformal radiation therapy, the sparing of nearby critical structures, and limited dose toxicity to select surrounding organs, which can be greatly beneficial to patients. Risks of IMRT include significant changes in the dose delivered to the PTV (Planning Target Volume) and risk to organs due to small changes in patient position or target position within the body. Using IMRT consistently with established guidelines offers the benefits of best-practice recommendations intended to reduce the potential risk of the treatment vs. alternatives or lack of treatment.

Note: For criteria applicable to non-Medicare plans, please see CP.MP.69 Intensity Modulated Radiation Therapy (IMRT).

Policy/Criteria

I. It is the policy of Medicare health plans affiliated with Centene Corporation® that *IMRT* is **medically necessary** when highly conformal dose planning is required and all of the following are met:

A. One of the following:[1]

1. An immediately adjacent area has been previously irradiated and abutting portals must be established with high precision;
2. Dose escalation is planned to deliver radiation doses in excess of those commonly utilized for similar tumors with conventional treatment;
3. The target volume is concave or convex, and the critical normal tissues are within or around that convexity or concavity;
4. The target volume is in close proximity to critical structures that must be protected;

5. The volume of interest must be covered with narrow margins to adequately protect immediately adjacent structures;

B. IMRT is requested for one of the following disease sites:
1. Primary, metastatic or benign tumors of the central nervous system including the brain, the brain stem, and spinal cord;[1]
2. Primary, or metastatic tumors of the spine where the spinal cord tolerance may be exceeded with conventional treatment or where the spinal cord has previously been irradiated; [1]
3. Primary metastatic, benign or recurrent head and neck malignancies, including: orbits, sinuses, skull base, aero-digestive tract, and salivary glands;
4. Thoracic malignancies; [1]
5. Abdominal malignancies when dose constraints to small bowel or other normal abdominal tissue are exceeded and present administration of a therapeutic dose; [1]
6. Pelvic malignancies including: prostatic, gynecological and anal carcinoma;
7. Other pelvic or retroperitoneal malignancies; [1]
8. Hodgkin's and non-Hodgkin's lymphoma in close proximity to critical structures;[6]
9. Select rectal cancer cases where there is lymph node involvement or require treatment of the inguinal lymph nodes;[4]
10. Soft tissue sarcoma when organ-at-risk dose constraints cannot be met.[5]

C. Documented rationale of the advantage of IMRT versus the use of other radiation therapy methods has been provided. [1]

II. It is the policy of Medicare health plans affiliated with Centene Corporation that *IMRT* is **not medically necessary** for any of the following:
A. Where IMRT does not offer an advantage over conventional or three-dimensional conformal radiation therapy techniques that deliver good clinical outcomes and low toxicity;
B. Clinical urgency, such as spinal cord compression, superior vena cava syndrome or airway obstruction;
C. Palliative treatment of metastatic disease where the prescribed dose does not approach normal tissue tolerances;
D. Inability to accommodate for organ motion, such as for a mobile lung tumor;
E. Inability of member/enrollee to cooperate and tolerate immobilization to permit accurate and reproducible dose delivery.

Background

Centers for Medicare and Medicaid (CMS)[1]

Intensity Modulated Radiation Therapy (IMRT) is a computer-based method of planning for, and delivery of generally narrow, patient specific, spatially and often temporally modulated beams of radiation to solid tumors within a patient. IMRT planning and delivery uses an approach for obtaining the highly conformal dose distributions needed to irradiate complex targets positioned near, or invaginated by, sensitive normal tissues, thus improving the therapeutic ratios. IMRT delivers a more precise radiation dose to the tumor while sparing the surrounding normal tissues by using non-uniform radiation beam intensities that are determined by various computer-based optimization techniques.

The computer-based optimization process is referred to as 'inverse planning.' Inverse planning develops a dose distribution based on the input of specific dose constraints for the planned treatment volume (PTV) and nearby clinical structures and is the beginning of the IMRT treatment planning process. The gross tumor volume (GTV), the PTV, and surrounding normal tissues must be identified by a contouring procedure and the optimization must sample the dose with a grid spacing of one centimeter or less.

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2023, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

CPT® Codes	Description
77385	Intensity modulated radiation treatment delivery (IMRT), includes guidance and tracking, when performed; simple
77386	Intensity modulated radiation treatment delivery (IMRT), includes guidance and tracking, when performed; complex

HCPCS Codes	Description
G6015	Intensity modulated treatment delivery, single or multiple fields/arcs, via narrow spatially and temporally modulated beams, binary, dynamic MLC, per treatment session
G6016	Compensator-based beam modulation treatment delivery of inverse planned treatment using three or more high resolution (milled or cast) compensator, convergent beam modulated fields, per treatment session

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Original approval date	08/23	08/23
Annual review. Description updated with no impact to criteria. Added criteria I.B.8. Hodgkin's and non-Hodgkin's lymphoma in close proximity to critical structures; I.B.9. Select rectal cancer cases where there is lymph node involvement or require treatment of the inguinal lymph nodes; I.B.10. Soft tissue sarcoma when organ at risk dose constraints cannot be met. References reviewed and updated. Reviewed by external specialist.	04/24	04/24

References

1. Local coverage determination: intensity modulated radiation therapy (L36711). Centers for Medicare and Medicaid Services Web site. http://www.cms.hhs.gov/mcd/search.asp. Published December 1, 2016 (revised January 1, 2021). Accessed March 8, 2024.
2. Local coverage article: intensity modulated radiation therapy (A56725). Centers for Medicare and Medicaid Services Web site. http://www.cms.hhs.gov/mcd/search.asp. Published July 25, 2019 (revised October 1, 2023). Accessed March 8, 2024.
3. ASTRO Model Policies- Intensity Modulated Radiation Therapy (IMRT). https://www.astro.org/ASTRO/media/ASTRO/Daily%20Practice/PDFs/IMRTMP.pdf. Accessed March 20, 2024.
4. National Comprehensive Cancer Network®. NCCN Guidelines Version 1.2024 Rectal Cancer. https://www.nccn.org/professionals/physician_gls/pdf/rectal.pdf. Updated January 29, 2024. Accessed March 28, 2024.
5. National Comprehensive Cancer Network®. NCCN Guidelines Version 3.2023 Soft Tissue Sarcoma. https://www.nccn.org/professionals/physician_gls/pdf/sarcoma.pdf. Updated December 12, 2023. Accessed March 28, 2024.
6. National Comprehensive Cancer Network®. NCCN Guidelines Version 3.2024 Hodgkin Lymphoma. https://www.nccn.org/professionals/physician_gls/pdf/hodgkins.pdf. Updated March 18, 2024. Accessed March 28, 2024.
7. National Comprehensive Cancer Network®. NCCN Guidelines Version 1.2024 B-Cell Lymphomas. https://www.nccn.org/professionals/physician_gls/pdf/b-cell.pdf. Updated January 18, 2024. Accessed March 28, 2024.

Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. "Health Plan" means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan's affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members/enrollees. This clinical policy is not intended to recommend treatment for members/enrollees. Members/enrollees should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

This clinical policy is the property of the Health Plan. Unauthorized copying, use, and distribution of this clinical policy or any information contained herein are strictly prohibited. Providers, members/enrollees and their representatives are bound to the terms and conditions expressed herein through the terms of their contracts. Where no such contract exists, providers, members/enrollees and their representatives agree to be bound by such terms and conditions by providing services to members/enrollees and/or submitting claims for payment for such services.

Note: For Medicaid members/enrollees, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Note: For Medicare members/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at http://www.cms.gov for additional information.