

MedStar Health, Inc.

POLICY AND PROCEDURE MANUAL

Policy Number: MP.034.MH
Last Review Date: 05/27/2021
Effective Date: 08/01/2021

MP.034.MH – Intensity-Modulated Radiation Therapy

This policy applies to the following lines of business:

- ✓ MedStar Employee (Select)
- ✓ MedStar CareFirst PPO

MedStar Health considers **Intensity-Modulated Radiation Therapy (IMRT)** medically necessary for the following indications:

IMRT is considered medically necessary over conventional radiation when the reason is supported by clinical documentation and any of the following indications exist:

1. An immediately adjacent volume has been irradiated and abutting portals must be established with high precision.
2. The Gross Tumor Volume (GTV) margins are concave or convex and in close proximity to critical structures that must be protected to avoid unacceptable morbidity.
3. IMRT techniques would decrease the probability of grade 2 or grade 3 radiation toxicity compared with conventional radiation in greater than 15% of radiated similar cases.
4. The volume of interest is in such a location that its parameters are not assessed by simple, two-dimensional (2-D) imaging techniques, but rather by three-dimensional reconstructions.
5. Tumor tissue lies in areas associated with target motion caused by cardiac and pulmonary cycles, and the IMRT is necessary in order to protect adjacent normal tissues.
6. At least 3 critical dose-limiting structures adjacent to, but outside the planned target volume (PTV) are sufficiently close as seen on the dose volume histogram (DVH) and require IMRT to assure for safety and morbidity reduction.

And

IMRT is considered to be reasonable and necessary when it is essential to spare the surrounding normal tissue when any of the following conditions is present:

1. Selected cases of thoracic and abdominal malignancies
2. Adrenal tumors
3. Brain metastases
4. Selected cases (i.e. not routine) of breast cancers with close proximity to critical structures
5. Central nervous system tumors

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6. Gynecological tumors where high precision is especially necessary to avoid immediately adjacent structures (such as bowel) or where there is a special need to avoid marrow
7. Primary, metastatic, or benign lesions to the head and neck (including orbits, skull base, aero-digestive tract, salivary glands, thyroid, and sinuses)
8. Localized primary disease for which a definitive approach to the primary site is planned (e.g. lobectomy)
9. Lymphomas, malignant lymph nodes, or sarcomas where anatomic location requires special care to avoid adjacent structures
10. Lung cancer (with special provision for organ motion)
11. Upper abdominal/thoracic sites (with special provision for organ motion)
12. Pediatric tumors such as: Ewing Sarcoma, Wilms' Tumor
13. Pelvic, rectal, and retroperitoneal tumors that meet the requirements of medical necessity
14. Pancreatic cancer
15. Pituitary tumors
16. Primary brain tumors
17. Carcinoma of the prostate
18. Spine, spinal cord and brain stem tumors

Limitations

1. Documentation signed by the medical radiation physicist and oncologist must justify the frequency and medical necessity of the service.
2. It is not considered medically necessary to perform other radiation treatment delivery services on the same day as IMRT treatment delivery. These other delivery services may be appropriate on a day prior to or subsequent to an IMRT treatment course for treatment with a different modality.
3. The use of MLC (multileaf collimator) just to produce simple one-dimensional ramp intensity distributions is not considered IMRT because the inverse planning process is not necessary to produce this simple intensity variation.
4. The use of an MLC does not in itself constitute or define IMRT (as may be used for simple, three dimensional conformal therapies).
5. Traditional "field in field technique" which is neither MLC or compensator-based, is not considered IMRT but rather external beam therapy.

Other Issues Related to Billing Procedures:

1. There must be a prescription written by the radiation oncologist who defines the requirements and goals of the planned treatment, including the specific dose constraints for the target(s) and nearby critical structures. This prescription must include a notation from the prescribing radiation oncologist stating indications, rationale, and the medical necessity for IMRT.

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2. Special Dosimetry Calculation (CPT code 77331)
 - Is performed 1 per port per course of therapy.
 - The usual frequency of special dosimetry is between 1 to 4 services per course of therapy.
3. This use of special radiation, measuring and monitoring devices, and other methods for calculating the specific dosage at a given point, is done at the direct request of the radiation oncologist.
4. When the physician either performs the service directly or is directly involved in the design or final selection process and can thoroughly document this involvement, these services are to be submitted as a professional charge by the radiation oncologist. Direct involvement and documentation are the key factors.
5. When IMRT treatment plan (CPT code 77301) is billed more than once for the same tumor, medical record documentation must support the medical necessity of the additional plan(s) and be available upon request.
6. When reporting more than eight units for treatment device services (CPT codes 77332, 77333 and 77334) may require supporting documentation. Examples of acceptable documentation for additional sets of custom devices are:
 - Change in lesion size
 - Patient repositioned
 - Different volume of interest treated (identify each volume of interest)
 - A boost, change in size of the volume of interest, or coned down beam is used.

Background

The Centers for Medicare and Medicaid Services (CMS) defines Intensity Modulated Radiation Therapy (IMRT) as a new technology in radiation oncology that delivers radiation more precisely to the tumor while relatively sparing the surrounding normal tissues. It is an advanced form of three-dimensional conformal radiation therapy (3-D CRT) that allows for varying intensities of radiation to produce dose distribution that are more conformal than those possible with standard 3-D CRT.

IMRT is a computer-based method of planning for, and delivery of, narrow, patient specific, spatially and temporally modulated beams of radiation to solid tumors within a patient. IMRT planning and delivery uses a new 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 is not a replacement therapy for conventional and 3-D conformal radiation therapy methods.

Codes:

CPT Codes / HCPCS Codes / ICD-10 Codes
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Code	Description
CPT codes:	
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
77387	Guidance for localization of target volume for delivery of radiation treatment delivery, includes intrafraction tracking, when performed
77301	Intensity modulated radiotherapy plan, including dose-volume histograms for target and critical structure partial tolerance specifications.
77338	Multi-leaf collimator (MLC) device for intensity modulated radiation therapy (IMRT), design and construction per IMRT plan.
*The following codes should NOT be reported when the services are directly linked to and performed as part of developing the IMRT plan that is reported using code 77301, even if the services are performed on different dates. These codes are part of the treatment planning process.	
76376	3D rendering with interpretation and reporting of computed tomography magnetic resonance imaging, ultrasound, or other tomographic modality, not requiring image post processing on an independent workstation.
76377	3D rendering with interpretation and reporting of computed tomographic magnetic resonance imaging, ultrasound, or other tomographic modality, not requiring image post-processing on an independent workstation.
77014	Computerized axial tomography guidance for placement of radiation therapy fields.
77280	Therapeutic radiology simulation-aided field setting - simple
77285	Therapeutic radiology simulation-aided field setting - intermediate
77290	Therapeutic radiology simulation-aided field setting - complex
77293	Respiratory motion management stimulation
77295	Therapeutic radiology simulation-aided field setting - 3-dimensional
77306	Teletherapy, isodose plan; simple (1 or more unmodified ports directed to a single area of interest), includes basic dosimetry calculations
77307	Teletherapy, isodose plan; complex (multiple treatment areas, tangential ports, the use of wedges, blocking, rotational beam, or special beam considerations), includes basic dosimetry calculations

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77316	Brachytherapy isodose plan; simple (calculation(s) made from 1 to 4 sources, or remote afterloading brachytherapy, 1 channel), includes basic dosimetry calculation(s)
77317	Brachytherapy isodose plan; intermediate (calculation(s) made from 5 to 10 sources, or remote afterloading brachytherapy, 2-12 channels), includes basic dosimetry calculation(s)
77318	Brachytherapy isodose plan; complex (calculation(s) made from over 10 or more sources, or remote afterloading brachytherapy, over 12 channels), includes basic dosimetry calculation(s)
77321	Special teletherapy port plan, particles, hemibody, total body.
77331	Special dosimetry (e.g., thermoluminescence dosimeter TLD, microdosimetry) (specify), only when prescribed by a physician.
77336	Continuing medical physics consultation, including assessment of treatment parameters, quality assurance of dose delivery, and review of patient treatment documentation in support of the radiation oncologist, reported per week of therapy
77370	Special medical radiation physics consultation
The following treatment devices (codes 77301-77334) are to be billed once (1) at the onset of treatment.	
Note: These codes are not to be submitted at each radiation treatment delivery encounter:	
77301	Intensity modulated radiotherapy plan, including dose-volume histograms target and critical structure partial tolerance specifications
77332	Treatment devices, design and construction, simple block, simple bolus
77333	Treatment devices, design and construction; intermediate (multiple blocks, stents, bite blocks, special bolus)
77334	Treatment devices, design and construction; complex (irregular blocks, special shields)
ICD-10 codes covered when selection criteria are met:	
C00.0-D49.9	Neoplasms
Z51.0	Encounter for antineoplastic radiation therapy

References

- Centers for Medicare and Medicaid Services (CMS). Medicare Learning Network Matters (MM5011) March 2020. <https://www.cms.gov/Outreach-and->

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[Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/hospitaloutpaysysfctsht.pdf](#)

- Centers for Medicare and Medicaid Services (CMS). Local Coverage Determination (LCD): Intensity Modulated Radiation Therapy (IMRT) – L36711. Revision Effective Date: 01/01/2021. <https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?lcdid=36711&ver=51&bc=CAAAAAAAAAAA>
- Coles CE, Moody AM, Wilson CB, et al. Reduction of radiotherapy-induced late complications in early breast cancer: the role of intensity-modulated radiation therapy and partial breast irradiation. Part II--Radiotherapy strategies to reduce radiation-induced late effects. Clin Oncol (R Coll Radiol). 2005 Apr; 17(2):98-110. <http://www.ncbi.nlm.nih.gov/pubmed/15830572>
- Cuzick J. Radiotherapy for breast cancer. J Natl Cancer Inst. 2005 Mar; 97(6):406-407. <http://jnci.oxfordjournals.org/content/97/6/406.long>
- UPMC Cancer Center: What is 3-D Conformal Radiation Therapy? © 2017, UPMC. Accessed: April 2019. <http://www.upmccancercenter.com/radonc/conformal.cfm>

Archived References

- Hayes Medical Technology Directory. Intensity Modulated Radiation Therapy (IMRT) for Anal or Rectal Cancer. Publication date July 30, 2015. Annual Review: July 13, 2018. Archived Date: August 30, 2020.

Disclaimer:

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