

Policy: MP192

Section: Medical Benefit Policy

Subject: Intensity Modulated Radiation Therapy (IMRT)

I. Policy: Intensity Modulated Radiation Therapy (IMRT)

II. Purpose/Objective:

To provide a policy of coverage regarding Intensity Modulated Radiation Therapy (IMRT)

III. Responsibility:

- A. Medical Directors
- B. Medical Management

IV. Required Definitions

1. Attachment – a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
2. Exhibit – a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
3. Devised – the date the policy was implemented.
4. Revised – the date of every revision to the policy, including typographical and grammatical changes.
5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

V. Additional Definitions

Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

- a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
- b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
- c. in accordance with current standards of good medical treatment practiced by the general medical community.
- d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and
- e. the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

Medicaid Business Segment

Medical Necessity shall mean a service or benefit that is compensable under the Medical Assistance Program and if it meets any one of the following standards:

- (i) The service or benefit will, or is reasonably expected to, prevent the onset of an illness, condition or disability.
- (ii) The service or benefit will, or is reasonably expected to, reduce or ameliorate the physical, mental or development effects of an illness, condition, injury or disability.
- (iii) The service or benefit will assist the Member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for members of the same age.

DESCRIPTION:

Intensity modulated radiation therapy (IMRT) is a method of planning and delivering radiation therapy in a focused three-dimensional conformal dose. By utilizing non-uniform radiation beam intensities and a methodology known as inverse planning or forward planning to develop complex treatment geometries, the radiation is delivered in optimized dose distributions to the target while sparing adjacent tissue.

INDICATIONS:

It is not possible to preclude the use of IMRT for tumors based solely on their primary site of origin. Therefore, there is no definitive list of approved indications for IMRT. The following list of indications are supported by current literature, however, this list may not be all inclusive:

IMRT may be considered medically necessary for the following indications when qualifying criteria are met:

- Prostate carcinoma when a radiation dose of 75 Gy or greater is planned (1Gy = 100 rads); or
- Primary radiosensitive benign or malignant tumors of the central nervous system (e.g., brain, head, neck, spine or paraspinal regions)
- Primary benign or malignant lesions of the head and neck
- Mediastinal tumors, thymoma, tracheal cancer
- Abdominal, pelvic or retroperitoneal tumors when:
 - The planned target area has been previously radiated;
 - A critical structure is located in the planned radiation field; or
 - The function or capacity of the targeted organ is significantly limited
- Squamous cell cancer of the anus or anal canal
- Esophageal or tracheal cancer
- Pancreatic cancer
- Cervical cancer
- Primary bone tumors
- Lung cancer when:
 - The planned target area has been previously radiated
 - A critical structure is located in the planned radiation field; or
 - Pulmonary function or capacity is significantly limited
- Breast cancer when:
 - There has been prior radiation treatment of the chest wall; or
 - The planned treatment field includes the heart; or
 - When treatment with 3-D conformal radiation results in focal regions with dose variation greater than 10% of target (i.e. "hot spots") and can be avoided with IMRT

CRITERIA FOR COVERAGE:

IMRT is not a replacement for conventional or three-dimensional conformal radiation therapy.

Requests for IMRT must be initiated and administered by a radiation oncologist and must be accompanied by the following information to assure appropriate daily monitoring and adjustments:

- Documentation of the special need for the use of IMRT rather than conventional 3-dimensional radiation delivery, including the planned treatment volume and identification of the critical structures at risk; **and**
 - Physician provided documentation of concave or convex gross tumor margin and a dose volume histogram that shows at least three critical dose limiting structures adjacent to, but outside of the planned treatment volume that would incur unacceptable morbidity with conventional external beam radiotherapy; **or**
 - Physician provided documentation that an immediately adjacent area has been previously irradiated, thus requiring high precision portal development; **or**
 - The target area is in a location that simple two-dimensional imaging is inadequate to assess the parameters; **or**
 - The tumor is located in a target area associated with cardiac or pulmonary/respiratory motion;
- **AND**
- IMRT would significantly decrease the probability of grade II or grade III radiation toxicity when compared to conventional external beam radiation.

AND

- Documentation of the number of steps or arcs (minimum of 5), the number of ports or en fields (minimum of 5), and an inverse or forward plan that meets the prescribed dose constraints.

EXCLUSIONS:

IMRT for the treatment of prostate cancer with planned doses less than 75 Gy is not considered to be medically necessary and therefore **NOT COVERED**. Clinical outcomes with IMRT have not been shown to be superior to other approaches to radiation therapy.

IMRT for the treatment of abdominal or pelvic tumors not meeting the criteria listed is considered to be experimental, investigational or unproven and is **NOT COVERED**.

IMRT for the purpose of whole breast irradiation in the absence of meeting the criteria listed in this policy is considered not medically necessary and therefore **NOT COVERED**. Clinical outcomes with IMRT have not been shown to be superior to other approaches of radiation therapy.

IMRT for the treatment of lung cancer not meeting the criteria listed above is considered not medically necessary and therefore **NOT COVERED**. Clinical outcomes with IMRT have not been shown to be superior to other approaches of radiation therapy.

Note: A complete description of the process by which a given technology or service is evaluated and determined to be experimental, investigational or unproven is outlined in MP 15 - Experimental Investigational or Unproven Services or Treatment.

CODING ASSOCIATED WITH: IMRT

The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

- 20696 Application of multiplane (pins or wires in more than one plane), unilateral, external fixation with stereotactic, computer-assisted adjustment (eg. Spatial frame), including subsequent alignment(s), assessment(s), and computation(s).
- 20697 Application of multiplane (pins or wires in more than one plane), unilateral, external fixation with stereotactic, computer-assisted adjustment (eg. Spatial frame), including imaging; exchange (i.e. removal and replacement) of strut, each
- 77301 Intensity modulated radiotherapy plan, including dose-volume histograms for target and critical structure partial tolerance specifications
- 77014 Computed tomography guidance for placement of radiation therapy fields
- 77280 Therapeutic radiology simulation-aided field setting, simple
- 77285 intermediate
- 77290 complex
- 77295 3 dimensional
- 77306 Teletherapy isodose plan; simple (1 or 2 unmodified ports directed to a single area of interest), includes basic dosimetry calculation(s)
- 77307 Teletherapy isodose plan; complex (multiple treatment areas, tangential ports, the use of wedges, blocking, rotational beam, or special beam considerations), includes basic dosimetry calculation(s)
- 77321 Special teletherapy port plan, particles, hemibody, total body
- 77331 Special dosimetry
- 77336 Continuing medical physics consultation including assessment of treatment parameters
- 77338 Multi- leaf collimator (mlc) device(s) for intensity modulated radiation therapy (imrt), design and construction per imrt plan
- 77370 Special medical radiation physics consultation
- 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
- 77418 Intensity modulated treatment delivery, single or multiple fields/arcs, via narrow spatially and

- temporally modulated beams (eg, binary, dynamic MLC), per treatment session
- 77338 Multi-leaf collimator (MLC) device(s) for intensity modulated radiation therapy (IMRT) design and construction per IMRT plan.
- 77293 Respiratory motion management stimulation
- C9728 Placement of interstitial device(s) for radiation therapy/surgery guidance (eg, fiducial markers, dosimeter), other than prostate (any approach), single or multiple
- G6015 Intensity modulated treatment delivery, single or multiple fields/arcs, via narrow spatially and temporally modulated beams, binary, dynamic mic, per treatment session
- G6016 Compensator- based beam modulation treatment delivery of inverse planned treatment using 3 or more high resolution (milled or cast) compensator, convergent beam modulated fields, per treatment session
- G6017 Intra- fraction localization and tracking of target or patient motion during delivery of radiation therapy (eg, 3rd positional tracking, gating, 3d surface tracking), each fraction of treatment

ICD10 Codes Supported by Medicare

C00.0 - C00.1, C00.3 - C00.4, C00.6, C00.8, C01, C02.0 - C02.8, C03.0 - C03.1, C04.0 - C04.8, C05.0 - C05.8, C06.0 - C06.89, C07, C08.0 - C08.1, C09.0 - C09.9, C10.0 - C10.8, C11.0 - C11.8, C12, C13.0 - C13.8, C14.0 - C14.8, C15.3 - C15.8, C16.0 - C16.8, C17.0 - C17.8, C18.0 - C18.8, C19, C20, C21.0 - C21.8, C22.0 - C22.9, C23, C24.0 - C24.8, C25.0 - C25.8, C30.0 - C30.1, C31.0 - C31.8, C32.0 - C32.8, C34.00 - C34.92, C37, C38.0 - C38.8, C40.01 - C40.02, C40.11 - C40.12, C40.21 - C40.22, C40.31 - C40.32, C40.81 - C40.82, C40.91 - C40.92, C41.0 - C41.9, C43.0, C43.11 - C43.12, C43.21 - C43.22, C43.31 - C43.39, C43.51 - C43.52, C4A.11 - C4A.12, C4A.21 - C4A.22, C4A.31 - C4A.39, C4A.51 - C4A.52, C44.01 - C44.02, C44.112 - C44.119, C44.122 - C44.129, C44.192 - C44.199, C44.212 - C44.219, C44.222 - C44.229, C44.292 - C44.299, C44.311 - C44.319, C44.321 - C44.329, C44.391 - C44.399, C44.41 - C44.49, C44.510 - C44.511, C44.520 - C44.521, C44.590 - C44.591, C45.0, C45.2, C47.0, C47.11 - C47.12, C47.21 - C47.22, C47.3 - C47.5, C47.8, C48.0 - C48.8, C49.0, C49.11 - C49.12, C49.21 - C49.22, C49.3 - C49.8, C50.011 - C50.012, C50.021 - C50.022, C50.111 - C50.112, C50.121 - C50.122, C50.211 - C50.212, C50.221 - C50.222, C50.311 - C50.312, C50.321 - C50.322, C50.411 - C50.412, C50.421 - C50.422, C50.511 - C50.512, C50.521 - C50.522, C50.611 - C50.612, C50.621 - C50.622, C50.811 - C50.812, C50.821 - C50.822, C51.0 - C51.9, C52, C53.0 - C53.8

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LINE OF BUSINESS:

Eligibility and contract specific benefits, limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD's and NCD's will supercede this policy. For PA Medicaid Business segment, this policy applies as written.

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This policy will be revised as necessary and reviewed no less than annually.

Devised: 02/07

Revised: 8/08 (removed compensator-based system exclusion); 1/12 indications, exclusions, 1/16 (added Indications); 1/21(add indications); 1/22 (refine breast cancer indication)

Reviewed: 9/09, 1/13, 1/14, 1/15, 1/17, 1/18, 1/19, 1/20

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member's contract specific benefit document. Prior authorization requirements can be found at <https://www.geisinger.org/health-plan/providers/ghp-clinical-policies>

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