Priority Health

**MEDICAL POLICY**
**No. 91633-R1**

# INTENSITY MODULATED RADIATION THERAPY (IMRT)

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| **Effective Date: November 23, 2022** | **Review Dates: 8/22, 11/22, 11/23** |
| **Date Of Origin: August 22, 2022** | **Status: Current** |

## I. SCOPE

During an episode of care of IMRT, additional ancillary services will be used. This policy will only address services directly described for IMRT.

Ancillary services (basic dosimetry, physician clinical treatment planning, block check simulation, weekly treatment management and others) which may be used in other modalities will be needed in the overall episode of IMRT care.

## II. POLICY/CRITERIA

Priority Health considers **Intensity Modulated Radiation Therapy (IMRT)** medically necessary when ALL the following apply:

A. Conventional or 3-dimensional radiation has been deemed unable to meet current treatment goals
B. AT LEAST ONE of the following applies:

   1. Previous irradiation of immediately adjacent area
   2. Target in close proximity to critical structures
   3. Target is irregularly shaped or concave or convex
   4. Radiation dose escalation planned in excess of those commonly utilized
   5. Narrow margins needed to protect adjacent structures

C. Services are rendered only by a qualified physician*, defined as: Training and expertise must have been acquired within the framework of an accredited residency or fellowship program in the applicable specialty/subspecialty, i.e., radiation oncology.

   ***Note**: IMRT planning and Multileaf collimator device for IMRT design and construction are highly technical services and expected to be performed only by radiation oncologists.

   Documentation must be made available upon request of provider qualifications and appropriate training for each IMRT service performed.

D. Sufficient and appropriate documentation is provided. Documentation must indicate the medical necessity for IMRT as outlined in this policy, and must include all of the following for IMRT planning and delivery:

1. The treatment plan/prescription must define the goals and requirements of the treatment, including the specific dose constraints for the target(s) and nearby critical structures.
2. A statement by the treating physician documenting the special need for performing IMRT on the patient in question, rather than performing conventional or three-dimensional treatment planning and delivery. The physician must address proximity to critical structures or other organs at risk.
3. Review (signed and dated) by the radiation oncologist of the CT or MRI based images of the target and all critical structures with representative isodose distributions that characterize the three-dimensional dose. This would apply to those services based on PET-CT as well.
4. Description of the number and location of each treatment step/rotation or portal to accomplish the treatment plan.
5. Documentation of dosimetric verification of treatment setup and delivery, signed by both the radiation oncologist and the medical physicist.
6. For compensator-based IMRT, the unique compensator design should be documented for each step or portal.
7. Other procedures performed during the episode of care must have documentation that supports the professional and technical components as applicable by identifying the place of service, the date of service, the supervising physician, and proof of work provided.

E. Pathologic lesion in one or more of the following regions:

1. **Central Nervous System**: Primary, metastatic, or benign tumors of the central nervous system (brain, brain stem, spinal cord)
2. **Head and Neck**: Primary, metastatic, benign or recurrent head and neck malignancies* occurring in at least one of the following locations:

   a. Orbit
   b. Sinus
   c. Skull base
   d. Aero-digestive tract (including pharynx, nasopharynx, oropharynx and hypopharynx, or larynx (stage III or IV glottic cancer) or paranasal sinuses)
   e. Salivary glands
   f. Oral cavity (includes the tongue)
   g. Nasal cavity

*Note: Head and neck cancers include lymphoma and solitary plasmacytomas.

3. **Thyroid**: IMRT may be considered established for the treatment of thyroid cancer when it is:

   a. Unresectable; or,
   b. Residual or persistent following surgery; or,
   c. A locoregional recurrence; or,
   d. An area that has been previously irradiated.

4. **Breast**: Breast cancer in the following circumstances:

   a. When the left-sided internal mammary nodes are being treated; or
   b. Partial breast irradiation of up to 5 fractions

5. **Lung**: Lung cancer

6. **Thorax/Chest/Mediastinal**:

   a. Esophageal cancer
   b. Mediastinal tumors (e.g., lymphomas, thymomas), including tracheal cancer

7. **Abdomen**:

   a. Colorectal cancer ONLY for reirradiation of previously treated individuals with recurrent disease or unique anatomical situations (e.g., cecal volvulus, sigmoid volvulus)
   b. Gallbladder cancer where dose exceeds 50 Gray (Gy)
   c. Pancreatic cancer where dose exceeds 50 Gy

8. **Pelvis**:

   a. Prostatic cancer/malignancy/carcinoma
   b. Endometrial cancer/malignancy/carcinoma
   c. Cervical cancer/malignancy/carcinoma
   d. Rectal cancer/malignancy/carcinoma (measurement from the distal aspect of the rectal tumor to the anal verge must be provided)
   e. Retroperitoneal cancer/malignancy/carcinoma

## III. EXCEPTIONS

**IMRT may be covered for a condition that is not listed above in select cases.** All exceptions will be evaluated on a case-by-case basis when AT LEAST ONE of the following conditions is present:

a. A non-IMRT technique would increase the probability of clinically meaningful normal tissue toxicity, (e.g., as specified by the Radiation Therapy Oncology Group (RTOG) or QUANTEC guidelines) as demonstrated on a comparison of treatment plans for the IMRT and non-IMRT technique (e.g., three-dimensional conformal treatment plan).
b. Documented rationale of the advantage of IMRT versus the use of other radiation therapy methods
c. The same or an immediately adjacent area has been previously irradiated, and the dose distribution within the individual must be sculpted to avoid exceeding the cumulative tolerance dose of nearby normal tissue.

## IV. MEDICAL NECESSITY REVIEW

☒ Required ☐ Not Required ☐ Not Applicable

## V. APPLICATION TO PRODUCTS

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

- **HMO/EPO:** ***This policy applies to insured HMO/EPO plans.***
- **POS:** ***This policy applies to insured POS plans.***
- **PPO:** ***This policy applies to insured PPO plans. Consult individual plan documents as state mandated benefits may apply. If there is a conflict between this policy and a plan document, the provisions of the plan document will govern.***
- **ASO:** ***For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.***
- **INDIVIDUAL:** ***For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.***
- **MEDICARE:** ***Coverage is determined by the Centers for Medicare and Medicaid Services (CMS) and/or the Evidence of Coverage (EOC); if a coverage determination has not been adopted by CMS, this policy applies.***
- **MEDICAID/HEALTHY MICHIGAN PLAN:** ***For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html. If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html, the Michigan Medicaid Provider Manual will govern. If there is a discrepancy or lack of***

***guidance in the Michigan Medicaid Provider Manual, the Priority Health contract with Michigan Medicaid will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.***

## VI. BACKGROUND

### External Beam Radiation Therapy

External radiation (or external beam radiation) is the most common type of radiation therapy used for cancer treatment. A machine is used to aim high-energy rays or particles from outside the body into the tumor. External beam radiation is given most often as photon (x-ray) beams (see below) and less often as particle (proton, neutron) or electron beams.

Radiation technology allows the very careful delivery of external beam radiation therapy. The machines focus the radiation beam on the exact location in such a way to maximize the radiation reaching the cancer, but also to limit the effect on normal tissues as little as possible.

External radiation is usually done during outpatient visits to a hospital or treatment center. Most people get external radiation therapy over many weeks. Usually, they visit the treatment center every weekday (Monday through Friday) for a certain number of weeks. But some people may need to go to the treatment center twice a day for a fewer number of weeks.

### Photon Beam Radiation Therapy

Photon beam radiation therapy: Photon beams are the same type of radiation that is used during an x-ray, like a chest x-ray, but at a much higher amount. The radiation is released from the machine as a wave of energy. Photon beams can travel deep into the body to the tumor but can also damage healthy tissue in front of and behind the tumor. Photons are given by a machine called a linear accelerator. The photon beams are invisible and cannot be felt when they are passing through the skin to the cancer.

**Three-dimensional conformal radiation therapy (3D-CRT)** delivers radiation beams from different directions designed to match the shape of the tumor. This helps to reduce radiation damage to normal tissues and better kill the cancer by focusing the radiation dose on the tumor's exact shape and size.

**Image guided radiation therapy (IGRT)** is a form of 3D-CRT where imaging scans (like a CT scan) are done before each treatment. This allows the radiation oncologist to adjust the position of the patient or re-focus the radiation as needed

to be sure that the radiation beams are focused on the tumor exactly and that exposure to normal tissues is limited.

**Intensity modulated radiation therapy (IMRT)** is like 3D-CRT, but it also changes the strength of some of the beams in certain areas. This allows stronger doses to get to certain parts of the tumor and helps lessen damage to nearby normal body tissues.

**Helical-tomotherapy** a form of IMRT that delivers radiation in a special way. For this treatment, the radiation machine delivers many small beams of radiation at the tumor from different angles around the body. This may allow for radiation to be even more precisely focused.

The goal of **intensity-modulated radiotherapy (IMRT)** is to increase the radiation dose to tumors while minimizing the radiation dose to normal tissues and critical organs, thereby achieving greater local tumor control with minimal toxicity. IMRT starts with treatment planning, which begins with virtual simulation. Simulation involves **computed tomography (CT)**, which may be co-registered with diagnostic CT, **magnetic resonance imaging (MRI)**, or **positron emission tomography (PET)** scans. The images from these scans are used to estimate the **gross tumor volume (GTV)**, to delineate **organs at risk (OARs)**, and to determine the **clinical tumor volume (CTV, the GTV plus a margin)**, the **planning target volume (PTV, the CTV plus a margin)**, the radiation dose to the PTV, and the radiation dose constraints to nearby structures. IMRT is delivered via a stand-alone **linear accelerator (LINAC)** with a static or dynamic **multi-leaf collimator (MLC)**, or via tomotherapy or **volumetric modulated arc therapy (VMAT)** machines that combine LINACs with MLCs and CT scanners in one machine to provide different forms of image-guided IMRT.

## VII. CODING INFORMATION

** Denotes Prior Authorization Required*

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| 77014 | Computed 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 simulation (List separately in addition to code for primary procedure) |
| 77295 | 3-dimensional radiotherapy plan, including dose-volume histograms |
| 77300 | Basic radiation dosimetry calculation, central axis depth dose calculation, TDF, NSD, gap calculation, off axis factor, tissue inhomogeneity factors, |

calculation of non-ionizing radiation surface and depth dose, as required during course of treatment, only when prescribed by the treating physician

77301 Intensity modulated radiotherapy plan, including dose-volume histograms for target and critical structure partial tolerance specifications

77321 Special teletherapy port plan, particles, hemibody, total body

77331 Special dosimetry (eg, TLD, microdosimetry) (specify), only when prescribed by the treating physician

77332 Treatment devices, design and construction; simple (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, compensators, wedges, molds or casts)

77338 Multi-leaf collimator (MLC) device(s) for intensity modulated radiation therapy (IMRT), design and construction per IMRT plan

77385* Intensity modulated radiation treatment delivery (IMRT), includes guidance and tracking, when performed; simple *(Not valid for Medicare purposes for physician claims)*

77386* Intensity modulated radiation treatment delivery (IMRT), includes guidance and tracking, when performed; complex *(Not valid for Medicare purposes for physician claims)*

77387 Guidance for localization of target volume for delivery of radiation treatment, includes intrafraction tracking, when performed

77520* Proton treatment delivery; simple, without compensation

77522* Proton treatment delivery; simple, with compensation

77523* Proton treatment delivery; intermediate

77525* Proton treatment delivery; complex

G6001 Ultrasonic guidance for placement of radiation therapy fields

G6002 Stereoscopic x-ray guidance for localization of target volume for the delivery of radiation therapy

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

## VIII. REFERENCES

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