



ND

# Medical Policies



Policy Number:	Y-5046		
Policy Name:	Intensity-Modulated Radiotherapy of the Breast and Lung		
Policy Type:	Medical	Policy Subtype:	Therapy
Effective Date:	09-15-2025	End Date:	11-02-2025

## Description

For certain stages of many cancers, including breast and lung, randomized controlled trials (RCTs) have shown that postoperative radiotherapy (RT) improves outcomes for operable individuals. Adding radiation to chemotherapy also improves outcomes for those with inoperable lung tumors that have not metastasized beyond regional lymph nodes.

### Radiotherapy Techniques

Radiation therapy may be administered externally (i.e., a beam of radiation is directed into the body) or internally (i.e., a radioactive source is placed inside the body, near a tumor). External radiotherapy (RT) techniques include 'conventional' or 2-dimensional (2D) RT, 3-dimensional (3D) conformal RT, and intensity-modulated radiation therapy (IMRT).

### Conventional External-Beam Radiotherapy

Methods to plan and deliver RT have evolved that permit more precise targeting of tumors with complex geometries. Conventional 2D treatment planning utilizes X-ray films to guide and position radiation beams. Bony landmarks bones visualized on X-ray are used to locate a tumor and direct the radiation beams. The radiation is typically of uniform intensity.

### Three-Dimensional Conformal Radiotherapy

Radiation treatment planning has evolved to use 3D images, usually from computed tomography (CT) scans, to more precisely delineate the boundaries of the tumor and to discriminate tumor tissue from adjacent normal tissue and nearby organs at risk for radiation damage. Three-dimensional conformal RT (3D-CRT) involves initially scanning the individual in the position that will be used for the radiation treatment. The tumor target and surrounding normal organs are then outlined in 3D on the scan. Computer software assists in determining the orientation of radiation beams and the amount of radiation the tumor and normal tissues receive to ensure

coverage of the entire tumor in order to minimize radiation exposure for at risk normal tissue and nearby organs. Other imaging techniques and devices such as multi leaf collimators (MLCs) may be used to 'shape' the radiation beams. Methods have also been developed to position the individual and the radiation portal reproducibly for each fraction and to immobilize the individual, thus maintaining consistent beam axes across treatment sessions.

Intensity-Modulated Radiotherapy

Intensity-modulated radiotherapy is the more recent development in external radiation. Treatment planning and delivery are more complex, time-consuming, and labor-intensive for IMRT than for 3D-CRT. Similar to 3D-CRT, the tumor and surrounding normal organs are outlined in 3D by a scan and multiple radiation beams are positioned around the individual for radiation delivery. In IMRT, radiation beams are divided into a grid-like pattern, separating a single beam into many smaller 'beamlets'. Specialized computer software allows for 'inverse' treatment planning. The radiation oncologist delineates the target on each slice of a CT scan and specifies the target's prescribed radiation dose, acceptable limits of dose heterogeneity within the target volume, adjacent normal tissue volumes to avoid, and acceptable dose limits within the normal tissues. Based on these parameters and a digitally reconstructed radiographic image of the tumor, surrounding tissues, and organs at risk, computer software optimizes the location, shape, and intensities of the beam ports to achieve the treatment plan's goals.

Increased conformality may permit escalated tumor doses without increasing normal tissue toxicity and is proposed to improve local tumor control, with decreased exposure to surrounding, normal tissues, potentially reducing acute and late radiation toxicities. Better dose homogeneity within the target may also improve local tumor control by avoiding under dosing within the tumor and may decrease toxicity by avoiding overdosing.

In addition to the clinical situations identified below, benefits may be allowed for indications and criteria recognized in the National Comprehensive Cancer Network Guidelines (NCCN Guidelines) that is supported by NCCN 1 or 2A recommended use.

Policy Application

All claims submitted under this policy's section will be processed according to the policy effective date and associated revision effective dates in effect on the date of service.

Diagnosis Codes

Not applicable

CURRENT CODING

CPT:

77301	NTSTY MODUL RADTHX PLN DOSE-VOL HISTOS	Commercial
77338	MLC IMRT DESIGN & CONSTRUCTION PER IMRT PLAN	Commercial

77385	INTENSITY MODULATED RADIATION TX DLVR SIMPLE	Commercial
77386	INTENSITY MODULATED RADIATION TX DLVR COMPLEX	Commercial
77301	NTSTY MODUL RADTHX PLN DOSE-VOL HISTOS	Medicaid Expansion
77338	MLC IMRT DESIGN & CONSTRUCTION PER IMRT PLAN	Medicaid Expansion
77385	INTENSITY MODULATED RADIATION TX DLVR SIMPLE	Medicaid Expansion
77386	INTENSITY MODULATED RADIATION TX DLVR COMPLEX	Medicaid Expansion

**HPCPS:**

G6015	Radiation tx delivery imrt	Commercial
G6016	Delivery comp imrt	Commercial
G6015	Radiation tx delivery imrt	Medicaid Expansion
G6016	Delivery comp imrt	Medicaid Expansion

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## ND Committee Review

Internal Medical Policy Committee 11-19-2020 New Policy *Effective January 4, 2021*

Internal Medical Policy Committee 11-23-2021 Annual Review, No changes in criteria *Effective January 3, 2022*

Internal Medical Policy Committee 11-29-2022 Revision - *Effective January 02, 2023*

- *Updated* Coding
- *Updated* language with minor refinements

- **Added** Summary of Evidence

Internal Medical Policy Committee 7-26-2023 Revision with coding update - **Effective June 19, 2023**

- **Removed** diagnosis codes
- **Updated** with clarifying language

Internal Medical Policy Committee 7-16-2024 Annual Review **Effective September 2, 2024**

- **Added** Policy Application

## Disclaimer

*Current medical policy is to be used in determining a Member's contract benefits on the date that services are rendered. Contract language, including definitions and specific inclusions/exclusions, as well as state and federal law, must be considered in determining eligibility for coverage. Members must consult their applicable benefit plans or contact a Member Services representative for specific coverage information. Likewise, medical policy, which addresses the issue(s) in any specific case, should be considered before utilizing medical opinion in adjudication. Medical technology is constantly evolving, and the Company reserves the right to review and update medical policy periodically.*