

BSC8.06	Radiation Oncology		
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Section:	2.0 Medicine	Page:	Page 1 of 35

Policy Statement

Radiation therapy may be considered medically necessary in the management of many types of cancer when certain criteria are met. This policy outlines general principles, including but not limited to the frequency of use of some CPT codes, to assist radiation oncology providers when providing services, including three-dimensional conformal (3D CRT or External Beam Radiation Therapy - EBRT), intensity modulated, stereotactic brain and body radiation therapy and brachytherapy. More specific guidelines may be covered in [other policies](#). Because many code approvals are dependent on others, and total numbers of units, facility vs. professional vs. combined requests cannot be determined accurately when submitted separately, the entire episode of care should be submitted as a single claim after services are provided when not prior authorized.

Clinical Treatment Planning (CPT: simple 77261, intermediate 77262, complex 77263)

- I. During a course of radiotherapy, **one or more** of the following may be considered **medically necessary**:
 - A. A single treatment plan
 - B. More than one treatment plan for a single course of treatment when medical record documentation supports the need for additional treatment plans

Simulation (initial) and verification simulation (CPT: simple 77280, intermediate 77285, complex 77290)

- II. During a course of 3D CRT radiation therapy (excludes IMRT since included in IMRT plan 77301), **one or more** of the following may be considered **medically necessary**:
 - A. One initial simulation (77280 or 77285 or 77290) and one verification simulation (77280 only, see Note below)
 - B. More than one initial and verification simulation when medical record documentation supports the need for additional simulations

Note: The use of complex codes (77290) may be needed if the use of contrast (IV/bowel or both) or ARC therapy (VMAT) are used (e.g., cervical or prostate).

- III. Circumstances in which additional initial simulations (and additional verifications) might be **medically necessary** include **any** of the following:
 - A. During the course of external beam treatment (1 additional + 1 verification) when there is:
 1. Significant weight loss
 2. Significant change in tumor volume
 - B. For 3-D boost after initial 3-D treatment (1 boost 77290 + verification 77280)
 - C. During HDR brachytherapy:
 1. Up to five total simulations (77290)
 2. Up to five verification of placement (77280) of an afterloading HDR brachytherapy device during a course of multi-fraction HDR brachytherapy (one verification per insertion)

Note: Verification simulations only use 77280 (same as for an initial simple verification) regardless of the code used for initial simulation. Generally, one verification simulation can be allowed for each initial or boost simulation allowed (except for HDR brachytherapy for which 5 verifications may be needed).

Respiratory Motion Management (CPT 77293)

- IV. During the course of radiotherapy, a single respiratory motion management plan may be considered **medically necessary** in **any** of the following circumstances:
- Breast cancer
 - Lung cancer
 - For any other type of tumor with clinical documentation of the medical need (such as thoracic or upper abdominal cancers—like esophageal, gastric or pancreatic—or movement of more than 5mm in any direction in simulations—3mm for head and neck)
 - More than one plan per course of therapy when medical record documentation supports the need for any additional plans

Note: 77293 is an add on code to either 77295 or 77301 for the same date of service (even if completed over several days).

Radiotherapy Planning

Three-dimensional Conformal Radiotherapy (3D-CRT) Plan (CPT 77295)

- V. During a course of radiation therapy, **one or more** of the following may be considered **medically necessary**:
- A single 3D-CRT plan
 - More than one 3D-CRT plan when **both** of the following criteria are met:
 - There is a substantial change in the patient's weight or volume of tumor
 - Medical record documentation supports the need for additional 3D-CRT plans

Note: Simulation (CPT 77280, 77285, 77290) may not be billed on the same date of service as 3D-CRT plan (CPT 77295). 77295 includes DVHs. This code can also be used for proton or SBRT (as an alternative to 77301) or brachytherapy (as an alternative to 77316/77317/77318) planning but not for IMRT (should only use 77301).

Basic Dosimetry Calculation (CPT 77300)

- VI. During a course of 3D-CRT and IMRT external beam treatments, basic dosimetry calculation may be considered **medically necessary** for **either** of the following:
- One unit per beam per course of therapy typically up to a maximum of 4. If more beams are documented, up to a maximum of 10.
 - More than four calculations (units) per beam per course of therapy when medical record documentation supports the need for additional calculation(s) (e.g., field in field plans).
- VII. Basic Dosimetry Calculation is considered **not medically necessary** when reported with **any** of the following radiotherapy plans:
- Brachytherapy Isodose Plan (CPT 77316, 77317, 77318)
 - Teletherapy Isodose Plan on the same date of service (CPT 77306, 77307)
 - Special Teletherapy Port Plan on the same date of service (CPT 77321)
 - High dose rate electronic brachytherapy (CPT 0394T or 0395T)

Intensity-Modulated Radiation Therapy (IMRT) Plan (CPT 77301)

- VIII. During a course of radiation therapy, **one or more** of the following may be considered **medically necessary**:
- A single IMRT plan, including dose-volume histograms (DVHs)
 - More than one IMRT plan, including DVHs, when **both** of the following criteria are met:
 - There is a substantial change in the patient's weight or volume of tumor
 - Medical record documentation supports the need for additional IMRT plans

Isodose Plans

Teletherapy Isodose Plan (CPT: simple 77306, complex 77307)

- IX. During a course of radiation therapy, **one or more** of the following may be considered **medically necessary**:
- A. A single isodose plan
 - B. More than one isodose plan when medical record documentation supports the need for additional plans

Note: Only one teletherapy isodose plan is allowed per volume of interest (tumor area), and is included (not covered) if billed *on the same date of service* as a 3D-CRT plan (CPT 77295) or IMRT plan (CPT 77301). May be used as a second plan when needed for a boost or significant clinical changes when a full plan is not needed and when documented.

Brachytherapy Isodose Plan (CPT: simple 77316, intermediate 77317, complex 77318)

- X. During the course of low dose rate (LDR) or high dose rate (HDR) brachytherapy, a single brachytherapy isodose plan may be considered **medically necessary**.

Note: 77295 can be used instead of these codes for brachytherapy but both cannot be billed on the same date of service.

Special Teletherapy Port Plan (CPT 77321)

- XI. Special teletherapy port plan may be considered **medically necessary** per patient course of treatment when supported with documentation.
- XII. The following are considered to be **not medically necessary** when billed on the same date of service as a special teletherapy port plan:
- A. Basic Dosimetry Calculation (CPT 77300)
 - B. Teletherapy Isodose Plan (CPT 77306, 77307)
 - C. 3D CRT Plan (CPT 77295)
 - D. IMRT Plan (CPT 77301)

Special Dosimetry Calculation (CPT 77331)

- XIII. Special Dosimetry Calculations (can be more than once per day up to a total of 6 with individual orders) may be considered **medically necessary** when **all** of the following criteria are met:
- A. For dose confirmation to a particular target (such as when there is a question of continuing or altering the current plan mid-treatment)
 - B. A single measurement
 - C. There is a physician order for the calculation
 - D. The service is completed within 24 hours of the order
 - E. When medical record documentation supports the need for special measurements (e.g., re-calculation mid-course)

Treatment Devices, Designs and Construction (CPT: simple 77332, intermediate 77333, complex 77334)

- XIV. During a course of radiation therapy, **one or more** of the following may be considered **medically necessary**:
- A. The use of any combination of codes 77332, 77333, 77334 up to one per beam per course of treatment plus one unit for an immobilization device for a maximum of 5 for a typical 4 beam plan (see note below for IMRT exception)
 - B. More than five of the above codes when documentation of medical necessity is provided (such as additional beams), maximum of 10

Note: Treatment devices for “mirrored” beams are considered one device (e.g., a four-field treatment consisting of AP/PA and right/left lateral beams would be reported as 2 units). When a compensator based IMRT delivery code is used (HCPCS G6016), CPT code 77334 should be used for blocking rather than CPT code 77338 for MLC (below). For other IMRT delivery codes (CPT 77385, 77386, HCPCS G6015), only one unit of 77332, 77333 or 77334 may be billed during the course of treatment for immobilization. Blocking is addressed with the MLC, so additional units are not needed. Additional units for immobilization with IMRT can be billed when the need is documented.

Continuing Medical Physics Consultation (CPT 77336)

- XV. Weekly continuing medical physics consultation may be considered **medically necessary** when the following criteria is met:
- A. One for every 5 radiation therapy delivery sessions. A partial week at the end of treatment with at least 3 sessions can be billed even without the full 5 sessions.

Multi-leaf Collimator (MLC) (CPT 77338)

- XVI. During the course of IMRT design and construction, **one or more** of the following may be considered **medically necessary**:
- A. Use of a single Multi-Leaf Collimator (MLC) device
 - B. More than one MLC device, when medical record documentation supports the need for additional MLC device(s)

Note: MLC may not be reported in conjunction with compensator based IMRT (HCPCS G6016)(see Policy Guidelines IMRT delivery section). G6016 uses a different form of blocking.

Special Radiation Physics Consultation (CPT 77370)

- XVII. Special medical radiation physics consultation may be considered **medically necessary** when **all** of the following criteria are met:
- A. A problem or special situation arises during radiation therapy
 - B. There is medical record documentation of the medical necessity for consultation (e.g., written MD order)
 - C. A custom report from the physicist is provided that specifically addresses the issues noted in the written order
- XVIII. Special radiation physics consultation is considered **not medically necessary** in **any** of the following situations:
- A. During the course of routine radiation therapy
 - B. In the absence of medical record documentation of a problem or special situation during radiation therapy

Radiation Therapy Delivery

IMRT (CPT: simple 77385, complex 77386, HCPCS: MLC G6015, compensator* G6016)

IMRT of most cancers is addressed in [other policies](#). Facility fees only, no professional component. For instances not addressed by these medical policies, the following policy statement applies:

- XIX. IMRT may be considered **medically necessary** when **one** or more of the following conditions are present:
- A. The target volume is in close proximity to critical structures that must be protected and **both** of the following:
 1. Planned 3D-CRT exposure to critical adjacent structures is above normal tissue constraints
 2. Planned IMRT exposure to these critical adjacent structures does not exceed normal tissue constraints

- B. An immediately adjacent area has been previously irradiated and abutting portals must be established with high precision

Image Guided Radiation Therapy (IGRT)

- XX. IGRT may be considered **medically necessary** as an approach to delivering radiotherapy when combined with **any** of the following treatments (see [Policy Guidelines](#)):
 - A. Intensity-modulated radiotherapy (IMRT)
 - B. Stereotactic body radiation therapy (SBRT)
 - C. Proton delivery

- XXI. IGRT is considered **investigational** as an approach to delivering radiotherapy when combined with **any** of the following treatments:
 - A. Conventional three-dimensional conformal radiation therapy (3D CRT) (see Policy Guidelines for [considerations](#))
 - B. Stereotactic radiosurgery (SRS)
 - C. Electronic brachytherapy

3D-CRT (CPT: simple 77402, intermediate 77407, complex 77412, HCPCS: G6003-G6014, one, two or three treatment areas, number of ports and blocks and different energy levels -Mega electron Volts or **MeV***). Facility fees only, no professional component.

Hypofractionated Treatment Regimen

- XXII. Generally, either a standard or hypofractionated (more radiation per session over a shorter time period) treatment regimen may be considered **medically necessary**, depending on the clinical situation. Hypofractionation, is preferred for most breast (up to 16 fractions and up to 8 more if a boost is needed) and low risk prostate (up to 28 fractions) treatment when there is no documented necessity to use a standard regimen (37-45 sessions without boost).

- XXIII. For individuals with invasive breast cancer receiving whole breast irradiation (WBI) with or without inclusion of the low axilla, **any** of the below criteria may be considered **medically necessary**:
 - A. Hypofractionated WBI to a dose of 4000-4250 cGy in 15-16 fractions
 - B. Boost treatments (4-8 fractions), based on individual clinical circumstances, but typically used to address lymph node involvement
 - C. Other treatment regimens, based on individual circumstances, if clinical documentation supports the medical necessity

- XXIV. For individuals with localized low risk prostate cancer (usually not including lymph nodes) IMRT using a moderately hypofractionated regimen (2.4-3.4 Gy; up to 28 treatments) may be considered **medically necessary**. One common regimen is 60 Gy (6000 cGy) in 20 fractions of 3.0 Gy (300 cGy). Another is 70 Gy delivered in 28 fractions of 2.5 Gy. At this time, boost treatments to pelvic lymph nodes are not typical for hypofractionation since that is usually considered to be a high risk situation more typically treated with standard regimens with a boost.

Radiation Treatment Management (CPT 77427)

- XXV. Weekly radiation treatment management may be considered **medically necessary** when the following criteria is met:
 - A. One for every 5 radiation therapy delivery sessions. A partial week at the end of treatment with at least 3 sessions can be billed even without the full 5 sessions.

Special Physician Consultation (CPT 77470)

- XXVI. Additional physician effort and work may be considered **medically necessary** if documented for **any** of the following special procedures:

- A. Total body irradiation
 - B. Hyperthermia
 - C. Planned combination (concurrent, not before or after) with cytotoxic chemotherapy or radioimmunotherapy
 - D. Other combined modality therapy (such as brachytherapy in combination with EBRT)
 - E. Hemibody irradiation
 - F. Intracavitary cone use
 - G. Hyperthermia
 - H. Any other special time-consuming treatment plan (e.g., pediatric patient needing daily anesthesia)
- XXVII. Special physician consultation is considered **not medically necessary** for **any** of the following situations:
- A. During the course of routine radiation therapy (3D-CRT, IMRT, SBRT/SRS, proton or brachytherapy)
 - B. Treatment of multiple sites without other complicating factors
 - C. In the presence of other medical problems such as diabetes, COPD or hypertension
 - D. In the absence of medical record documentation of the need for extra planning and monitoring involved in the use of radiation therapy procedures

Course of Treatment

Restrictions for coding frequency are set at six months. It is unlikely a patient would receive two separate courses of radiation therapy within six months. In the unlikely event a second course of radiation therapy is started within six months of the first, documentation of the medical necessity of this treatment must be provided.

Because many code approvals are dependent on others, and total numbers of units, facility vs. professional vs. combined requests cannot be determined accurately when submitted separately, the entire episode of care should be submitted as a single claim after services are provided when not prior authorized.

Table 1: Allowable Codes for 3D-CRT

Description	Code	Maximum per course of treatment	Notes
IGRT (Image Guided Radiation Therapy)	77014 (CT) 77387 (any) G6001 (stereotactic) G6002 (US) G6017	None (Professional portion allowed for up to 1 unit for each delivery session when provided if approved on exception)	For 3D CRT, not covered other than by exception. Facility fee (TC) included with delivery codes 77385/ 77386/ 77373 for IMRT/ SBRT. 77387 and G6017 are for pro fee only. Others need -26 modifier for approval
Clinical Treatment Planning	77261, 77262 or 77263	1	
Simulation	77280, 77285, 77290	1 + 1 EBRT boost	May not be billed with 77301
Verification Simulation	77280	1 + 1 EBRT boost	May not be billed with 77301
Respiratory Motion Management	77293	0	1 for breast, lung, and upper abdominal or thoracic cancer areas
3D CRT Plan	77295	1	May not be billed with 77301
Basic Dosimetry	77300	4 + 1 boost; up to a max of 10 with documentation	0 if billed with 77306, 77307, 77321, 0394T or 0395T

Description	Code	Maximum per course of treatment	Notes
Teletherapy Isodose Plan, Simple	77306	1 for mid-Tx change in volume/contour	Not on the same day as 77300; may not bill 77306 and 77307 together; documentation of medical necessity is required for more than 1
Teletherapy Isodose Plan, Complex	77307	1 for mid-Tx change in volume/contour	Not on the same day as 77300; may not bill 77306 and 77307 together; documentation of medical necessity is required for more than 1
Special Teletherapy Port Plan	77321	0	Mainly for electron plans, not to be used with 77306/77307, 77295 or 77301; needs documentation for review
Special Dosimetry Calculation	77331	0	Needs documentation for review
Treatment Devices, Designs, and Construction	77332, 77333, 77334	1, 5, 10	-If billed w/ MLC (77338): 1 -If billed w/o MLC: 5 (any combination) -More may be allowed when documentation of medical necessity is provided (such as additional beams), maximum of 10
Multi-leaf Collimator (MLC)	77338	1	(MLC may not be reported in conjunction with HCPCS G6016)
Special Radiation Physics Consult	77370	0	May allow x 1; documentation of medical necessity required
Special MD Consultation (Special Tx Procedure)	77470	0	May allow x 1; documentation of medical necessity required
Medical Physics Management	77336	8	Allowed once per 5 courses of therapy
Radiation Treatment Management	77427	8	Allowed once per 5 courses of therapy
3D CRT Delivery	77402, 77407 or 77412; or G6003-G6014	-16 for breast cancer without boost -24 for breast cancer with boost - no limits otherwise	Breast cancer: includes boost.

Table 2: Allowable Codes and Frequencies for IMRT/Proton

Description	Code	Maximum per course of treatment	Notes
For IMRT: IGRT (Image Guided Radiation Therapy)	77014 (CT) 77387 (any) G6001 (stereotactic) G6002 (US) G6017	Professional portion allowed for up to 1 unit for each delivery session when provided	Facility fee (TC) included with delivery codes 77385/ 77386/ 77373 for IMRT/ SBRT. 77387 and G6017 are for pro fee only. Others need -26 modifier for approval
For Proton: IGRT (Image Guided Radiation Therapy)	77014, 77387, G6001, G6002, G6017	Up to 1 unit per delivery session when provided	Facility fee (TC) not included with delivery codes for proton so they can be billed. 77387 and G6017 are for pro fee only. Others need -26 or TC modifiers.
Clinical Treatment Planning	77261, 77262 or 77263	1	
Simulation	77280, 77285, 77290	0	May not be billed with 77301. 1 unit of 77290 + 1 boost is allowed for proton therapy when using 77295 instead

Description	Code	Maximum per course of treatment	Notes
Verification Simulation	77280	0	One per simulation allowed
Respiratory Motion Management	77293	0	1 for breast, lung, and upper abdominal or thoracic cancer areas
3D CRT Plan	77295	0	May not be billed with 77301. 1 unit may be allowed for proton therapy.
IMRT Plan	77301	1	If comparison 3D plan is generated, it is included in 77301
Basic Dosimetry	77300	4+ 1 boost, up to a max of 10 with documentation	0 if billed with 77306, 77307, 77321, 0394T or 0395T
Teletherapy Isodose Plan, Simple	77306	1 for mid-Tx change in volume/contour	Not on the same day as 77300; may not bill 77306 and 77307 together; documentation of medical necessity is required for more than 1
Teletherapy Isodose Plan, Complex	77307	1 for mid-Tx change in volume/contour	Not on the same day as 77300; may not bill 77306 and 77307 together; documentation of medical necessity is required for more than 1
Special Dosimetry Calculation	77331	0	Needs documentation for review
Treatment Devices, Designs, and Construction	77332, 77333, 77334	1, 5 or 10	-If billed w/ MLC (77338): 1 -If billed w/o MLC: 5 (any combination) -More may be allowed when documentation of medical necessity is provided (such as additional beams), maximum of 10
Multi-leaf Collimator (MLC)	77338	1	MLC may not be reported in conjunction with HCPCS G6016
Special Radiation Physics Consult	77370	0	May allow x 1; documentation of medical necessity required
Special MD Consultation (Special Tx Procedure)	77470	0	May allow x 1; documentation of medical necessity required
Medical Physics Management	77336	8	Allowed once per 5 courses of therapy
Radiation Treatment Management	77427	8	Allowed once per 5 courses of therapy
Radiation (IMRT or Proton) Delivery, prostate and breast cancer	IMRT 77385 or G6015;	Using IMRT or Proton: 28 for prostate cancer	Prostate cancer: Documentation of medical necessity needed for more than 28 treatments
	Proton 77520, 77522, 77523	Using IMRT only: -16 for breast cancer without boost -24 for breast cancer with boost (IMRT only)	Breast cancer: documentation of medical necessity needed for treatments beyond 16 IMRT delivery sessions without boost and/or 24 IMRT delivery sessions with boost.
Radiation (IMRT or Proton) Delivery, all other cancers	IMRT 77385, 77386; or G6015-G6016; Proton 77520, 77522, 77523, 77525	No limit	All cancers other than hypofractionated prostate or breast

Table 3: Allowable Codes and Frequencies for Brachytherapy

Description	Code	Maximum per course of treatment	Notes
Clinical Treatment Planning	77261, 77262 or 77263	1	When used as standalone or with external beam, only one plan is allowed.

Description	Code	Maximum per course of treatment	Notes
Simulation	77280, 77285, 77290	5	May not be billed with 77301
Verification Simulation	77280	5	May not be billed with 77301
Respiratory Motion Management	77293	0	Not needed for brachytherapy alone
3D CRT Plan	77295	1 per insertion, max 5	May not be billed with 77301 or with 77316/77317/77318
Brachytherapy Isodose Plan	77316, 77317 or 77318	1 per insertion, max 5	cannot be billed along with 77295
Special Radiation Physics Consult	77370	0	May allow x 1; documentation of medical necessity required
Special MD Consultation (Special Tx Procedure)	77470	1	May allow x 1; documentation of medical necessity required for more than 1 unit
Supervision, Handling, Loading of Radiation Source	77790	1	May not be billed with 77761, 77762, 77763, 77770, 77771, 77772 or 77778
Application of Radiation Sources: LDR Brachytherapy	77761, 77762, 77763, 77778	1	May not be billed with 77770, 77771, 77772
Application of Radiation Sources: HDR Brachytherapy High Dose Rate	77770, 77771, 77772	4	Only one delivery code allowed per day per course of therapy. May not be billed with 77761, 77762, 77763, 77778, 77790.
Electronic Brachytherapy, per fraction	0394T-0395T	0	Investigational for the treatment of skin lesions.
Placement of Radiotherapy Afterloading Catheters	19296, 19297, 19298	1	

Table 4: Allowable Codes and Frequencies for Stereotactic Brain and Body Radiotherapy

Description	Code	Maximum per course of treatment	Notes
For SBRT:	77014 (CT) 77387 (any)	Professional portion allowed for up to 1 unit for each delivery session when provided	Facility fee (TC) included with delivery codes 77385/ 77386/ 77373 for IMRT/ SBRT. 77387 and G6017 are for pro fee only. Others need - 26 modifier for approval
IGRT (Image Guided Radiation Therapy)	G6001 (stereotactic) G6002 (US) G6017		
Clinical Treatment Planning	77263	1	
Simulation	77280, 77285, 77290	1	May not be billed with 77301; usually 77290 will be used
Verification Simulation	77280	1	May not be billed with 77301
Respiratory Motion Management	77293	0	1 for breast, lung, and upper abdominal or thoracic cancer areas
3D CRT Plan	77295	1	May not be used with 77301
SRS Treatment Management, cranial	77432	1	May not be used with 77435, may not be billed by neurosurgeon with any of the following: 61781-61783, 61796-61800, 63620-63621.
SBRT Treatment Management, per course of therapy	77435	1	May not be used with 77432. May not be billed by neurosurgeon with any of the following: 61781-61783, 61796-61800, 63620-63621
IMRT Plan	77301	1	May not be used with 77295

Description	Code	Maximum per course of treatment	Notes
Basic Dosimetry	77300	4 up to a max of 10 with documentation	0 if billed with 77306, 77307, 77321, 0394T or 0395T
Treatment Devices, Designs, and Construction	77332, 77333, 77334	1, 5, or 10	-If billed w/ MLC (77338): 1 -If billed w/o MLC: 5 (any combination) -More may be allowed when documentation of medical necessity is provided (such as additional beams), maximum of 10
Multi-leaf Collimator	77338	1	(MLC may not be reported in conjunction with HCPCS G6016)
Special Radiation Physics Consult	77370	0	May allow x 1; documentation of medical necessity required
Special MD Consultation (Special Tx Procedure)	77470	0	May allow x 1; documentation of medical necessity required
Radiation Delivery, Single Dose (SRS)	G0339, 77371 or 77372	1	Gammaknife; either Cobalt-60 or linear accelerator. May allow 1 of either G0339, 77371 or 77372, not all.
Radiation Delivery, up to 5 fractions (SBRT)	77373, G0339, G0340	77373: 5 or G0339: 1/ G0340: 4	Cyberknife, per fraction up to 5, can't be billed with 77371 or 77372. May bill either 77373 or G0339/G0340, not both.
Radiation Delivery by neurosurgeon, computer-assisted	61781, 61782 or 61783	5	Cranial, computer-assisted; not to be billed with other delivery codes: 77371-77373, 61796-61799, 77432, 77435, G0339-G0340
Radiation Delivery by neurosurgeon, cranial	61796, 61797, 61798, 61799, 61781	5	Cranial; not to be billed with: 77371-77373, 77432, 77435, G0339-G0340.
Radiation Delivery by neurosurgeon, spine	63620, 63621	63620 x1 + 63621 x2	Spinal; not to be billed with: 77371-77373, 77432, 77435, G0339-G0340
Application of Stereotactic Headframe for Stereotactic Radiosurgery	61800	1	

NOTE: Refer to [Appendix A](#) to see the policy statement changes (if any) from the previous version.

Policy Guidelines

Frequency of CPT Code Use

Services performed in excessive frequency may be denied as not medically necessary if not provided at the most appropriate level to treat the patient's condition. Frequency is considered excessive when services are performed more frequently than generally accepted by peers and the reason for additional services is not justified by clinical documentation.

Medical policies related to specific types of treatments (e.g., Intensity-modulated radiotherapy [IMRT] of the abdomen and pelvic, breast and lung, head and neck, prostate, central nervous system, brachytherapy and stereotactic radiotherapy) are addressed in [other policies](#).

Coding

Clinical Treatment Planning

In radiation oncology, radiation treatment planning is the process in which a team consisting of radiation oncologists, radiation therapists, medical physicists and medical dosimetrists plan the

appropriate external beam radiotherapy or internal brachytherapy treatment technique for a patient with cancer.

Medical radiation physics consultation, simulation-aided field setting, medical radiation physics, treatment delivery, and treatment management are services or procedures that will be billed separately, in addition to the codes listed below. These codes do not have a technical and professional component and should only be billed as a complete service.

A port or treatment field is the part of the body that the external radiation beam is directed through to reach the cancer (similar to a porthole in a ship's cabin that lets in sunlight). Ports may be marked with permanent ink on the skin to help align treatments each day.

The use of only **one** of the following may be considered medically necessary during the course of therapy and are specific for treatment planning:

- **77261**: Therapeutic radiology treatment planning; **simple** (Includes planning for single treatment area included in a single port or simple parallel opposed ports with simple or no blocking)
- **77262**: Therapeutic radiology treatment planning; **intermediate** (Includes planning for three or more converging ports, two separate treatment sites, multiple blocks, or special time dose constraints)
- **77263**: Therapeutic radiology treatment planning; **complex** (Includes planning for very complex blocking, custom shielding blocks, tangential ports, special wedges or compensators, three or more separate treatment areas, rotational or special beam considerations, combination of treatment modalities)

Simulation

Simulation is usually the first step undertaken in radiation therapy. It is used to actually direct the treatment beams to the specific volume of interest. Simulation may be carried out on a dedicated conventional simulator or CT scanner, radiation therapy treatment unit (e.g., linear accelerator), or using diagnostic imaging equipment (e.g., fluoroscopy, CT, MR). The complexity of the simulation is based on number of ports, volumes of interest, and the inclusion and type of treatment devices. Permanent ink markers or tattoos on the skin are used to help reproduce the port angles.

The following CPT codes are specific for simulation:

- **77280**: Therapeutic radiology simulation-aided field setting; **simple** (includes Simulation of a single treatment site)
- **77285**: Therapeutic radiology simulation-aided field setting; **intermediate** (includes Two different treatment sites)
- **77290**: Therapeutic radiology simulation-aided field setting; **complex** (includes all of the following):
 - Brachytherapy
 - Complex blocking
 - Contrast material
 - Custom shielding blocks
 - Hyperthermia probe verification
 - Immobilization
 - Rotation, arc or particle therapy
 - Simulation to = 3 treatment sites

Note: a simple plan would include areas contiguous with the primary tumor such as the resection bed or draining lymph node chains.

Respiratory motion management

Prior to application of radiation, the motion of the tumor should be measured when respiratory motion is a concern and when the management of the movement may spare healthy tissue. This involves primarily thoracic and breast tumors. Measurements are taken using ultrasound, CT, MRI, or fluoroscopy during defined respiratory conditions, including but not limited to motion-encompassing methods, respiratory-gated techniques, breath-hold techniques, forced shallow-breathing methods, and respiration-synchronized techniques. These measurements are used to adjust the radiation application area based on the motion of the tumor and healthy surrounding tissue. Thoracic or abdominal tumors (such as esophageal, breast or pancreatic) may benefit from respiratory motion management particularly if there is movement of the tumor target by more than 5mm in any direction. Although less commonly used for head and neck tumors, if respiratory related movement of more than 3mm is shown, then respiratory motion management may be needed.

The following CPT code is used for respiratory motion management:

- **77293:** Respiratory motion management simulation (List separately in addition to code for primary procedure)

Note: This is an add-on code to a simulation code (77280/77285/77290).

Radiotherapy Planning

Three-dimensional Conformal Radiotherapy (3D-CRT) Plan

Generation of the 3D-CRT plan, including dose-volume histograms (DVHs), involves computer reconstruction of a delineated tumor volume and surrounding critical normal tissue structures from a CT scan and/or MRI data in preparation for noncoplanar or coplanar therapy. This planning utilizes documented three-dimensional beam's eye view volume dose displays of multiple or moving beams. This procedure combines a computer-aided field setting simulation with isodose planning which occurs during dosimetry treatment planning.

The following CPT code is used for a 3D-CRT plan:

- **77295:** 3-dimensional radiotherapy plan, including dose-volume histograms

Basic Dosimetry Calculation

Dosimetry is the calculation of the radiation dose to be delivered to the tumor. The physician chooses the energy level and modality of photon or electron beams to be used for each simulated port, even if only one treatment area is concerned. Once the tentative treatment fields have been determined, the dosimetry of the treatment portals can be calculated.

The following CPT code is used for basic dosimetry calculation:

- **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

Note: 77300 is often noted to be for each port/beam angle or arc, and there can be 10-20 beams or ports used for treatment. However, most calculations are built into the treatment protocol or automatically adjusted by the software in the instrument and some are only being done for quality assurance purposes. The original measurements will usually cover the needs for the course of treatment.

Intensity-Modulated Radiation Therapy (IMRT) Plan

Intensity-Modulated Radiation Therapy (IMRT) is a computer-based method of planning delivery of treatment for tumors within a patient. IMRT allows for delivery of highly conformal dose distributions to complex targets positioned near sensitive normal tissues. Conforming the dose to the target area, and away from sensitive normal tissues, improves therapeutic ratios. IMRT utilizes many non-uniform radiation beam intensities within varied beam angles to deliver the conformal dose. These non-

uniform beam intensities are determined by a computer-based optimization technique known as "inverse planning".

Traditional "field-in-field technique" is not considered IMRT but rather 3D external beam radiation therapy. The use of "field-in-field" or forward planning technique to block hotspots is NOT considered IMRT. These hotspots are contoured to create a volume of interest to block and would not be considered "inverse planning".

The following CPT code is used for an IMRT plan:

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

Isodose Plans

An isodose plan is a graphic display of a patient's anatomy to include the distribution of radiation based on a prescribed dose and plan of care, created by a radiation oncologist. These plans represent advanced and more conformal methods of distributing radiation doses to targeted treatment areas. Iso (equal or same) plans show the doses delivered to both the cancer and surrounding tissues using the same dose. Teletherapy just refers to the fact that the radiation is delivered from a distance (tele; as opposed to brachy or short distance).

Teletherapy Isodose Plans

The following CPT codes are specifically reported for teletherapy isodose plans:

- **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)

Brachytherapy Isodose Plan

The following CPT codes are specifically reported for brachytherapy isodose plans:

- **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 sources, or remote afterloading brachytherapy, over 12 channels), includes basic dosimetry calculation(s)

Note: 77295 is often used instead of the above codes for brachytherapy, but they cannot be billed on the same date of service.

Special Teletherapy Port Plan

This type of plan is typically used for electron isodose plans but can also be used for neutrons or protons. It may also be utilized for special beam considerations. Documentation is needed to support the need for this code.

The following CPT is specifically reported for special teletherapy port planning:

- **77321**: Special teletherapy port plan, particles, hemibody, total body

Special Dosimetry Calculation

Special dosimetry uses measuring and monitoring devices when the physician deems it necessary to calculate the total amount of radiation that a patient has received at any given point. The results determine whether to uphold or alter the current treatment plan.

The following CPT code is used to report special dosimetry calculation:

- **77331**: Special dosimetry (e.g., TLD, microdosimetry) (specify), only when prescribed by the treating physician

Treatment Devices, Designs and Construction

There are two types of treatment devices. The first are immobilization devices which assist in establishing and maintaining a reproducible treatment position for the patient undergoing radiation therapy treatments. These may include Aquaplast® masks, Alpha Cradles®, Vac-Lok™, etc. The second is a beam-modifying device, which assists in creating the shape of the treatment portal and protects critical structures near or within the area receiving radiation. Examples of beam modifying devices include blocking designed with multi-leaf collimators, wedges, tissue compensators etc.

The following CPT codes are used to report treatment devices, designs and construction:

- **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)

Continuing Medical Physics Consultation

The following CPT code is used to report weekly medical physics consultation:

- **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

Note: if the final week of treatment is less than 5 days, a unit of management for that partial week can be approved

Multi-leaf Collimator (MLC)

The following CPT code is used to report construction and use of a multi-leaf collimator:

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

Note: MLCs are rarely used for proton therapy but there are some new designs that might employ their use

Special Radiation Physics Consultation

The following CPT code is used to report special radiation physics consultation:

- **77370**: Special medical radiation physics consultation

This should generate a written report and might be needed, for example, to review doses to normal tissues from previous treatments to the same area; dose to the fetus of a pregnant patient undergoing radiation therapy; or when multiple cancer sites are treated at the same time with overlapping fields. QA is part of 77301 and should not be billed separately.

Radiation Therapy Delivery

Intensity Modulated Radiation Therapy (IMRT)

IMRT is an advanced form of three-dimensional conformal radiotherapy. It is particularly useful for target volumes with concave or complex shapes with close proximity to radiosensitive normal structures. It has two key features compared to conformal radiotherapy: 1. Non-uniform intensity of the radiation beams and 2. Computerized inverse planning.

IMRT of most cancers is addressed in [other policies](#).

The following CPT codes are specific for intensity modulated radiation treatment delivery:

- **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

The following HCPCS codes are specific for intensity modulated radiation treatment delivery:

- **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

Image Guided Radiation Therapy (IGRT)

IGRT is a method by which image guidance is applied to place the isocenter for the upcoming treatment appropriately. This technology typically is applied for an individual undergoing Intensity-Modulated Radiation Therapy (IMRT). Outside of treatment procedures requiring only isocenter placement, port films and/or verification simulations are still the appropriate modalities. If the isocenter placement is the primary concern, i.e. for IMRT, then IGRT is typically the method utilized. For the majority of cases treated with 3D conformal radiotherapy, there is no evidence that the routine use of IGRT results in clinical benefit. Multiple publications have documented the additional radiation exposure which occurs in conjunction with IGRT. Patient doses range from 1-3 mGy for gantry mounted kV systems to between 10 and 50 mGy per image for cone beam and fan beam CT scans. As with any medical procedure, the risks of radiation exposure must be weighed against the benefits of daily imaging. In situations where there is a lack of demonstrable benefit, concern about potential harms of this technology are relevant. Even in clinical scenarios where IGRT is considered medically necessary, the technique chosen should expose the patient to the minimum amount of radiation needed to achieve adequate visualization. (from AIM). The professional and technical components of IGRT image reading are treated differently in the outpatient or inpatient hospital setting than in the office/freestanding treatment center setting.

IGRT: May be indicated for some conventional 3D cases such as a morbidly obese patient with an abdominal target in which standard approaches for guidance are inadequate. Cases can be considered for approval on an individual basis

Image Guided Radiation Therapy (IGRT) Considerations:

The following codes are for hospital outpatient IMRT/SBRT delivery use which includes image guidance in the delivery code for the facility (technical, or -TC modifier) component. However, the professional component (-26 modifier) is still allowed for payment.

- **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
- **77373**: Stereotactic body radiation therapy, treatment delivery, per fraction to 1 or more lesions, including image guidance, entire course not to exceed 5 fractions

Note: Proton delivery codes do not include image guidance, so IGRT codes for both TC and professional components can be billed separately when indicated. IGRT may be indicated for some conventional 3D CRT cases such as a morbidly obese patient with an abdominal target in which standard approaches for guidance are inadequate. Cases can be considered for approval on an individual basis

The Centers for Medicare & Medicaid Services (CMS) did not implement the above mentioned CPT codes (77385 & 77386) and instead created HCPCS G codes for freestanding outpatient centers. The following delivery codes may also be used for IMRT depending on the setting. They do not include image guidance, so both the technical and professional components are allowed when criteria are met.

- **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

The following codes are typical for IGRT. Up to one unit per session can be allowed (although balanced by additional radiation for the imaging, so IGRT may not take place with every treatment session).

- **77014:** Computed tomography guidance for placement of radiation therapy fields
- **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

The following codes do not have a technical (facility) component but can be used for professional services only. Since there is no specific code for MRI guidance, 77387 can be considered for approval for professional services for MRI guidance when appropriate documentation is submitted, but can also be used for other types of guidance.

- **77387:** Guidance for localization of target volume for delivery of radiation treatment, includes intrafraction tracking, when performed
- **G6017:** Intra-fraction localization and tracking of target or patient motion during delivery of radiation therapy (e.g., 3D positional tracking, gating, 3D surface tracking), each fraction of treatment

Note: G6017 does not have a technical (facility) component (usually done by a technician covered by the facility delivery fee), and intra-fraction tracking is unusual to involve physician guidance, so documentation of that service should be provided if billed for professional services.

Note: use of MLC is most common and is automated. Compensators are basically custom field blockers that currently need to be manually changed by a technician between treatment fields. Compensators are typical for use with proton therapy. Construction of compensators uses CPT 77334.

Three-dimensional Conformal Radiotherapy (3D-CRT)

The goal of three-dimensional conformal radiotherapy (3D-CRT) is to deliver a conformal dose distribution to tumors while sparing surrounding normal structures.

MeV is Mega electron Volts, the energy delivered by electrons which are used for more superficial tumors. Photons (e.g., gamma rays and x-rays) are packets of energy usually used for targeting deeper tumors. Photons are usually measured using either kilovolts (kV) or mega volts (MV), particularly when produced in a LINAC. 1000 kV = 1 MV which is usually similar to 1 MeV. The terms can be used interchangeably at times although there are some technical differences. CPT codes are anything ≥ 1 MeV and only vary by complexity. HCPCS G codes vary by both complexity (number of ports, treatment areas, blocks) and the number of MeVs used.

The following CPT codes are used to report radiation therapy delivery:

- **77402:** Radiation treatment delivery, up to 5 MeV; simple. All of the following criteria are met (and none of the complex or intermediate criteria are met): single treatment area, one or two ports and two or fewer simple blocks

- 6-10 MeV
- 11-19 MeV
- 20 MeV or greater
- **77407:** Radiation treatment delivery, up to 5 MeV; intermediate. Any of the following criteria are met (and none of the complex criteria are met): 2 separate treatment areas, 3 or more ports on a single treatment area, or 3 or more simple blocks
 - 6-10 MeV
 - 11-19 MeV
 - 20 MeV or greater
- **77412** Radiation treatment delivery, up to 5 MeV; complex. Any of the following criteria are met: 3 or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, field-in-field or other tissue compensation that does not meet IMRT guidelines, or electron beam.
 - 6-10 MeV
 - 11-19 MeV
 - 20 MeV or greater

The following HCPCS are used to report radiation therapy delivery:

- **G6003:** Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: up to 5 mev
- **G6004:** Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 6-10 mev
- **G6005:** Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 11-19 mev
- **G6006:** Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 20 mev or greater
- **G6007:** Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: up to 5 mev
- **G6008:** Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 6-10 mev
- **G6009:** Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 11-19 mev
- **G6010:** Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 20 mev or greater
- **G6011:** Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; up to 5 mev
- **G6012:** Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 6-10 mev
- **G6013:** Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 11-19 mev
- **G6014:** Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 20 mev or greater

Hypofractionated Treatment Regimen

Fractionation: Dose distribution may be delivered in conventional doses (fractionated) or higher doses over a shorter period of time (hypofractionated). The advantages of hypofractionation include patient convenience and lower cost, although potential increased radiation toxicity remains a concern for some tumor types. See [Rationale section](#) for additional information.

Radiation Treatment Management

The following CPT code is used to report weekly radiation treatment management:

- **77427**: Radiation treatment management, reported per week of therapy

Note: if the final week of treatment is less than 5 days, a unit of management for that partial week can be approved

Special Physician Consultation

The following CPT code is used to report special physician consultation:

- **77470**: Special treatment procedure (e.g., total body irradiation, hemibody radiation, per oral or endocavitary irradiation)

Normal Tissue Constraint Guidelines

The Normal Tissue Constraint Guidelines are derived from the textbook: Radiation Oncology: A Question-Based Review published by Lippincott Williams & Wilkins, 2010 [author: Hristov et al., 2010]. According to the author, most dosages were derived from randomized studies or consensus guidelines; however, pediatric dose constraints will vary greatly from protocol to protocol. Sources used in the development of the guidelines included the American Brachytherapy Society (ABS); Clinical practice guidelines from Johns Hopkins Hospital (JHH); the International Journal of Radiation Oncology *Biology* Physics (IJROBP); the National Comprehensive Cancer Network (NCCN), Quantitative Analyses of Normal Tissue Effects in the Clinic (QUANTEC); and the Radiation Therapy Oncology Group (RTOG) protocols at the time of publication.

The following guidelines are only intended to serve as a guide and may not be applicable to all clinical scenarios.

Table 5: Normal Tissue Constraint Guidelines

Organ	Constraints
CNS (1.8–2.0 Gy/fx)	
Spinal cord	max 50 Gy (full cord cross-section); tolerance increases by 25% 6 mos after 1st course (for re-irradiation) (QUANTEC)
Brain	max 72 Gy (partial brain); avoid >2 Gy/fx or hyperfractionation (QUANTEC)
Chiasm/optic nerves	max 55 Gy (QUANTEC)
Brainstem	Entire brainstem <54 Gy, V59 Gy <1–10 cc (QUANTEC)
Eyes (globe)	Mean <35 Gy (RTOG 0225), max 54 Gy (RTOG 0615)
Lens	max 7 Gy (RTOG 0539)
Retina	max 50 Gy (RTOG 0539)
Lacrimal Gland	max 40 Gy (Parsons)
Inner ear/cochlea	mean \leq 45 Gy (consider constraining to \leq 35 Gy with concurrent cisplatin) (QUANTEC)
Pituitary gland	max 45 Gy (for panhypopituitarism, lower for GH deficiency) (Emami)
Cauda equina	Max 60 Gy (Emami)
CNS (single fraction)	
Spinal cord	max 13 Gy (if 3 fxs, max 20 Gy) (QUANTEC)
Brain	V12 Gy <5–10 cc (QUANTEC)
Chiasm/optic nerves	max 10 Gy (QUANTEC)
Brainstem	max 12.5 Gy (QUANTEC)
Sacral plexus	V18 <0.035 cc, V14.4 <5 cc (RTOG 0631)
Cauda equina	V16 <0.035 cc, V14 <5 cc (RTOG 0631)
H&N (1.8–2.0 Gy/fx)	
Parotid gland(s)	mean <25 Gy (both glands) or mean <20 Gy (1 gland) (QUANTEC)
Submandibular gland(s)	mean <35 Gy (QUANTEC)
Larynx	mean \leq 44 Gy, V50 \leq 27%, max 63–66 Gy (when risk of tumor involvement is limited) (QUANTEC)
TMJ/mandible	max 70 Gy (if not possible, then V75 <1 cc) (RTOG 0615)
Oral cavity	Nonoral cavity cancer: mean <30 Gy, avoid hot spots >60 Gy (RTOG 0920) Oral cavity cancer: mean <50 Gy, V55 <1 cc, max 65 Gy (RTOG 0920)
Esophagus (cervical)	V45 <33% (RTOG 0920)
Pharyngeal constrictors	Mean <50 Gy (QUANTEC)

Organ	Constraints
Thyroid	V26 <20% (JHH)
Thoracic (1.8–2.0 Gy/fx)	
Brachial plexus	max 66 Gy, V60 <5% (RTOG 0619)
Lung (combined lung for lung cancer treatment)	mean <20–23 Gy, V20 <30%–35% (QUANTEC)
Lung (ipsilateral lung for breast cancer treatment)	V25 <10% (JHH)
Single lung (after pneumonectomy)	V5 <60%, V20 <4–10%, MLD <8 Gy (QUANTEC)
Bronchial tree	max 80 Gy (QUANTEC)
Heart (lung cancer treatment)	Heart V45 <67%; V60 <33% (NCCN 2010)
Heart (breast cancer treatment)	V25 <10% (QUANTEC)
Esophagus	V50 <32% (Maguire), V60 <33% (Emami)
Thoracic (hypofractionation)	
Total recommended cumulative dose by the number of fractions per NCCN 2010. Note: the max dose limits refer to volumes >0.035 cc (~3 mm ³).	
Spinal cord	1 fraction: 14 Gy
	3 fractions: 18 Gy (6 Gy/fx)
	4 fractions: 26 Gy (6.5 Gy/fx)
	5 fractions: 30 Gy (6 Gy/fx)
Esophagus	1 fraction: 15.4 Gy
	3 fractions: 30 Gy (10 Gy/fx)
	4 fractions: 30 Gy (7.5 Gy/fx)
	5 fractions: 32.5 Gy (6.5 Gy/fx)
Brachial plexus	1 fraction: 17.5 Gy
	3 fractions: 21 Gy (7 Gy/fx)
	4 fractions: 27.2 Gy (6.8 Gy/fx)
	5 fractions: 30 Gy (6 Gy/fx)
Heart/Pericardium	1 fraction: 22 Gy
	3 fractions: 30 Gy (10 Gy/fx)
	4 fractions: 34 Gy (8.5 Gy/fx)
	5 fractions: 35 Gy (7 Gy/fx)
Great vessels	1 fraction: 37 Gy
	3 fractions: 39 Gy (13 Gy/fx)
	4 fractions: 49 Gy (12.25 Gy/fx)
	5 fractions: 55 Gy (11 Gy/fx)
Trachea/Large Bronchus	1 fraction: 20.2 Gy
	3 fractions: 30 Gy (10 Gy/fx)
	4 fractions: 34.8 Gy (8.7 Gy/fx)
	5 fractions: 40 Gy (8 Gy/fx)
Rib	1 fraction: 30 Gy
	3 fractions: 30 Gy (10 Gy/fx)
	4 fractions: 32 Gy (7.8 Gy/fx)
	5 fractions: 32.5 Gy (6.5 Gy/fx)
Skin	1 fraction: 26 Gy
	3 fractions: 30 Gy (10 Gy/fx)
	4 fractions: 36 Gy (9 Gy/fx)
	5 fractions: 40 Gy (8 Gy/fx)
Stomach	1 fraction: 12.4 Gy
	3 fractions: 27 Gy (9 Gy/fx)
	4 fractions: 30 Gy (7.5 Gy/fx)
	5 fractions: 35 Gy (7 Gy/fx)
GI (1.8–2.0 Gy/fx)	
Stomach	TD 5/5 whole stomach: 45 Gy (QUANTEC)
Small bowel	V45 <195 cc (QUANTEC)
Liver (metastatic disease)	mean liver <32 Gy (liver = normal liver minus gross disease)(QUANTEC)
Liver (primary liver cancer)	mean liver <28 Gy (liver = normal liver minus gross disease) (QUANTEC)
Colon	45 Gy, max dose 55 Gy (Emami)

Organ	Constraints
Kidney (bilateral)	mean <18 Gy, V28 <20%, V23 Gy <30%, V20 <32%, V12 <55%. If mean kidney dose to 1 kidney >18 Gy, then constrain remaining kidney to V6 <30%. (QUANTEC)
GI (single fraction)	Dose constraints per RTOG 0631
Duodenum	V16 <0.035 cc, V11.2 <5 cc
Kidney (Cortex)	V8.4 <200 cc
Kidney (Hilum)	V10.6 <66%
Colon	V14.3 <20 cc, V18.4 <0.035 cc
Jejunum/Ileum	V15.4 <0.035 cc, V11.9 <5 cc
Stomach	V16 <0.035 cc, V11.2 <10 cc
Rectum	V18.4 <0.035 cc, V14.3 <20 cc
GU (1.8-2.0 Gy/fx)	
Femoral heads	V50 <5% (RTOG GU Consensus)
Rectum	V75 <15% , V70 <20%, V65 <25%, V60 <35%, V50 <50% (QUANTEC)
Bladder	V80 <15%, V75 <25%, V70 <35%, V65 <50% (QUANTEC)
Testis	V3 <50% (RTOG 0630)
Penile bulb	Mean dose to 95% of the volume <50 Gy. D70 ≤70 Gy, D50 ≤50 Gy (QUANTEC 2010)
GU (LDR prostate brachytherapy)	
Urethra	Volume of urethra receiving 150% of prescribed dose (Ur150) <30% (JHH)
Rectum	Volume of rectum receiving 100% of prescribed dose (RV100) <0.5 cc (JHH)
GYN	
Bladder point (cervical brachytherapy)	Max 80 Gy (LDR equivalent dose) (ABS 2000)
Rectal point (cervical brachytherapy)	Max 75 Gy (LDR equivalent dose) (ABS 2000)
Proximal vagina (mucosa) (cervical brachytherapy)	Max 120 Gy (LDR equivalent dose) (Hintz)
Distal vagina (mucosa) (cervical brachytherapy)	Max 98 Gy (LDR equivalent dose) (Hintz)

Related Policies

- Brachytherapy for Clinically Localized Prostate Cancer Using Permanently Implanted Seeds
- Charged-Particle (Proton or Helium Ion) Radiotherapy for Neoplastic Conditions
- Electronic Brachytherapy for Nonmelanoma Skin Cancer
- Endobronchial Brachytherapy
- Intensity-Modulated Radiotherapy of the Breast and Lung
- Intensity-Modulated Radiotherapy of the Prostate
- Intensity-Modulated Radiotherapy: Abdomen, Pelvis and Chest
- Intensity-Modulated Radiotherapy: Cancer of the Head and Neck or Thyroid
- Intensity-Modulated Radiotherapy: Central Nervous System Tumors
- Intracavitary Balloon Catheter Brain Brachytherapy for Malignant Gliomas or Metastasis to the Brain
- Intraoperative Radiotherapy
- Radioembolization for Primary and Metastatic Tumors of the Liver
- Stereotactic Radiosurgery and Stereotactic Body Radiotherapy

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract

language will control. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program [FEP]) prohibits plans from denying Food and Drug Administration (FDA)-approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

Rationale

Hypofractionation in Breast Cancer

Whole breast irradiation (WBI) is the most common radiotherapeutic approach to the treatment of breast cancer. Historically, this involved daily doses of 180-200 cGy (conventional fractionation) to 4500 to 5000 cGy, with or without a boost. Studies over the last two decades have confirmed the safety and efficacy of daily doses of 250 to 330 cGy (hypofractionated schedule) and shorter treatment schedules reduce both costs and patient inconvenience.

Four randomized controlled trials have been conducted comparing conventional versus hypofractionated radiotherapy representing the results of 7,095 patients with 10 years of follow-up.

START A and B trials: From 1999 to 2002, women with completely excised invasive breast cancer (pT1-3a, pN0-1, M0) were enrolled from 35 UK radiotherapy centers. Patients were randomly assigned to a treatment regimen after primary surgery followed by chemotherapy and endocrine treatment (where prescribed). Primary endpoints were local-regional tumor relapse and late normal tissue effects. START-A enrolled 2236 women. Median follow-up was 9.3 years (IQR 8.0-10.0), after which 139 local-regional relapses had occurred. 10-year rates of local-regional relapse did not differ significantly between the 41.6 Gy and 50 Gy regimen groups. START-B enrolled 2215 women. Median follow-up was 9.9 years (IQR 7.5-10.1), after which 95 local-regional relapses had occurred. The proportion of patients with local-regional relapse at 10 years did not differ significantly between the 40 Gy group (4.3%, 95% CI 3.2-5.9) and the 50 Gy group (5.5%, 95% CI 4.2-7.2; HR 0.77, 95% CI 0.51-1.16; p=0.21). Long-term follow-up confirms that appropriately dosed hypofractionated radiotherapy is safe and effective for patients with early breast cancer.

The Ontario trial: Women with invasive breast cancer who had undergone breast-conserving surgery and in whom resection margins were clear and axillary lymph nodes were negative were randomly assigned to receive whole-breast irradiation either at a standard dose of 50.0 Gy in 25 fractions over a period of 35 days (the control group) or at a dose of 42.5 Gy in 16 fractions over a period of 22 days (the hypofractionated-radiation group). The risk of local recurrence at 10 years was 6.7% among the 612 women assigned to standard irradiation as compared with 6.2% among the 622 women assigned to the hypofractionated regimen (absolute difference, 0.5 percentage points; 95% confidence interval [CI], -2.5 to 3.5). At 10 years, 71.3% of women in the control group as compared with 69.8% of the women in the hypofractionated-radiation group had a good or excellent cosmetic outcome (absolute difference, 1.5 percentage points; 95% CI, -6.9 to 9.8).

Conclusion: Moderately hypofractionated radiotherapy has been shown to be as efficient and safe as conventionally fractionated radiotherapy for most breast cancer patients who need adjuvant radiotherapy after breast-conserving surgery and is the preferred radiation schedule recommended by both the National Comprehensive Cancer Network (NCCN) and American Society for Radiation Oncology (ASTRO). Exceptions for longer courses of treatment may be considered in the presence of documented clinical characteristics or situations including shared decision making including but not limited to:

- Breast patients with:
 - Triple negative disease.

- Anatomic conditions, such as pectus excavatum, that require to treat across the heart.
 - Patients with significant cardiopulmonary comorbidities.
 - Patients who have variants or pathogenic mutations in genes where there is little data on outcomes.
 - Prior history of radiation.
 - Patients with connective tissue disease.
 - Clinical trial participation.
- Additional consideration may also be warranted for patients with:
 - Very young patients (<45 yo)
 - History of breast augmentation/reconstruction.
 - Previous taxanes.
 - Post-operative infection.
 - Multiple surgeries required.
 - Oncoplastic rearrangement or reduction is done at the time of surgery.

References

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Documentation for Clinical Review

Please provide the following documentation:

- (click here >>>) [Radiation Oncology – Prior Authorization fax form](#)
- (click here >>>) [Radiation Oncology – Post Service fax form](#)

Coding

This Policy relates only to the services or supplies described herein. Benefits may vary according to product design; therefore, contract language should be reviewed before applying the terms of the Policy.

The following codes are included below for informational purposes. Inclusion or exclusion of a code(s) does not constitute or imply member coverage or provider reimbursement policy. Policy Statements are intended to provide member coverage information and may include the use of some codes for clarity. The Policy Guidelines section may also provide additional information for how to interpret the Policy Statements and to provide coding guidance in some cases.

Type	Code	Description
CPT®	77014	Computed tomography guidance for placement of radiation therapy fields
	77261	Therapeutic radiology treatment planning; simple
	77262	Therapeutic radiology treatment planning; intermediate
	77263	Therapeutic radiology treatment planning; complex
	77280	Therapeutic radiology simulation-aided field setting; simple
	77285	Therapeutic radiology simulation-aided field setting; intermediate

Type	Code	Description
	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
	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)
	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 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., 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)
	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
	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, includes intrafraction tracking, when performed
	77402	Radiation treatment delivery, => 1 MeV; simple
	77407	Radiation treatment delivery, => 1 MeV; intermediate
	77412	Radiation treatment delivery, => 1 MeV; complex

Type	Code	Description
	77427	Radiation treatment management, 5 treatments
	77470	Special treatment procedure (e.g., total body irradiation, hemibody radiation, per oral or endocavitary irradiation)
HCPCS	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
	G6003	Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: up to 5 mev
	G6004	Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 6-10 mev
	G6005	Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 11-19 mev
	G6006	Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks: 20 mev or greater
	G6007	Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: up to 5 mev
	G6008	Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 6-10 mev
	G6009	Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 11-19 mev
	G6010	Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks: 20 mev or greater
	G6011	Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; up to 5 mev
	G6012	Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 6-10 mev
	G6013	Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 11-19 mev
	G6014	Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 20 mev or greater
	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	
G6017	Intra-fraction localization and tracking of target or patient motion during delivery of radiation therapy (e.g., 3D positional tracking, gating, 3D surface tracking), each fraction of treatment	

Coding Guidelines

*The maximum allowable per standard course of treatment column represents what is allowed under typical circumstances. Many of the services allow for additional units per course of treatment but need to be supported in the medical records submitted.	
Service Code	Maximum allowable <i>Per standard course of treatment</i>
IGRT <input type="checkbox"/> 77014 (CT) <input type="checkbox"/> 77387 (any) <input type="checkbox"/> G6001 (stereotactic) <input type="checkbox"/> G6002 (US)	Facility fee (TC) included with delivery codes 77385 and 77386 for IMRT. Professional portion allowed for up to 1 unit for each delivery session when provided. 77387 and G6017 are for pro fee only. Others need -26 modifier for approval.
Clinical Treatment Planning <input type="checkbox"/> 77261 <input type="checkbox"/> 77262 <input type="checkbox"/> 77263	3D CRT = 1* IMRT = 1* IORT = 1* Proton = 1* Brachy = 1* SRS = 1* (77263 only) SBRT = 1* (77263 only)
Simulation <input type="checkbox"/> 77280 <input type="checkbox"/> 77285 <input type="checkbox"/> 77290 <i>Extra unit allowed for external beam boost on different DOS only</i>	<u>Using 3D CRT plan (77295):</u> 3D = 1*: +1 boost IMRT = 0 IORT = 1* Proton = 1* (77290 only) +1 boost Brachy HDR = 5* SRS/SBRT = 1* <u>Using IMRT plan (77301):</u> 3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy HDR = 0 SRS/SBRT = 0
Verification Simulation <input type="checkbox"/> 77280 <i>Extra unit allowed for external beam boost on different DOS only</i>	<u>Using 3D CRT plan (77295):</u> 3D CRT = 1* IMRT = 0 IORT = 1 Proton = 1* Brachy HDR = 5* 3D CRT EBRT Boost = +1* SRS/SBRT = 1* <u>Using IMRT plan (77301):</u> 3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy HDR = 0 3D CRT EBRT Boost = 0 SRS/SBRT = 0

*The maximum allowable per standard course of treatment column represents what is allowed under typical circumstances. Many of the services allow for additional units per course of treatment but need to be supported in the medical records submitted.	
Service Code	Maximum allowable <i>Per standard course of treatment</i>
Respiratory Motion Management □ 77293	1 for breast, lung, and upper abdominal cancer (thoracic areas) Otherwise: 3D CRT = 0* IMRT = 0* IORT = 0* Proton = 0* Brachy = 0* SRS = 0* SBRT = 0*
3D CRT Plan □ 77295 <i>Not allowed along with 77301</i>	3D CRT = 1* IMRT = 0 IORT = 0 Proton = 1* Brachy = 1 per insertion, max 5* SRS/SBRT = 1*
Basic Dosimetry Calculation □ 77300 <i>Extra unit allowed for external beam boost</i>	0 if billed with 77306, 77307, 77316, 77317, 77318, 77321, 77767, 77768, 77770, 77771, 77772, 0394T or 0395T 3D CRT = 4*; +1 boost IMRT = 4*; +1 boost IORT = 4*; +1 boost Proton = 4*; +1 boost Brachy = 0 except when using 77295 then up to 4 SRS = 4* SBRT = 4* Note: While 4 units (+1 for boost) is typical, it can be more in some cases such as head/neck, prostate or Hodgkin's when up to 8 or more may be needed
IMRT Plan □ 77301 <i>Not allowed along with 77295</i>	3D CRT = 0 (use 77295) IMRT = 1* IORT = 0 Proton = 1* Brachy = 0 (use 77316, 77317, 77318, or 77295) SRS = 1* SBRT = 1*

*The maximum allowable per standard course of treatment column represents what is allowed under typical circumstances. Many of the services allow for additional units per course of treatment but need to be supported in the medical records submitted.	
Service Code	Maximum allowable <i>Per standard course of treatment</i>
Teletherapy Isodose Plan <input type="checkbox"/> 77306 <input type="checkbox"/> 77307	1* for mid-Tx change in volume/contour <u>Using 3D CRT plan (77295):</u> 3D CRT = 0 IORT = 0 Proton = 0 SRS/SBRT = 0 Brachy = 0 <u>Using IMRT plan (77301):</u> IMRT = 0 IORT = 1 Proton = 0 SRS/SBRT = 0
Brachytherapy Isodose Plan <input type="checkbox"/> 77316 <input type="checkbox"/> 77317 <input type="checkbox"/> 77318 <i>Can use 77295 instead but not together</i>	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 1 per insertion, max 5 (cannot be billed in addition to 77295) SRS = 0 SBRT = 0
Special Teletherapy Port Plan <input type="checkbox"/> 77321 <i>Mainly for electron plans, not to be used with 77306/77307, 77295 or 77301; needs documentation for review</i>	<u>Using 3D CRT plan (77295):</u> 3D CRT = 0* IMRT = 0* IORT = 0* Proton = 0* Brachy = 0* SRS = 0* SBRT = 0* <u>Using IMRT plan (77301):</u> 3D CRT = 0* IMRT = 0* IORT = 0* Proton = 0* Brachy = 0* SRS = 0* SBRT = 0*
Special Dosimetry Calculation <input type="checkbox"/> 77331 <i>Needs documentation for review</i>	3D CRT = 0* IMRT = 0* IORT = 0* Proton = 0* Brachy = 0* SRS = 0* SBRT = 0*

*The maximum allowable per standard course of treatment column represents what is allowed under typical circumstances. Many of the services allow for additional units per course of treatment but need to be supported in the medical records submitted.

Service Code	Maximum allowable <i>Per standard course of treatment</i>
Treatment Devices, Designs and Construction <input type="checkbox"/> 77332 <input type="checkbox"/> 77333 <input type="checkbox"/> 77334 <i>Note number of units for each CPT code requested</i>	<u>If Billed w/ MLC (77338):</u> 3D CRT = 1* IMRT = 1* IORT = 0* Proton = 1* Brachy = 0 SRS = 1* SBRT = 1* <u>Without MLC (any combination of...):</u> 3D CRT = 5* IMRT = 5* IORT = 0 Proton = 5* Brachy = 0 SRS = 5* SBRT = 5*
Continuing Medical Physics Consultation <input type="checkbox"/> 77336	3D CRT = 8 IMRT = 8 IORT = 0 Proton = 8 Brachy = 0 SRS = 0 SBRT = 0 (1 for every 5 radiation therapy delivery sessions)
Multi-leaf Collimator (MLC) <input type="checkbox"/> 77338	3D CRT = 1* IMRT = 1* if using 77385/77386 for delivery. IMRT = 0 if using G6015/G6016 delivery IORT = 0 Proton = 1* Brachy = 0 SRS = 1* SBRT = 1*
Special Rad. <i>Physics</i> Consult <input type="checkbox"/> 77370 <i>Needs documentation for review</i>	3D CRT = 0* IMRT = 0* IORT = 0* Proton = 0* Brachy = 0* SRS = 0* SBRT = 0*
SRS Delivery, Cobalt 60 <input type="checkbox"/> 77371 <i>For more lesions, one session only</i>	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 0 SRS = 1*, 0 with 77372 or 77373 SBRT = 0

*The maximum allowable per standard course of treatment column represents what is allowed under typical circumstances. Many of the services allow for additional units per course of treatment but need to be supported in the medical records submitted.	
Service Code	Maximum allowable <i>Per standard course of treatment</i>
SRS Delivery, LINAC <input type="checkbox"/> 77372 <i>For more lesions, one session only</i>	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 0 SRS = 1*, 0 with 77371 or 77373 SBRT = 0
SBRT Delivery <input type="checkbox"/> 77373 <i>For more lesions, per session up to 5</i>	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 0 SRS = 0 SBRT = 5* (one for each session planned, max 5)
IMRT Delivery <input type="checkbox"/> 77385 <input type="checkbox"/> 77386 Outpatient- freestanding: <input type="checkbox"/> G6015 <input type="checkbox"/> G6016 (compensator)	3D CRT = 0 IMRT = 28* for prostate cancer; 16* for breast cancer without boost; 24 for breast cancer with boost; no limits otherwise IORT = 0 Proton = 0 Brachy = 0 SRS = 0 SBRT = 0
3D CRT Delivery <input type="checkbox"/> 77402 <input type="checkbox"/> 77407 <input type="checkbox"/> 77412 <input type="checkbox"/> G6003 <input type="checkbox"/> G6004 <input type="checkbox"/> G6005 <input type="checkbox"/> G6006 <input type="checkbox"/> G6007 <input type="checkbox"/> G6008 <input type="checkbox"/> G6009 <input type="checkbox"/> G6010 <input type="checkbox"/> G6011 <input type="checkbox"/> G6012 <input type="checkbox"/> G6013 <input type="checkbox"/> G6014	3D CRT = 16* for breast cancer without boost; 24 for breast cancer with boost; no limits otherwise IMRT = 0 IORT = 0 Proton = 0 Brachy = 0 SRS = 0 SBRT = 0
Intraoperative Radiation Treatment Delivery, x-ray, single treatment session <input type="checkbox"/> 77424 <i>For rectal cancer only</i>	3D CRT = 0 IMRT = 0 IORT = 1 Proton = 0 Brachy = 0 SRS = 0 SBRT = 0
Intraoperative Radiation Treatment Delivery, electrons, single treatment session <input type="checkbox"/> 77425 <i>For rectal cancer only</i>	3D CRT = 0 IMRT = 0 IORT = 1 Proton = 0 Brachy = 0 SRS = 0 SBRT = 0

*The maximum allowable per standard course of treatment column represents what is allowed under typical circumstances. Many of the services allow for additional units per course of treatment but need to be supported in the medical records submitted.	
Service Code	Maximum allowable <i>Per standard course of treatment</i>
Radiation Treatment Management <input type="checkbox"/> 77427	3D CRT = 8 (1 for every 5 RT delivery sessions) IMRT = 8 (1 for every 5 RT delivery sessions) IORT = 0 Proton = 8 (1 for every 5 RT delivery sessions) Brachy = 0 SRS = 0 SBRT = 0
SRS Treatment Management <input type="checkbox"/> 77432	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 0 SRS = 1* SBRT = 0
SBRT Treatment Management <input type="checkbox"/> 77435	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 0 SRS = 0 SBRT = 1
Intraoperative Radiation Treatment Management <input type="checkbox"/> 77469 <i>For rectal cancer only</i>	3D CRT = 0 IMRT = 0 IORT = 1 Proton = 0 Brachy = 0 SRS = 0 SBRT = 0
Special MD Consultation (Special Tx Procedure) <input type="checkbox"/> 77470 <i>Needs documentation for review</i>	3D CRT = 0* IMRT = 0* IORT = 0* Proton = 0* Brachy = 1* SRS = 0* SBRT = 0*
Proton Delivery <input type="checkbox"/> 77520 (non- compensator) <input type="checkbox"/> 77522 (compensator) <input type="checkbox"/> 77523 (compensator) <input type="checkbox"/> 77525 (compensator)	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 28* for prostate cancer; no limits otherwise Brachy = 0 SRS = 0 SBRT = 0

*The maximum allowable per standard course of treatment column represents what is allowed under typical circumstances. Many of the services allow for additional units per course of treatment but need to be supported in the medical records submitted.

Service Code	Maximum allowable <i>Per standard course of treatment</i>
Application of Radiation Sources: LDR Brachytherapy <input type="checkbox"/> 77761 <input type="checkbox"/> 77762 <input type="checkbox"/> 77763 <input type="checkbox"/> 77778	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 1 SRS = 0 SBRT = 0
Application of Radiation Sources: HDR Brachytherapy <input type="checkbox"/> 77770 <input type="checkbox"/> 77771 <input type="checkbox"/> 77772	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 4 SRS = 0 SBRT = 0
Supervision, Handling, Loading of Radiation Source <input type="checkbox"/> 77790	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 1 SRS = 0 SBRT = 0
High Dose Rate Electronic Brachytherapy, per fraction <input type="checkbox"/> 0394T <i>(skin, melanoma only)</i> <input type="checkbox"/> 0395T <i>(intracavitary such as IORT)</i>	3D CRT = 0 IMRT = 0 IORT = 1 Proton = 0 Brachy = 0 SRS = 0 SBRT = 0
Placement of Radiotherapy Afterloading Catheters <input type="checkbox"/> 19296 <input type="checkbox"/> 19297 <input type="checkbox"/> 19298	3D CRT = 0 IMRT = 0 IORT = 0 Proton = 0 Brachy = 1 SRS = 0 SBRT = 0

Policy History

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

Effective Date	Action
11/20/2020	New policy
08/01/2021	Annual review. Policy statement, guidelines and literature updated.
12/01/2021	Administrative update. Policy statement and guidelines updated.
08/01/2022	Annual review. Policy statement updated.
09/01/2022	Administrative update. No change to policy statement.
02/01/2023	Annual review. Policy statement and guidelines updated.

Effective Date	Action
03/01/2024	Annual review. No change to policy statement.
04/01/2024	Administrative update.
10/01/2024	Administrative update.

Definitions of Decision Determinations

Medically Necessary: Services that are Medically Necessary include only those which have been established as safe and effective, are furnished under generally accepted professional standards to treat illness, injury or medical condition, and which, as determined by Blue Shield, are: (a) consistent with Blue Shield medical policy; (b) consistent with the symptoms or diagnosis; (c) not furnished primarily for the convenience of the patient, the attending Physician or other provider; (d) furnished at the most appropriate level which can be provided safely and effectively to the patient; and (e) not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of the Member's illness, injury, or disease.

Investigational/Experimental: A treatment, procedure, or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

Split Evaluation: Blue Shield of California/Blue Shield of California Life & Health Insurance Company (Blue Shield) policy review can result in a split evaluation, where a treatment, procedure, or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.

Prior Authorization Requirements (as applicable to your plan)

Within five days before the actual date of service, the provider must confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should be directed to the Prior Authorization Department at (800) 541-6652, or the Transplant Case Management Department at (800) 637-2066 ext. 3507708 or visit the provider portal at www.blueshieldca.com/provider.

We are interested in receiving feedback relative to developing, adopting, and reviewing criteria for medical policy. Any licensed practitioner who is contracted with Blue Shield of California or Blue Shield of California Promise Health Plan is welcome to provide comments, suggestions, or concerns. Our internal policy committees will receive and take your comments into consideration.

For utilization and medical policy feedback, please send comments to: MedPolicy@blueshieldca.com

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. Blue Shield of California may consider published peer-reviewed scientific literature, national guidelines, and local standards of practice in developing its medical policy. Federal and state law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over medical policy and must be considered first in determining covered services. Member contracts may differ in their benefits. Blue Shield reserves the right to review and update policies as appropriate.

Appendix A

POLICY STATEMENT

(No changes to Policy Statement but there is a coding update on Table 4 [page 9-10])

BEFORE Red font: Verbiage removed				AFTER			
Radiation Oncology BSC8.06				Radiation Oncology BSC8.06			
Policy Statement:				Policy Statement:			
Table 4: Allowable Codes and Frequencies for Stereotactic Brain and Body Radiotherapy				Table 4: Allowable Codes and Frequencies for Stereotactic Brain and Body Radiotherapy			
Description	Code	Maximum per course of treatment	Notes	Description	Code	Maximum per course of treatment	Notes
For SBRT: IGRT (Image Guided Radiation Therapy) Clinical Treatment Planning Simulation Verification Simulation Respiratory Motion Management 3D CRT Plan SRS Treatment Management, cranial SBRT Treatment Management,	77014 (CT) 77387 (any) G6001 G6002 (US) G6017 77263 77280, 77285, 77290 77280 77293 77295 77432	Professional portion allowed for up to 1 unit for each delivery session when provided 1 1 0 1 1	Facility fee (TC) included with delivery codes 77385/ 77386/ 77373 for IMRT/ SBRT. 77387 and G6017 are for pro fee only. Others need -26 modifier for approval May not be billed with 77301; usually 77290 will be used May not be billed with 77301 1 for breast, lung, and upper abdominal or thoracic cancer areas May not be used with 77301, 77432 or 77435 May not be used with 77301, 77295 or 77435. May not be used with 77435, may not be billed by neurosurgeon with any of the following: 61781-61783, 61796-61800, 63620-63621. May not be used with 77301, 77295 or 77432. May not be billed by neurosurgeon with any of the	For SBRT: IGRT (Image Guided Radiation Therapy) Clinical Treatment Planning Simulation Verification Simulation Respiratory Motion Management 3D CRT Plan SRS Treatment Management, cranial SBRT Treatment Management,	77014 (CT) 77387 (any) G6001 G6002 (US) G6017 77263 77280, 77285, 77290 77280 77293 77295 77432	Professional portion allowed for up to 1 unit for each delivery session when provided 1 1 0 1 1	Facility fee (TC) included with delivery codes 77385/ 77386/ 77373 for IMRT/ SBRT. 77387 and G6017 are for pro fee only. Others need -26 modifier for approval May not be billed with 77301; usually 77290 will be used May not be billed with 77301 1 for breast, lung, and upper abdominal or thoracic cancer areas May not be used with 77301 May not be used with 77435, may not be billed by neurosurgeon with any of the following: 61781-61783, 61796-61800, 63620-63621. May not be used with 77432. May not be billed by neurosurgeon with any of the

POLICY STATEMENT

(No changes to Policy Statement but there is a coding update on Table 4 [page 9-10])

BEFORE				AFTER			
Red font: Verbiage removed							
per course of therapy			following: 61781-61783, 61796-61800, 63620-63621	per course of therapy			following: 61781-61783, 61796-61800, 63620-63621
IMRT Plan	77301	1	May not be used with 77295, 77432 or 77435	IMRT Plan	77301	1	May not be used with 77295
Basic Dosimetry	77300	4 up to a max of 10 with documentation	0 if billed with 77306, 77307, 77321, 0394T or 0395T	Basic Dosimetry	77300	4 up to a max of 10 with documentation	0 if billed with 77306, 77307, 77321, 0394T or 0395T
Treatment Devices, Designs, and Construction	77332, 77333, 77334	1, 5, or 10	-If billed w/ MLC (77338): 1 -If billed w/o MLC: 5 (any combination) -More may be allowed when documentation of medical necessity is provided (such as additional beams), maximum of 10	Treatment Devices, Designs, and Construction	77332, 77333, 77334	1, 5, or 10	-If billed w/ MLC (77338): 1 -If billed w/o MLC: 5 (any combination) -More may be allowed when documentation of medical necessity is provided (such as additional beams), maximum of 10
Multi-leaf Collimator	77338	1	(MLC may not be reported in conjunction with HCPCS G6016)	Multi-leaf Collimator	77338	1	(MLC may not be reported in conjunction with HCPCS G6016)
Special Radiation Physics Consult	77370	0	May allow x 1; documentation of medical necessity required	Special Radiation Physics Consult	77370	0	May allow x 1; documentation of medical necessity required
Special MD Consultation (Special Tx Procedure)	77470	0	May allow x 1; documentation of medical necessity required	Special MD Consultation (Special Tx Procedure)	77470	0	May allow x 1; documentation of medical necessity required
Radiation Delivery, Single Dose (SRS)	G0339, 77371 or 77372	1	Gammaknife; either Cobalt-60 or linear accelerator. May allow 1 of either G0339, 77371 or 77372, not all.	Radiation Delivery, Single Dose (SRS)	G0339, 77371 or 77372	1	Gammaknife; either Cobalt-60 or linear accelerator. May allow 1 of either G0339, 77371 or 77372, not all.
Radiation Delivery, up to 5 fractions (SBRT)	77373, G0339, G0340	77373: 5 or G0339: 1/ G0340: 4	Cyberknife, per fraction up to 5, can't be billed with 77371 or 77372. May bill either 77373 or G0339/G0340, not both.	Radiation Delivery, up to 5 fractions (SBRT)	77373, G0339, G0340	77373: 5 or G0339: 1/ G0340: 4	Cyberknife, per fraction up to 5, can't be billed with 77371 or 77372. May bill either 77373 or G0339/G0340, not both.
Radiation Delivery by neurosurgeon, computer-assisted	61781, 61782 or 61783	5	Cranial, computer-assisted; not to be billed with other delivery codes: 77371-77373, 61796-61799, 77432, 77435, G0339-G0340	Radiation Delivery by neurosurgeon, computer-assisted	61781, 61782 or 61783	5	Cranial, computer-assisted; not to be billed with other delivery codes: 77371-77373, 61796-61799, 77432, 77435, G0339-G0340

POLICY STATEMENT

(No changes to Policy Statement but there is a coding update on Table 4 [page 9-10])

BEFORE				AFTER			
Red font: Verbiage removed							
Radiation Delivery by neurosurgeon, cranial	61796, 61797, 61798, 61799, 61781	5	Cranial; not to be billed with: 77371-77373, 77432, 77435, G0339-G0340.	Radiation Delivery by neurosurgeon, cranial	61796, 61797, 61798, 61799, 61781	5	Cranial; not to be billed with: 77371-77373, 77432, 77435, G0339-G0340.
Radiation Delivery by neurosurgeon, spine	63620, 63621	63620 x1 + 63621 x2	Spinal; not to be billed with: 77371-77373, 77432, 77435, G0339-G0340	Radiation Delivery by neurosurgeon, spine	63620, 63621	63620 x1 + 63621 x2	Spinal; not to be billed with: 77371-77373, 77432, 77435, G0339-G0340
Application of Stereotactic Headframe for Stereotactic Radiosurgery	61800	1		Application of Stereotactic Headframe for Stereotactic Radiosurgery	61800	1	