

Physics Tip Sheet



For any additional questions, please email support@mroqc.org
Last Updated June 2024

Breas	t
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TG-263 Required Structures:	
All Patients:	Node Positive Patients (only regions irradiated):
CTVsb	LN_Ax_L1_L/R
PTVsb	LN_Ax_L2_L/R
Heart	LN_Ax_L3_L/R
Lung_L/R	LN_IMN_L/R or LN_IMNs
PTV_Breast_L/R (whole breast)	LN_Sclav_L/R
Breast_L/R (partial breast)	

Full DICOM Upload Requirements (EBRT only):

- CT
- Dose
- Plan (scaled to delivered fx)
- Structures

Physics Form: Filled out once per patient at the end of treatment

• Breast Radiotherapy Technical Details Form (BRTD)

2024 Quality Measures:

- Node-positive patients: Nodal groups are labeled per TG-263 and dose is reported
- Fewer than 5% of 2024 patients have a quality report error as of 12/31/24

Lung

TG-263 Required Structures:	
GTV/ IGTV/ITV	
PTV	
Esophagus	
Heart	
Lungs-GTV/IGTV/ITV	
SpinalCord or SpinalCanal	

Full DICOM Upload Requirements:

- CT
- Dose
- Plan (scaled to delivered fx)
- Structures

Physics Form: Filled out once per patient at the end of treatment

• Lung Radiotherapy Technical Details Form (LRTD)

2024 Quality Measures:

- Conventionally fractionated patients: mean esophageal dose is <29 Gy
 AND esophageal D2cc is <61 Gy
- SBRT patients with 1 PTV: Paddick Conformity Index is ≥ 0.85
- Fewer than 5% of 2024 patients have a quality report error as of 12/31/24

Bone Mets

TG-263 Required	Structures:
PTV	

DICOM Collection:

Full DICOM only for FIRST complex course

Full DICOM Upload Requirements:

- CT
- Dose
- Plan (scaled to delivered fx)
- Structures

Prostate

TG-263 Required Structures:
CTVp/CTVsb
PTVp/PTVsb
Bladder
Rectum

Full DICOM Upload Requirements (EBRT & Brachytherapy):

- Image Set (CT, MR, US)
- Dose
- Plan (scaled to delivered fx)
- Structures

Physics Forms: Filled out once per each plan in a course at the end of treatment

- Bone Mets Radiotherapy Technical Details Form (MRTD)
- Report plans in the same course if plans are adjacent or overlapping in time
- Report a new course start date if there is a break other than a weekend

2024 Quality Measures:

- Use of shorter course radiotherapy (≤5 fractions at your site, single fraction for uncomplicated mets collaborative-wide)
- SBRT patients: Standardized dose constraints used for OARs and any violations are documented
- Fewer than 5% of 2024 patients have a quality report error as of 12/31/24

Physics Forms: Filled out once per patient at the end of treatment

• Prostate Radiotherapy Technical Details Form (PRTD)

2024 Quality Measures:

- Patients with intermediate risk prostate cancer are treated with one of the following:
 - Hypofractionated EBRT (28 fractions or less)
 - Ultrahypofractionated EBRT/SBRT (7 fractions or less)
 - Brachytherapy monotherapy
 - O Unfavorable intermediate risk patients may also receive a brachytherapy boost
- Fewer than 5% of 2024 patients have a quality report error as of 12/31/24

8.2 Guiding Principles for Target Nomenclature

- 1. The first set of characters must be one of the allowed target types:
 - GTV
 - CTV
 - ITV
 - · IGTV (Internal Gross Target Volume-gross disease with margin for motion)
 - · ICTV (Internal Clinical Target Volume-clinical disease with margin for motion)
 - PTV
 - PTV! for low-dose PTV volumes that exclude overlapping high-dose volumes (See the section discussing segmented vs non-segmented PTVs.)
- If a target classifier is used, place the target classifier after the target type with no spaces. Allowed target classifiers are listed below:
 - n: nodal (e.g., PTVn)
 - p: primary (e.g., GTVp)
 - sb: surgical bed (e.g., CTVsb)
 - · par: parenchyma (e.g., GTVpar)
 - · v:venous thrombosis (e.g., CTVv)
 - · vas: vascular (e.g., CTVvas)
- If multiple spatially distinct targets are indicated, then Arabic numerals are used after the target type + classifier (e.g., PTV1, PTV2, GTVp1, GTVp2).)
- If designation of the imaging modality and sequential order in the image set need recording
 for adaptive therapy, then the nomenclature follows the type/classifier/enumerator with an
 underscore and then the image modality type (CT, PT, MR, SP) and number of the image in
 the sequence (e.g., PTVp1_CT1PT1, GTV_CT2).)
- If structure indicators are used, they follow the type/classifier/enumerator/imaging with an
 underscore prefix and are values from the approved structure nomenclature list, (e.g.,
 CTV_A_Aorta, CTV_A_Celiac, GTV_Preop, PTV_Boost, PTV_Eval, PTV_MR2_Prostate).
- If dose is indicated, the dose is placed at the end of the target string prefixed with an underscore character.
 - The task group strongly recommends using relative dose levels instead of specifying physical dose
 - · High (e.g., PTV_High, CTV_High, GTV_High)
 - ° Low (e.g., PTV_Low, CTV_Low, GTV_Low)
 - · Mid: (e.g., PTV_Mid, CTV_Mid, GTV_Mid)
 - Mid+2-digit enumerator: allows specification of more than three relative dose levels (e.g., PTV_Low, PTV_Mid01, PTV_Mid02, PTV_Mid03, PTV_High). Lower numbers correspond to lower dose values.
 - If numeric values for the physical dose must be used, then specification of the numeric value
 of the dose in units of cGy is strongly recommended (e.g., PTV_5040).
 - If numeric values for physical dose must be used and these must be specified in units of Gy, then 'Gy' should be appended to the numeric value of the dose (e.g., PTV_50.4Gy). For systems that do not allow use of a period, the 'p' character should be substituted (e.g., PTV_50p4Gy)

- 7. If the dose indicated must reflect the number of fractions used to reach the total dose, then the numeric values of dose per fraction in cGy, or in Gy with the unit specifier, and number of fractions separated by an "x" character are added at the end (e.g., PTV_Liver_2000x3 or PTV_Liver_20Gyx3).
- If the structure is cropped back from the external contour for the patient, then the quantity of cropping by "-xx" millimeters is placed at the end of the target string. The cropping length follows the dose indicator, with the amount of cropping indicated by xx millimeters (e.g., PTV_Eval_7000-08, PTV-03, CTVp2-05).
- If a custom qualifier string is used, the custom qualifier is placed at the end after a '^' character (e.g., PTV^Physician1, GTV_Liver^ICG).)
- 10. If it is not possible to follow the guidelines and remain within the 16-character limit, then preserve the relative ordering but remove underscore characters, progressing from left to right as needed to meet the limit (e.g PTVLiverR_2000x3.) This last resort scenario undermines the use of automated tools.

Helpful Links

TG-263 Online Approved Structure List

TG-263 Template Maker

Incentive Program Measure Criteria