## Quality ID #156 (NQF 0382): Oncology: Radiation Dose Limits to Normal Tissues – National Quality Strategy Domain: Patient Safety

2018 OPTIONS FOR INDIVIDUAL MEASURES:
REGISTRY ONLY

MEASURE TYPE:
Process

DESCRIPTION:
Percentage of patients, regardless of age, with a diagnosis of breast, rectal, pancreatic or lung cancer receiving 3D conformal radiation therapy who had documentation in medical record that radiation dose limits to normal tissues were established prior to the initiation of a course of 3D conformal radiation for a minimum of two tissues

INSTRUCTIONS:
This measure is to be submitted a minimum of once per performance period for patients with a diagnosis of breast, rectal, pancreatic or lung cancer receiving 3D conformal radiation therapy seen during the performance period. It is anticipated that eligible clinicians providing radiation therapy for patients with cancer will submit this measure.

Measure Submission:
The listed denominator criteria is used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data. There are no allowable performance exclusions for this measure.

DENOMINATOR:
All patients, regardless of age, with a diagnosis of breast, rectal, pancreatic or lung cancer receiving 3D conformal radiation therapy

Denominator Criteria (Eligible Cases):
Diagnosis for breast, rectal, pancreatic or lung cancer (ICD-10-CM): C19, C20, C21.2, C21.8, C25.0, C25.1, C25.2, C25.3, C25.4, C25.7, C25.8, C25.9, C34.00, C34.01, C34.02, C34.10, C34.11, C34.12, C34.2, C34.30, C34.31, C34.32, C34.80, C34.81, C34.82, C34.90, C34.91, C34.92, C50.011, C50.012, C50.019, C50.021, C50.022, C50.029, C50.111, C50.112, C50.119, C50.121, C50.122, C50.129, C50.211, C50.212, C50.219, C50.221, C50.222, C50.229, C50.311, C50.312, C50.319, C50.321, C50.322, C50.329, C50.411, C50.412, C50.419, C50.421, C50.422, C50.429, C50.511, C50.512, C50.519, C50.521, C50.522, C50.529, C50.611, C50.612, C50.619, C50.621, C50.622, C50.629, C50.811, C50.812, C50.819, C50.821, C50.822, C50.829, C50.911, C50.912, C50.919, C50.921, C50.922, C50.929
AND
Patient procedure during the performance period (CPT): 77295
AND NOT
Diagnosis for metastatic cancer (ICD-10-CM): C77.0, C77.1, C77.2, C77.3, C77.4, C77.5, C77.8, C77.9, C78.00, C78.01, C78.02, C78.1, C78.2, C78.30, C78.39, C78.4, C78.5, C78.6, C78.7, C78.80, C78.89, C79.00, C79.01, C79.02, C79.10, C79.11, C79.19, C79.2, C79.31, C79.32, C79.40, C79.49, C79.51, C79.52, C79.60, C79.61, C79.62, C79.70, C79.71, C79.72, C79.81, C79.82, C79.89, C79.9

NUMERATOR:
Patients who had documentation in medical record that radiation dose limits to normal tissues were established prior to the initiation of a course of 3D conformal radiation for a minimum of two tissues

Numerator Options:
*Performance Met:* Radiation dose limits to normal tissues established

prior to the initiation of a course of 3D conformal radiation for a minimum of two tissue/organ (0520F)

OR

*Performance Not Met:* Radiation dose limits to normal tissues not established prior to the initiation of a course of 3D conformal radiation for a minimum of two tissue/organ, reason not otherwise specified (0520F *with* 8P)

RATIONALE:

Identifying radiation dose limits to normal tissues is an important step in the process of care for patients receiving radiation therapy treatments. Although no specific data is available, in its practice accreditation reviews, the American College of Radiation Oncology has found that radiation dose limits to normal tissues are included in the patient chart less frequently than reviewers expected. While dose constraint specification is an integral part of IMRT, it is not required for 3D conformal radiation therapy. Patients treated with 3D conformal radiation therapy are often subjected to dose levels that exceed normal tissue tolerance, and precise specification of maximum doses to be received by normal tissues represent both an intellectual process for the physician during radiation treatment planning, and a fail-safe point for the treating therapists. In most circumstances where facilities require specification of radiation dose limits to normal tissues prior to initiation of therapy, policies and procedures exist that prohibit exceeding those limits in the absence of written physician approval.

CLINICAL RECOMMENDATION STATEMENTS:

Breast Cancer

Whole Breast Radiation: Target definition includes the majority of the breast tissue, and is best done by both clinical assessment and CT-based treatment planning. A uniform dose distribution and minimal normal tissue toxicity are the goals and can be accomplished using compensators such as wedges, forward planning using segments, intensity-modulated radiation therapy (IMRT), respiratory gating, or prone positioning. (NCCN, 2014)

Chest Wall Radiation (including breast reconstruction)

The target includes the ipsilateral chest wall, mastectomy scar, and drain sites where possible. Depending on whether the patient has been reconstructed or not, several techniques using photons and/or electrons are appropriate. CT-based treatment planning is encouraged in order to identify lung and heart volumes, and minimize exposure of these organs. Special consideration should be given to the use of bolus material when photon fields are used, to ensure the skin dose is adequate. (NCCN, 2014)

Rectal Cancer

Radiation therapy fields should include the tumor or tumor bed, with a 2-5 cm margin, the presacral nodes, and the internal iliac nodes. The external iliac nodes should also be included for T4 tumors involving anterior structures.

Multiple radiation therapy fields should be used (generally a 3- or 4- field technique). Positioning and other techniques to minimize the volume of small bowel in the fields should be encouraged. (NCCN, 2014)

Pancreatic Adenocarcinoma

It is imperative to evaluate the DVH [dose volume histogram] of the PTV [planning target volume] and critical normal structures such as liver, kidneys, spinal cord, liver and bowel. While these limits are empirical they differ based on dose per fraction, total dose delivered, and disease status (adjuvant vs. unresectable). Studies have shown that the tolerability of radiation is largely dependent on PTV size/elective nodal irradiation, types of concurrent systemic/ targeted therapy, and whether conformal (3-D, IMRT, SBRT) vs. conventional radiation is used. (NCCN, 2012)

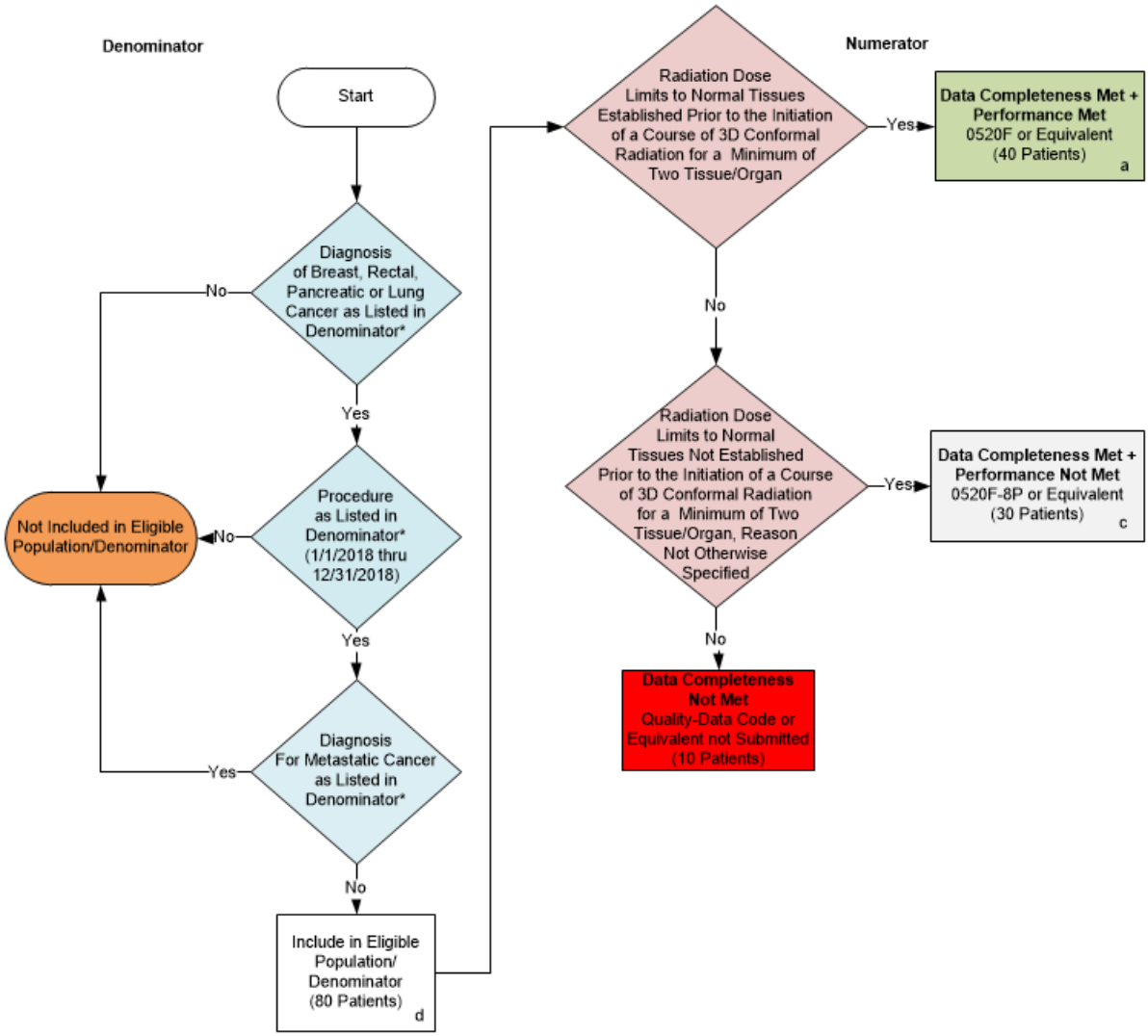
Non-Small Cell Lung Cancer

It is essential to evaluate the dose volume histogram (DVH) of critical structures and to limit the doses to the spinal cord, lungs, heart, esophagus, and brachial plexus to minimize normal tissue toxicity. These limits are mainly empirical. For patients receiving postoperative RT, more strict DVH parameters should be considered for lung. (NCCN, 2012)

Small Cell Lung Cancer

Normal tissue doses will be dependent on tumor size and location. (NCCN, 2012)

## 2018 Registry Flow for Quality ID #156 NQF #0382: Oncology: Radiation Dose Limits to Normal Tissues




**SAMPLE CALCULATIONS:**

**Data Completeness=**
Performance Met (a=40 patients) + Performance Not Met (c=30 patients) = 70 patients = **87.50%**
Eligible Population / Denominator (d=80 patients) = 80 patients

**Performance Rate=**
Performance Met (a=40 patients) = 40 patients = **57.14%**
Data Completeness Numerator (70 patients) = 70 patients

*See the posted Measure Specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Patient Process



v2

## 2018 Registry Quality ID
## #156 NQF #0382: Oncology: Radiation Dose Limits to Normal Tissues

Please refer to the specific section of the Measure Specification to identify the denominator and numerator information for use in reporting this Individual Measure. This flow is for registry data submission.

1. Start with Denominator
2. Check Patient Diagnosis:
    a. If Diagnosis of Breast, Rectal, Pancreatic or Lung Cancer as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
    b. If Diagnosis of Breast, Rectal, Pancreatic or Lung Cancer as Listed in the Denominator equals Yes, proceed to check Procedure Performed.
3. Check Procedure Performed:
    a. If Procedure Performed as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
    b. If Procedure Performed as Listed in the Denominator equals Yes, proceed to check Patient Diagnosis for Metastatic Cancer
4. Check Patient Diagnosis for Metastatic Cancer:
    a. If Diagnosis of Metastatic Cancer as Listed in the Denominator equals Yes, do not include in Eligible Patient Population. Stop Processing.
    b. If Diagnosis of Metastatic Cancer as Listed in the Denominator equals No, include in Eligible Population.
5. Denominator Population:
    a. Denominator population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 80 patients in the Sample Calculation.
6. Start Numerator
7. Check Radiation Dose Limits to Normal Tissues Established Prior to the Initiation of a Course of 3D Conformal Radiation for a Minimum Two Tissue/Organ:
    a. If Radiation Dose Limits to Normal Tissues Established Prior to the Initiation of a Course of 3D Conformal Radiation for a Minimum Two Tissue/Organ equals Yes, include in Data Completeness Met and Performance Met.
    b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 40 patients in the Sample Calculation.
    c. If Radiation Dose Limits to Normal Tissues Established Prior to the Initiation of a Course of 3D Conformal Radiation for a Minimum Two Tissue/Organ equals No, proceed to Radiation Dose Limits to Normal Tissue Not Established Prior to the Initiation of a Course of 3D Conformal Radiation for a

Minimum Two Tissue/Organ, Reason Not Otherwise Specified.

8. Check Radiation Dose Limits to Normal Tissues Not Established Prior to the Initiation of a Course of 3D Conformal Radiation for a Minimum Two Tissue/Organ, Reason Not Otherwise Specified:

    a. If Radiation Dose Limits to Normal Tissue Not Established Prior to the Initiation of a Course of 3D Conformal Radiation for a Minimum Two Tissue/Organ, Reason Not Otherwise Specified equals Yes, include in Data Completeness Met and Performance Not Met.

    b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 30 patients in the Sample Calculation.

    c. If Radiation Dose Limits to Normal Tissue Not Established Prior to the Initiation of a Course of 3D Conformal Radiation for a Minimum Two Tissue/Organ, Reason Not Otherwise Specified equals No, proceed to Data Completeness Not Met.

9. Check Data Completeness Not Met:

    a. If Data Completeness Not Met equals No, Quality Data Code or equivalent not submitted. 10 patients have been subtracted from the Data Completeness Numerator in the Sample Calculation.

**SAMPLE CALCULATIONS:**

**Data Completeness=**

Performance Met (a=40 patients) + Performance Not Met (c=30 patients) = 70 patients = **87.50%**

Eligible Population / Denominator (d=80 patients) = 80 patients

**Performance Rate=**

Performance Met (a=40 patients) = 40 patients = **57.14%**

Data Completeness Numerator (70 patients) = 70 patients