

2007 QRRO Clinical Performance Measures (CPM)

Radiation Oncology – Non small cell lung cancer

Measure #N_CM1: Proper radiation therapy dose

Type of Measure: This measure is appropriately used as a quality improvement measure.

Clinical Performance Measure
<p>Quantifiable Measure: Percentage of patients with stage III non small cell lung cancer (NSCLC) receiving external beam radiotherapy to the thorax with concurrent chemotherapy who receive daily radiation therapy doses to a total dose between 60-74 Gy</p>
<p>Numerator: Patients with stage III non small cell lung cancers (NSCLC) who are prescribed daily radiation therapy doses to a total dose between 60-74 Gy of thoracic radiation with concurrent chemotherapy.</p>
<p>Denominator: All patients with stage III non-small cell lung cancer who receive external beam radiotherapy to the thorax with concurrent chemotherapy</p>
<p>Denominator exclusions: <u>Documentation</u> of any of the following reasons (that the patient received a different radiation dose):</p> <ol style="list-style-type: none"> 1) Patient on an IRB approved protocol 2) Radiation treatment stopped early for any reason 3) Patients for whom surgery is a component of the treatment plan 4) Patients with external beam radiotherapy administered as hyperfractionation or split course.
<p>Rationale for the measure: Several prospective studies have demonstrated that radiation doses ranging from 60-74 Gy (delivered once a day) should be prescribed for patients with stage III non small cell lung cancer patients receiving definitive radiation concurrently with chemotherapy. Data elements required for the measure can be captured and the measure is actionable by the physician.</p>
<p>The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: In the definitive concurrent chemoradiation setting, a total radiation dose up to 74 Gy...should be used to treat all volumes of gross disease (NCCN¹) (Category 2a)(Note: The lower dose of 60 Gy is taken from the current Intergroup randomized trial for stage III NSCLC patients receiving chemoradiation in which the standard dose arm is 60 Gy).</p>
<p>QRRO Survey Form Questions: E1 – 1, 2; I1 - 41, 42, 45, 71, 73, 74, 76, 77, 139, 140, 151,180, 182</p>

References

1. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology: Non small cell lung cancer. Version 1.2008. Available at: www.nccn.org/professionals/physician_gls/default.asp.

2007 QRRO Clinical Performance Measures (CPM)

Radiation Oncology – Small cell lung cancer

Measure #S_CM2: Use of concurrent chemoradiation

Type of Measure: This measure is appropriately used as a quality improvement measure.

Clinical Performance Measure
<p>Quantifiable Measure: Percentage of patients with good performance status (KPS >70) limited stage small cell lung cancer (LS-SCLC) receiving external beam radiotherapy to the thorax who receive concurrent chemotherapy with the thoracic radiation.</p>
<p>Numerator: Patients with good performance status (KPS >70) limited stage small cell lung cancers (LS-SCLC) who receive concurrent chemotherapy with the thoracic radiation.</p>
<p>Denominator: All patients with good performance status (KPS >70) limited stage small cell lung cancer (LS-SCLC) receiving external beam radiotherapy to the thorax.</p>
<p>Denominator exclusions: <u>Documentation</u> of any of the following reasons (not to use concurrent chemoradiation):</p> <ol style="list-style-type: none"> 1) Significant weight loss (eg, >=5%) 2) Concern regarding medical comorbidities 3) Concern regarding pulmonary status (eg, on oxygen, poor pulmonary function) 4) Concern regarding increased age (eg, >75 years) 5) Patient not eligible for chemotherapy at all (eg, due to poor kidney function)
<p>Rationale for the measure: Level one evidence demonstrates a survival advantage to concurrent chemotherapy and thoracic radiation (rather than sequential chemotherapy followed by radiation) for good performance status limited stage small cell lung cancer patients. Data elements required for the measure can be captured and the measure is actionable by the physician.</p>
<p>The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: A randomized trial by the Japanese Cooperative Oncology Group assessed sequential vs. concurrent thoracic radiotherapy combined with etoposide/cisplatin (EP) for patients with limited-stage disease and reported that patients treated with concurrent radiotherapy lived longer than those treated with sequential radiotherapy. A systematic review of the timing of thoracic radiotherapy in limited stage SCLC determined that early concurrent radiotherapy resulted in a small, but significant, improvement in overall survival compared to late concurrent or sequential radiotherapy (NCCN¹) (Category 1)</p>
<p>QRRO Survey Form Questions: E1 – 1; A5 – 2, 3, 4; I1 – 1, 2, 3, 5, 11, 13, 73, 180, 182, 281-303</p>

References

1. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology: Small cell lung cancer. Version 1.2008. Available at: www.nccn.org/professionals/physician_gls/default.asp.



2007 QRRO Clinical Performance Measures (CPM)

Radiation Oncology – Non small cell lung cancer

Emerging Measure #N_EM1A: Use of CT-based simulation and treatment planning.

Type of Measure: This measure is appropriately used as a quality improvement measure.

Clinical Performance Measure
Quantifiable Measure: Percentage of patients with non-metastatic non small cell lung cancer (NSCLC) receiving external beam radiotherapy to the thorax who undergo CT-based simulation and treatment planning.
Numerator: Patients with non-metastatic non small cell lung cancer (NSCLC) receiving external beam radiotherapy to the thorax who undergo CT-based simulation and treatment planning.
Denominator: Patients with non-metastatic non small cell lung cancer (NSCLC) receiving external beam radiotherapy to the thorax.
Denominator exclusions: None
Rationale for the measure: CT-based radiotherapy simulation and planning techniques improve the precision of the irradiation of cancerous tissue and should be employed for all patients receiving definitive radiation therapy for lung cancer to minimize the normal tissue irradiated.
The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: Treatment planning should be on CT scans obtained in the treatment position (1).
QRRO Survey Form Questions: E1 – 1, 2; I1 – 73, 103, 105 & 107

References

1. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology: Non small cell lung cancer. Version 1.2008. Available at: www.nccn.org/professionals/physician_gls/default.asp.

2007 QRRO Clinical Performance Measures (CPM)

Radiation Oncology – Small cell lung cancer

Emerging Measure #S_EM1B: Use of CT-based simulation and treatment planning.

Type of Measure: This measure is appropriately used as a quality improvement measure.

Clinical Performance Measure
Quantifiable Measure: Percentage of patients with non-metastatic small cell lung cancer (SCLC) receiving external beam radiotherapy to the thorax who undergo CT-based simulation and treatment planning.
Numerator: Patients with non-metastatic small cell lung cancer (SCLC) receiving external beam radiotherapy to the thorax who undergo CT-based simulation and treatment planning.
Denominator: Patients with non-metastatic small cell lung cancer (SCLC) receiving external beam radiotherapy to the thorax.
Denominator exclusions: None
Rationale for the measure: CT-based radiotherapy simulation and planning techniques improve the precision of the irradiation of cancerous tissue and should be employed for all patients receiving definitive radiation therapy for lung cancer to minimize the normal tissue irradiated.
The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: The radiation target volumes should be defined on the CT scan obtained at the time of radiotherapy planning (1).
QRRO Survey Form Questions: E1 – 1; I1 – 73, 103, 105 & 107

References

1. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology: Small cell lung cancer. Version 1.2008. Available at: www.nccn.org/professionals/physician_gls/default.asp.

2007 QRRO Clinical Performance Measures (CPM)

Radiation Oncology – Non small cell lung cancer

Emerging Measure #N_EM2A: Dose volume histogram (DVH) evaluation recording dose to the planning target volume (PTV), lung, and/or spinal cord

Type of Measure: This measure is appropriately used as a quality improvement measure.

Clinical Performance Measure
Quantifiable Measure: Percentage of patients with non-metastatic non small cell lung cancer (NSCLC) receiving external beam radiotherapy to the thorax in whom there is documentation of DVH constraints that are incorporated into the treatment planning process.
Numerator: Patients with non-metastatic non small cell lung cancer (NSCLC) receiving external beam radiotherapy to the thorax in whom there is documentation of DVH constraints that are incorporated into the treatment planning process.
Denominator: Patients with non-metastatic non small cell lung cancer (NSCLC) receiving external beam radiotherapy to the thorax.
Denominator exclusions: None
Rationale for the measure: There is increasing evidence that dose-volume relationships are associated with the risk of complications (1-2).
The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: It is necessary to evaluate the dose volume histogram (DVH) for the lungs.....to minimize normal tissue toxicity (3).
QRRO Survey Form Questions: E1 – 1, 2; I1 – 73, 101, 111, 112, 116, 135

References

1. Graham MV etal Clinical dose volume histogram analysis for pneumonitis after 3D treatment for non-small cell lung cancer. Int J. Radiat Biol Phys 1999; 45(2):323-329
2. Hernando ML etal. Radiation-induced pulmonary toxicity: a DVH analysis in 201 patients with lung cancer. Int. J. Radiat. Biol. Phys 2001; 51(3):650-659.
3. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology: Non small cell lung cancer. Version 1.2008. Available at: www.nccn.org/professionals/physician_gls/default.asp.

2007 QRRO Clinical Performance Measures (CPM)

Radiation Oncology – Small cell lung cancer

Emerging Measure #S_EM2B: Dose volume histogram (DVH) evaluation recording dose to the planning target volume (PTV), lung, and/or spinal cord

Type of Measure: This measure is appropriately used as a quality improvement measure.

Clinical Performance Measure
Quantifiable Measure: Percentage of patients with non-metastatic small cell lung cancer (SCLC) receiving external beam radiotherapy to the thorax in whom there is documentation of DVH constraints that are incorporated into the treatment planning process.
Numerator: Patients with non-metastatic small cell lung cancer (SCLC) receiving external beam radiotherapy to the thorax in whom there is documentation of DVH constraints that are incorporated into the treatment planning process.
Denominator: Patients with non-metastatic small cell lung cancer (SCLC) receiving external beam radiotherapy to the thorax.
Denominator exclusions: None
Rationale for the measure: There is increasing evidence that dose-volume relationships are associated with the risk of complications (1-2).
The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: Guidelines pending.
QRRO Survey Form Questions: E1 – 1; I1 – 73, 101, 111, 112, 116, 135

References

1. Kim TH et al. Dose volumetric parameters for predicting severe radiation pneumonitis after 3D conformal radiation therapy for lung cancer. *Radiology* 2005; 235(1):208-215.
2. Hernando ML et al. Radiation-induced pulmonary toxicity: a DVH analysis in 201 patients with lung cancer. *Int. J. Radiat. Biol. Phys* 2001; 51(3):650-659.

2007 QRRO Clinical Performance Measures (CPM)

Radiation Oncology – Non small cell lung cancer

Emerging Measure #N_EM3A: Staging workup for stage III NSCLC includes: (1) brain imaging with either brain MRI or brain CT scan AND (2) imaging with PET or bone scan

Type of Measure: This measure is appropriately used as a quality improvement measure.

Clinical Performance Measure
<p>Quantifiable Measure: Percentage of patients with stage III non small cell lung cancer (NSCLC) receiving combined modality therapy (chemotherapy and external beam radiotherapy to the thorax) in whom there is documentation of staging workup including (1) brain imaging with either brain MRI or brain CT scan AND (2) imaging with PET or bone scan. (Note: The chemotherapy can be administered either sequentially or concurrently with the thoracic radiation therapy).</p>
<p>Numerator: Patients with stage III non small cell lung cancer (NSCLC) receiving combined modality therapy (chemotherapy and external beam radiotherapy to the thorax) in whom there is documentation of staging workup including (1) brain imaging with either brain MRI or brain CT scan AND (2) imaging with PET or bone scan.</p>
<p>Denominator: Patients with stage III non small cell lung cancer (NSCLC) receiving combined modality therapy (chemotherapy and external beam radiotherapy to the thorax).</p>
<p>Denominator exclusions: Patients receiving external beam radiotherapy alone (i.e., not combined modality therapy which also involves chemotherapy).</p>
<p>Rationale for the measure: PET scanning provides more accurate staging (than CT scan alone) in patients with NSCLC. As the role of PET scan continues to evolve, a bone scan will be acceptable to exclude bone metastases if a PET scan is not obtained. Brain imaging is recommended for patients with stage III NSCLC to rule out more advanced disease if combined modality therapy is being considered.</p>
<p>The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: “The NCCN panel now believes that PET scan can play a role in the evaluation and more accurate staging of NSCLC, e.g., in identifying...stage III...disease.....Brain MRI is recommended for patients with....stage III...disease...to rule out more advanced disease if....combined modality therapy is being considered”.</p>
<p>QRRO Survey Form Questions: E1 – 1, 2; I1 – 24, 25, 26, 27, 41, 42, 45, 73, 180</p>

References

1. Pieterman RM et al. Preoperative staging of NSCLC with PET. NEJM 2000; 343(4): 254-261.
2. Mayr NA et al. Cost-effectiveness of high-contrast MR screening of asymptomatic brain metastasis. AJNR 1995; 16(1):215-217.
3. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology: Non small cell lung cancer. Version 1.2008. Available at: www.nccn.org/professionals/physician_gls/default.asp.

2007 QRRO Clinical Performance Measures (CPM)

Radiation Oncology – Small cell lung cancer

Emerging Measure #S_EM3B: Staging workup for limited stage (LS)-SCLC includes: (1) brain imaging with either brain MRI or brain CT scan AND (2) imaging with bone scan or PET scan.

Type of Measure: This measure is appropriately used as a quality improvement measure.

Clinical Performance Measure
Quantifiable Measure: Percentage of patients with LS-small cell lung cancer (LS-SCLC) receiving external beam radiotherapy to the thorax in whom there is documentation of staging workup including (1) brain imaging with either brain MRI or brain CT scan AND (2) imaging with bone scan or PET scan.
Numerator: Patients with LS-small cell lung cancer (SCLC) receiving external beam radiotherapy to the thorax in whom there is documentation of staging workup including (1) brain imaging with either brain MRI or brain CT scan AND (2) imaging bone scan or PET scan.
Denominator: Patients with LS-small cell lung cancer (SCLC) receiving external beam radiotherapy to the thorax.
Denominator exclusions: None
Rationale for the measure: Full staging of small cell lung cancer includes a MRI scan (preferred) or CT scan of the head, and a bone scan (optional if PET scan is obtained).
The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: “Full staging.....includes a MRI scan (preferred) or CT scan of the head; and a bone scan (optional if PET scan is obtained).”
QRRO Survey Form Questions: E1 – 1; I1 – 24, 25, 26, 27, 73

References

1. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology: Small cell lung cancer. Version 1.2008. Available at: www.nccn.org/professionals/physician_gls/default.asp.