

Lung Project Data Elements	
DEMOGRAPHICS	
Data Elements	Options
<ol style="list-style-type: none"> <li>1. Provider</li> <li>2. Date of initial Radiation/Oncology consult</li> <li>3. Date of Birth</li> <li>4. Gender</li> <li>5. Race</li>   <li>6. Medical Insurance <i>(Check all that apply)</i></li> </ol>	<ul style="list-style-type: none"> <li>• First/Last</li> <li>• mm/dd/yyyy</li>   <li>• mm/yyyy</li> <li>• Male/Female</li> <li>• American Indian/Alaska Native</li> <li>• Asian</li> <li>• Native Hawaiian or Other Pacific Islander</li> <li>• Black or African American</li> <li>• White</li> <li>• Arab/Middle Eastern</li> <li>• Unknown or not reported</li> <li>• Other (free text)</li> <li>• No insurance/self-pay</li> <li>• Medicare(all)</li> <li>• Medicare Advantage-BCN</li> <li>• Medicare Advantage- BCBSM</li> <li>• Medicaid-Straight</li> <li>• Medicaid -HMO</li> <li>• Other Payer (government)</li> <li>• Other Payer (Michigan and outstate)</li> <li>• BCBSM-Michigan</li> <li>• BCN- Michigan</li> <li>• Commercial-HMO</li> </ul>
<ol style="list-style-type: none"> <li>7. Current Marital Status</li>   <li>8. Cancer Type</li> </ol>	<ul style="list-style-type: none"> <li>• Married/ Domestic Partner</li> <li>• Divorced</li> <li>• Never Married</li> <li>• Separated</li> <li>• Widowed</li> <li>• Living with someone</li> <li>• Single</li> <li>• Breast Cancer</li> <li>• Lung Cancer</li> </ul>

## LUNG PROJECT

### L1: Patient: Pre-Treatment Lung Cancer Questionnaire

*Time points: Pre RT Evaluation*

Data Elements	Options
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I have lack of energy	<div data-bbox="820 1104 1219 1423" style="border: 1px solid black; padding: 10px;"> <ul style="list-style-type: none"> <li>• Not at all</li> <li>• A little bit</li> <li>• Somewhat</li> <li>• Quite a bit</li> <li>• Very much</li> </ul> </div>
I have nausea	
Because of my physical condition, I have trouble meeting the needs of my family	
I have pain	
I am bothered by side effects of treatment	
I feel ill	
I am forced to spend time in bed	
I am able to work	
My work (include work at home) is fulfilling	
I am able to enjoy life	
I have accepted my illness	
I am sleeping well	
I am enjoying the things I usually do for fun	
I am content with the quality of my life right now	
I have been short of breath	
I am losing weight	
My thinking is clear	
I have been coughing	

**MROQC Lung Data Elements Guide**

I am bothered by hair loss	
I have a good appetite	
I feel tightness in my chest	
Breathing is easy for me	
Have you ever smoked	No_____ Yes_____
If Yes: I regret my smoking	Not at all    A little bit    Somewhat    Quite a bit    Very Much
<p>Are you currently vaping?</p> <p>a) If yes, please select how often you change cartridges</p> <p>b) Do you fill your own cartridge's or purchase prepackaged cartridges?</p> <p>c) Do you use flavored cartridges?</p> <p>d) Do you use any of the following while vaping?</p>	<ul style="list-style-type: none"> <li>• YES/NO</li> <li>• Cartridge refill lasts 2 days or longer</li> <li>• 1 Cartridge refill per day</li> <li>• 2 or more cartridge refills per day</li> <li>• Fill own cartridges</li> <li>• Purchase prepackaged cartridges</li> <li>• YES/NO</li> <li>• Marijuana</li> <li>• Tobacco</li> <li>• THC oil</li> <li>• CBD with vaping</li> </ul>

**MROQC Lung Data Elements Guide**

<p>Have you ever, even once, used Cannabis?</p>	<ul style="list-style-type: none"> <li>• Prefer not to answer – Proceed to question 28</li> <li>• No – Proceed to question 28</li> <li>• Yes</li> </ul>
<p>Think specifically about the past 30 days up to and including today. What is your best estimate of the number of days you used Cannabis during the past 30 days?</p>	<ul style="list-style-type: none"> <li>• 0 days</li> <li>• 1 or 2 days</li> <li>• 3 to 5 days</li> <li>• 6 to 9 days</li> <li>• 10 to 19 days</li> <li>• 20 to 29 days</li> <li>• All 30 days</li> </ul>
<p>During the past 30 days, which one of the following ways did you use cannabis most often? Did you usually:</p>	<ul style="list-style-type: none"> <li>• Smoke it (for example, in a joint, bong, pipe, or blunt)</li> <li>• Eat it (for example, in brownies, cakes, cookies, or candy)</li> <li>• Drink it (for example, in tea, cola, or alcohol)</li> <li>• Vaporize it (for example, in an e-cigarette-like vaporizer or another vaporizing device)</li> <li>• Dab it (for example, using waxes or concentrates)</li> <li>• Apply to skin (for example, using lotions or oils)</li> <li>• Administer rectally (for example, using suppositories).</li> <li>• Use it some other way (please specify: _____)</li> </ul>
<p>What is the major active ingredient in the cannabis product that you use the most? (This information can often be found on the package label.)</p>	<ul style="list-style-type: none"> <li>• No problems with swallowing this week</li> <li>• Mild soreness only</li> <li>• Can swallow solids with some difficulty</li> <li>• Cannot swallow solids</li> <li>• Cannot swallow liquids</li> </ul>
<p>Please select the one response that best describes your swallowing ability over the course of the past week:</p>	<ul style="list-style-type: none"> <li>• No problems with swallowing this week</li> <li>• Mild soreness only</li> <li>• Can swallow solids with some difficulty</li> <li>• Cannot swallow solids</li> <li>• Cannot swallow liquids</li> </ul>
<p>Which best describes your race/ethnicity (<i>mark all that apply</i>)?</p>	<ul style="list-style-type: none"> <li>• American Indian/Alaska Native</li> <li>• Arab/Middle Eastern</li> <li>• Asian</li> <li>• Black or African American</li> <li>• Native Hawaiian or Pacific Islander</li> <li>• White</li> <li>• Other. Specify: _____</li> </ul>

**MROQC Lung Data Elements Guide**

Are you of Hispanic/Latino origin?	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul>
What is the highest level of education you have completed?	<ul style="list-style-type: none"> <li>• Grade School or less</li> <li>• Some High School</li> <li>• High School Graduate or GED</li> <li>• Some College or Technical School</li> <li>• Associate's Degree</li> <li>• College Graduate (Bachelor's Degree)</li> <li>• Graduate Degree</li> </ul>
<b>For the following additional symptoms or problems, please circle or mark the number that best applies to you during the past week.</b>	
How much did you cough?	<div style="border: 1px solid black; padding: 10px;"> <ul style="list-style-type: none"> <li>• Not at all</li> <li>• A little bit</li> <li>• Quite a bit</li> <li>• Very much</li> </ul> </div>
Did you cough up blood?	
Were you short of breath when you rested?	
Were you short of breath when you walked?	
Were you short of breath when you climbed stairs?	
Did you take any medicine for pain?	No_____ Yes_____
If yes, how much did it help?	Not at all      A little bit      Quite a bit      Very much
What is your height?	_____ft _____in
What is your current weight?	_____ pounds.
<b>L2: Patient: Weekly Lung Cancer Swallowing Assessment</b>	
<i>Time points: Weekly On-Treatment Visits</i>	
<b>Data Elements</b>	<b>Options</b>
Please select the one response that best describes your swallowing ability over the course of the past week:	<ul style="list-style-type: none"> <li>• No problems with swallowing this week</li> <li>• Mild soreness only</li> <li>• Can swallow solids with some difficulty</li> <li>• Cannot swallow solids</li> <li>• Cannot swallow liquids</li> </ul>

<b>L3: Patient Lung End of Treatment and Follow-up</b>	
<i>Time points: Last week of treatment &amp; Follow-up visits 1-3-6 months</i>	
<b>Data Elements</b>	<b>Options</b>
I have lack of energy	<ul style="list-style-type: none"> <li>● Not at all</li> <li>● A little bit</li> <li>● Somewhat</li> <li>● Quite a bit</li> <li>● Very much</li> </ul>
I have nausea	
Because of my physical condition, I have trouble meeting the needs of my family	
I have pain	
I am bothered by side effects of treatment	
I feel ill	
I am forced to spend time in bed	
I am able to work	
My work (include work at home) is fulfilling	
I am able to enjoy life	
I have accepted my illness	
I am sleeping well	
I am enjoying the things I usually do for fun	
I am content with the quality of my life right now	
I have been short of breath	<ul style="list-style-type: none"> <li>● Not at all</li> <li>● A little bit</li> <li>● Somewhat</li> <li>● Quite a bit</li> <li>● Very much</li> </ul>
I am losing weight	
My thinking is clear	
I have been coughing	
I am bothered by hair loss	
I have a good appetite	
I feel tightness in my chest	

**MROQC Lung Data Elements Guide**

Breathing is easy for me	
Have you ever smoked	No_____ Yes_____
If Yes: I regret my smoking	Not at all    A little bit    Somewhat    Quite a bit    Very Much
<p>Are you currently vaping?</p> <p>a) If yes, please select how often you change cartridges</p> <p>b) Do you fill your own cartridge's or purchase prepackaged cartridges?</p> <p>c) Do you use flavored cartridges?</p> <p>d) Do you use any of the following while vaping?</p>	<ul style="list-style-type: none"> <li>• YES/NO</li>   <li>• Cartridge refill lasts 2 days or longer</li> <li>• 1 Cartridge refill per day</li> <li>• 2 or more cartridge refills per day</li>   <li>• Fill own cartridges</li> <li>• Purchase prepackaged cartridges</li>   <li>• YES/NO</li>   <li>• Marijuana</li> <li>• Tobacco</li> <li>• THC oil</li> <li>• CBD with vaping</li> </ul>
Have any of your radiation oncology providers ever asked if you use cannabis? If the only mention of cannabis that you recall is from a survey form, then the answer is "No".	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul>
Have you been satisfied with your radiation oncology providers' ability to answer questions about cannabis?	<ul style="list-style-type: none"> <li>• I have not asked any questions about cannabis</li> <li>• No</li> <li>• Yes</li> </ul>
Have you used cannabis, even once, since the first treatment in your course of radiation?	<ul style="list-style-type: none"> <li>• Prefer not to answer</li> <li>• No</li> <li>• Yes</li> </ul>

**MROQC Lung Data Elements Guide**

<p>If you use cannabis, please tell us the reason(s) why</p>	<ul style="list-style-type: none"> <li>• Free text</li> </ul>
<p>Please select the one response that best describes your swallowing ability over the course of the past week (Select only one)</p>	<ul style="list-style-type: none"> <li>• No problems with swallowing this week</li> <li>• Mild soreness only</li> <li>• Can swallow solids with some difficulty</li> <li>• Cannot swallow solids</li> <li>• Cannot swallow liquids</li> </ul>
<p><b>For the following additional symptoms or problems, please circle or mark the number that best applies to you during the past week.</b></p>	
<p>How much did you cough?</p>	<div style="border: 1px solid black; padding: 10px;"> <ul style="list-style-type: none"> <li>• Not at all</li> <li>• A little bit</li> <li>• Quite a bit</li> <li>• Very much</li> </ul> </div>
<p>Did you cough up blood?</p>	
<p>Were you short of breath when you rested?</p>	
<p>Were you short of breath when you walked?</p>	
<p>Were you short of breath when you climbed stairs?</p>	
<p>Did you take any medicine for pain?</p>	<p style="text-align: center;">No _____ Yes _____</p>
<p>If yes, how much did it help?</p>	<p>Not at all      A little bit      Quite a bit      Very much</p>



L4 CDA: Lung Cancer Baseline Clinical Data	
<i>Time points: Pre RT Evaluation</i>	
Data Elements	Options
Weight (specify lbs. or kg):	_____ lb/kg.
BMI _____ or Height (specify inches or cm):	_____ BMI and _____ inches/cm.
Tumor Stage:	T_____ N_____ M_____
Histology:	<ul style="list-style-type: none"> <li>• NSCLC – Squamous cell carcinoma</li> <li>• NSCLC -- Adenocarcinoma</li> <li>• SCLC –               <ul style="list-style-type: none"> <li>○ limited</li> <li>○ extensive</li> <li>○ Other (specify):</li> </ul> </li> <li>• No biopsy</li> </ul>
Tumor location: <i>(Check all that apply)</i>	<ul style="list-style-type: none"> <li>• Right upper lobe</li> <li>• Right middle lobe</li> <li>• Right lower lobe</li> <li>• Left upper lobe</li> <li>• Left lower lobe</li> <li>• Superior sulcus</li> </ul>
Surgical resection prior to radiation?	<ul style="list-style-type: none"> <li>• YES/NO</li> <li>• Date: _____</li> </ul>
Margin status	<ul style="list-style-type: none"> <li>• Positive</li> <li>• Negative</li> <li>• N/A</li> </ul>

### MROQC Lung Data Elements Guide

<p>Has there ever been any previous lung surgery?</p>	<ul style="list-style-type: none"> <li>• YES/ NO Date: _____</li> <li>• Lobectomy</li> <li>• Pneumonectomy</li> <li>• Wedge resection</li> <li>• Other (specify): _____</li> </ul>
<p>Was Is the patient on O2 prior to radiation?  When is O2 used?</p>	<ul style="list-style-type: none"> <li>• NO/YES</li> <li>• How many liters? _____</li> <li>• Always</li> <li>• Daytime</li> <li>• Nighttime</li> <li>• When short of breath</li> </ul>
<p>Pulmonary function prior to RT:</p>	<ul style="list-style-type: none"> <li>• PFT not done _____</li> <li>• FEV1 _____ Liters, _____% predicted</li> <li>• DLCO not done _____</li> <li>• DLCO _____%/mm, _____% predicted</li> </ul>
<p>Current smoker?</p>	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> <li>• Unknown</li> </ul>
<p>Former smoker? (quit at least one month prior to diagnosis)</p>	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> <li>• Unknown</li> </ul>

**MROQC Lung Data Elements Guide**

<p>Was this patient counseled by a doctor or other healthcare worker about quitting cigarettes? (applies to current smokers only)</p>	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>				
<p><b>Comorbidities:</b></p>					
<p><b>Does the patient have:</b></p>	<p><b>YES</b></p>	<p><b>NO</b></p>	<p><b>Does the patient have:</b></p>	<p><b>YES</b></p>	<p><b>NO</b></p>
<p>Hypertension?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Hemiplegia?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Diabetes mellitus?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Leukemia?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Scleroderma?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Malignant lymphoma?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Rheumatoid arthritis?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Myocardial infarction?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Lupus?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Peripheral vascular disease?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Cerebrovascular disease?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Ulcer disease?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Chronic pulmonary disease?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Liver disease?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Congestive heart failure?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Renal disease?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Connective tissue disease?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Malignant solid tumor (other than lung)?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Confusion?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Arrhythmia?</p>	<input type="checkbox"/>	<input type="checkbox"/>

L5 CDA: Lung Systemic Therapy Data	
<i>Time points: Last Week of RT</i>	
Data Elements	Options
Did the patient receive systemic therapy?	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>
<b>If yes, check all that apply:</b>	
Before radiation therapy <ul style="list-style-type: none"> <li>❖ Prior to Surgery</li> </ul>	Agents (check all that apply): <ul style="list-style-type: none"> <li>• Cisplatin/Platinol-AQ/Platinol</li> <li>• Etoposide/Eposin/VePesid/VP-16</li> <li>• Paclitaxel/Taxol/TAX</li> <li>• Carboplatin/Paraplatin/Paraplatin-AQ</li> <li>• Pemetrexed/Alimta</li> <li>• Docetaxel/Taxotere/TXT</li> <li>• Gemcitabine/Gemzar</li> <li>• Vinorelbine/Navelbine</li> <li>• Other (specify) _____</li> </ul>
During radiation therapy <ul style="list-style-type: none"> <li>❖ Prior to Surgery</li> <li>❖ After surgery</li> <li>❖ Without planned surgery</li> </ul>	Agents (check all that apply): <ul style="list-style-type: none"> <li>• Cisplatin/Platinol-AQ/Platinol</li> <li>• Etoposide/Eposin/VePesid/VP-16</li> <li>• Paclitaxel/Taxol/TAX</li> <li>• Carboplatin/Paraplatin/Paraplatin-AQ</li> <li>• Pemetrexed/Alimta</li> <li>• Docetaxel/Taxotere/TXT</li> <li>• Gemcitabine/Gemzar</li> <li>• Vinorelbine/Navelbine</li> <li>• Other (specify) _____</li> </ul>
Immunotherapy before radiation therapy <ul style="list-style-type: none"> <li>❖ Prior to Surgery</li> </ul>	Agents (check all that apply): <p>Atezolizumab</p> <p>Durvalumab</p> <p>Nivolumab</p> <p>Pembrolizumab</p> <p>Other (specify) _____</p>

### MROQC Lung Data Elements Guide

Immunotherapy during radiation therapy  ❖ Prior to Surgery ❖ After surgery ❖ Without planned surgery	Agents (check all that apply): <ul style="list-style-type: none"> <li>• Atezolizumab</li> <li>• Durvalumab</li> <li>• Nivolumab</li> <li>• Pembrolizumab</li> <li>• Other (specify) _____</li> </ul>
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### L6 Physician: Lung Baseline-1st Week

*Time points: 1st Week of RT*

Data Elements	Options
What was the date of the first fraction?	_____(mm/dd/yyyy) completed by the CDA

#### Baseline Toxicity Scoring (CTCAE v 4.0) Please circle **one** number in each row.

Adverse Event	0	1	2	3	4	5
<b>Gastrointestinal disorders</b>						
Esophagitis	none	Asymptomatic; clinical or diagnostic observations only; intervention not indicated	Symptomatic; altered eating/swallowing; oral supplements indicated	Severely altered eating/swallowing; tube feeding, TPN or hospitalization indicated	Life-threatening consequences; urgent intervention indicated	Death
Esophageal Pain	none	Mild pain	Moderate pain; limiting instrumental ADL	Severe pain; limiting self-care ADL		
<b>General disorders</b>						
Fatigue	none	Fatigue relieved by rest	Fatigue not relieved by rest; limiting instrumental ADL	Fatigue not relieved by rest, limiting self-care ADL		
<b>Respiratory, thoracic and mediastinal disorders</b>						
Cough	none	Mild symptoms; nonprescription intervention indicated	Moderate symptoms, medical intervention indicated; limiting instrumental ADL	Severe symptoms; limiting self-care ADL		
Dyspnea	none	Shortness of breath with moderate exertion	Shortness of breath with minimal exertion; limiting instrumental ADL	Shortness of breath at rest; limiting self-care ADL	Life-threatening consequences; urgent intervention indicated	Death
Pleuritic pain	none	Mild pain	Moderate pain; limiting instrumental ADL	Severe pain; limiting self-care ADL		
Pneumonitis	none	Asymptomatic; clinical or diagnostic observations only; intervention not indicated	Symptomatic; medical intervention indicated; limiting instrumental ADL	Severe symptoms; limiting self-care ADL; oxygen indicated	Life-threatening respiratory compromise; urgent intervention indicated (e.g., tracheotomy or intubation)	Death

**ECOG Performance Status<sup>2</sup>**

### MROQC Lung Data Elements Guide

	Fully active	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours	Capable of only limited self-care, confined to bed or chair more than 50% of waking hours	Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair	Dead
What % weight loss did the patient experience over the 6 months prior to the initiation of lung cancer treatment: <i>(Enter "0" if patient's weight remained static, or if patient gained weight.)</i>	_____ %					
Is this patient enrolled on any lung cancer treatment clinical trial, study, or protocol (do not include MROQC)?	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>					
Does this study (these studies) influence your radiation dose / treatment plan for this patient	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> <li>• Not applicable/not on study</li> </ul>					
Does this study (these studies) influence your choice or sequencing of systemic therapy (immunotherapy and/or chemotherapy)?	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> <li>• Not applicable/not on study</li> </ul>					
Is this a hypofractionated course of treatment ( $\leq 20$ fractions inclusive of SBRT)?	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>					
<i>If yes, answer questions:</i> Was this a pathologically confirmed cancer or clinical diagnosis?	<ul style="list-style-type: none"> <li>• pathologic</li> <li>• clinical diagnosis</li> </ul>					
Was nodal staging performed?	<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>					



### MROQC Lung Data Elements Guide

	Fully active	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours	Capable of only limited self-care, confined to bed or chair more than 50% of waking hours	Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair	Dead
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### L8 Physician: Lung Cancer Clinical Outcomes Assessment

*Time points: Last week of RT*

Data Elements	Options
What was the date of the last fraction?	_____ (mm/dd/yyyy) completed by the CDA
Weight	_____ (specify lbs. or kg)
Did any break in treatment occur?  If Yes, was it due to toxicity?  Was the toxicity-related treatment break >5 days?	<ul style="list-style-type: none"> <li>• YES/ NO</li> <li>• YES/NO</li> <li>• YES/NO</li> </ul>
Rate current esophageal pain on a scale of 0-10:	_____ (0-10)



### MROQC Lung Data Elements Guide

<p>Please select what you have recommended to the patient in the past month to manage esophagitis:</p>	<ul style="list-style-type: none"> <li>None</li> <li>Non-narcotic prescription medications (e.g. Magic mouthwash, Miles mixture, xylocaine)</li> <li>Narcotic prescription medications (e.g. Vicodin, Percocet, morphine, oxycodone, fentanyl)</li> <li>Other intervention (specify): _____</li> </ul>
<p>Has the patient been admitted for a cardiac event?</p> <p>a) If YES, date of admission: _____ (date)</p> <p>b) Select the cardiac event related to admission</p>	<ul style="list-style-type: none"> <li>YES/NO</li> </ul> <ul style="list-style-type: none"> <li>Arrhythmia</li> <li>Congestive Heart failure</li> <li>Pericardial Effusion</li> <li>Myocardial Infarction</li> </ul>

**Toxicity Scoring (CTCAE v 4.0).** Please circle **one** number in each row.

Adverse Event	0	1	2	3	4	5
<b>Gastrointestinal disorders</b>						
Esophagitis	none	Asymptomatic; clinical or diagnostic observations only; intervention not indicated	Symptomatic; altered eating/swallowing; oral supplements indicated	Severely altered eating/swallowing; tube feeding, TPN or hospitalization indicated	Life-threatening consequences; urgent intervention indicated	Death
Esophageal Pain	none	Mild pain	Moderate pain; limiting instrumental ADL	Severe pain; limiting self-care ADL		
<b>General Disorders</b>						
Fatigue	none	Fatigue relieved by rest	Fatigue not relieved by rest; limiting instrumental ADL	Fatigue not relieved by rest, limiting self-care ADL		
<b>Respiratory, thoracic and mediastinal disorders</b>						
Cough	none	Mild symptoms; nonprescription intervention indicated	Moderate symptoms, medical intervention indicated; limiting instrumental ADL	Severe symptoms; limiting self-care ADL		
Dyspnea	none	Shortness of breath with moderate exertion	Shortness of breath with minimal exertion; limiting instrumental ADL	Shortness of breath at rest; limiting self-care ADL	Life-threatening consequences; urgent intervention indicated	Death

### MROQC Lung Data Elements Guide

Pleuritic pain	none	Mild pain	Moderate pain; limiting instrumental ADL	Severe pain; limiting self-care ADL		
Pneumonitis	none	Asymptomatic; clinical or diagnostic observations only; intervention not indicated	Symptomatic; medical intervention indicated; limiting instrumental ADL	Severe symptoms; limiting self-care ADL; oxygen indicated	Life-threatening respiratory compromise; urgent intervention indicated (e.g., tracheotomy or intubation)	Death
<b>ECOG Performance Status*</b>						
	Fully active	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours	Capable of only limited self-care, confined to bed or chair more than 50% of waking hours	Completely disabled. Cannot carry on self-care. Totally confined to bed or chair	Dead

### L9 Physician: Lung Clinical Outcomes Follow up

*Time points: Follow-up visits 1-3-6 months*

Data Elements	Options
Weight	_____ (specify lbs. or kg)
Rate current esophageal pain on a scale of 0-10:	_____ (0-10)
Please select what you have recommended to the patient in the past month to manage esophagitis:	<ul style="list-style-type: none"> <li>• None</li> <li>• Non-narcotic prescription medications (e.g. Magic mouthwash, Miles mixture, xylocaine)</li> <li>• Narcotic prescription medications (e.g. Vicodin, Percocet, morphine, oxycodone, fentanyl)</li> <li>• Other intervention (specify): _____</li> </ul>

### MROQC Lung Data Elements Guide

<p>Was surgical resection of the primary tumor performed after radiotherapy?</p> <p>a) If YES, date performed: _____(date)</p> <p>b) If YES, what was the surgical margin status?</p>	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul> <ul style="list-style-type: none"> <li>• Positive</li> <li>• Negative</li> </ul>
<p>Disease status: <i>(check one)</i></p>	<ul style="list-style-type: none"> <li>• No evidence of disease</li> <li>• No evidence of progression of disease</li> <li>• Local/Regional progression</li> <li>• Distant progression</li> <li>• Both (Local &amp; Distant progression)</li> </ul>
<p>Has the patient been admitted for a cardiac event?</p> <p>a) If YES, date of admission: _____ (date)</p> <p>b) Select the cardiac event related to admission</p>	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul> <ul style="list-style-type: none"> <li>• Arrhythmia</li> <li>• Congestive Heart failure</li> <li>• Pericardial Effusion</li> <li>• Myocardial Infarction</li> </ul>

**Toxicity Scoring (CTCAE v 4.0).** Please circle **one** number in each row.

Adverse Event	0	1	2	3	4	5
<b>Gastrointestinal disorders</b>						
Esophagitis	none	Asymptomatic; clinical or diagnostic observations only;	Symptomatic; altered eating/swallowing; oral supplements indicated	Severely altered eating/swallowing; tube feeding, TPN or	Life-threatening consequences; urgent intervention indicated	Death

### MROQC Lung Data Elements Guide

		intervention not indicated		hospitalization indicated		
Esophageal Pain	none	Mild pain	Moderate pain; limiting instrumental ADL	Severe pain; limiting self-care ADL		
<b>General Disorders</b>						
Fatigue	none	Fatigue relieved by rest	Fatigue not relieved by rest; limiting instrumental ADL	Fatigue not relieved by rest, limiting self-care ADL		
<b>Respiratory, thoracic and mediastinal disorders</b>						
Cough	none	Mild symptoms; nonprescription intervention indicated	Moderate symptoms, medical intervention indicated; limiting instrumental ADL	Severe symptoms; limiting self-care ADL		
Dyspnea	none	Shortness of breath with moderate exertion	Shortness of breath with minimal exertion; limiting instrumental ADL	Shortness of breath at rest; limiting self-care ADL	Life-threatening consequences; urgent intervention indicated	Death
Pleuritic pain	none	Mild pain	Moderate pain; limiting instrumental ADL	Severe pain; limiting self-care ADL		
Pneumonitis	none	Asymptomatic; clinical or diagnostic observations only; intervention not indicated	Symptomatic; medical intervention indicated; limiting instrumental ADL	Severe symptoms; limiting self-care ADL; oxygen indicated	Life-threatening respiratory compromise; urgent intervention indicated (e.g., tracheotomy or intubation)	Death
<b>ECOG Performance Status*</b>						
	Fully active	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light housework, office work	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours	Capable of only limited self-care, confined to bed or chair more than 50% of waking hours	Completely disabled. Cannot carry on self-care. Totally confined to bed or chair	Death
<b>L10 Physician: Lung Clinical Outcomes Follow up</b>						
<i>Time points: Follow-up visits 1-3-6 months</i>						
<b>Data Elements</b>			<b>Options</b>			
Did the patient receive systemic <u>therapy</u> after <u>receiving radiation therapy</u> ?			<ul style="list-style-type: none"> <li>• YES</li> <li>• NO</li> </ul>			
<b>If yes, check all that apply:</b>						

**MROQC Lung Data Elements Guide**

<p>Chemotherapy</p>	<p>Agents (check all that apply):</p> <ul style="list-style-type: none"> <li>• Cisplatin/Platinol-AQ/Platinol</li> <li>• Etoposide/Eposin/VePesid/VP-16</li> <li>• Paclitaxel/Taxol/TAX</li> <li>• Carboplatin/Paraplatin/Paraplatin-AQ</li> <li>• Pemetrexed/Alimta</li> <li>• Docetaxel/Taxotere/TXT</li> <li>• Gemcitabine/Gemzar</li> <li>• Vinorelbine/Navelbine</li> <li>• Other (specify) _____</li> </ul>
<p>Immunotherapy</p>	<p>Agents (check all that apply):</p> <ul style="list-style-type: none"> <li>• Atezolizumab</li> <li>• Durvalumab</li> <li>• Nivolumab</li> <li>• Pembrolizumab</li> <li>• Other (specify) _____</li> </ul>

**L11 Lung: Annual Clinical Outcomes**

*Time points: Annually*

Data Elements	Options
<p>Since the end of treatment, has the patient been admitted for a cardiac event?</p> <p>If YES, date of admission 1</p> <p>Select the cardiac event related to admission 1:</p>	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul> <p>_____ (date)</p> <ul style="list-style-type: none"> <li>• Arrhythmia</li> <li>• Congestive Heart failure</li> <li>• Pericardial Effusion</li> <li>• Myocardial Infarction</li> <li>• None of the above</li> </ul>

**MROQC Lung Data Elements Guide**

<p>Since the end of treatment, has the patient been admitted for a cardiac event?</p> <p>If YES, date of admission 2</p> <p>Select the cardiac event related to admission 2:</p>	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul> <p>_____ (date)</p> <ul style="list-style-type: none"> <li>• Arrhythmia</li> <li>• Congestive Heart failure</li> <li>• Pericardial Effusion</li> <li>• Myocardial Infarction</li> <li>• None of the above</li> </ul>
<p>Since the end of treatment, has the patient been admitted for a lung event?</p> <p>If YES, date of admission 1</p> <p>Select the lung event related to admission 1</p>	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul> <p>_____ (date)</p> <ul style="list-style-type: none"> <li>• Chronic obstructive pulmonary disease-exacerbation</li> <li>• Pneumonia</li> <li>• Pneumonitis</li> <li>• None of the above</li> </ul>

**MROQC Lung Data Elements Guide**

<p>Since the end of treatment, has the patient been admitted for a lung event?</p> <p>If YES, date of admission 2 _____(date)</p> <p>Select the lung event related to admission 2</p>	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul> <ul style="list-style-type: none"> <li>• Chronic obstructive pulmonary disease-exacerbation</li> <li>• Pneumonia</li> <li>• Pneumonitis</li> <li>• None of the above</li> </ul>
<p>Disease status: <i>(check one)</i></p>	<ul style="list-style-type: none"> <li>• No evidence of disease</li> <li>• No evidence of progression of disease</li> <li>• Local/Regional progression</li> <li>• Distant progression</li> <li>• Both (Local &amp; Distant progression)</li> </ul>
<p>Has the patient received any thoracic RT after their initial treatment?</p>	<ul style="list-style-type: none"> <li>• YES/NO</li> </ul>

**MROQC Lung Data Elements Guide**

<p>Has the patient tested positive for COVID-19?</p> <p>If YES, date of positive diagnosis:</p> <p>If YES, was the patient:</p>	<ul style="list-style-type: none"> <li>• YES/NO</li>   <li>• _____ (date)</li> <li>• Date not available</li>   <li>• Symptomatic</li> <li>• Asymptomatic</li> <li>• Not documented</li> </ul>
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**SE2 CDA: Early Termination of MROQC Patient Participation Form**

Data Elements	Options
<p>Date of Early Termination:</p>	<p>_____ If the patient died this would be the date of death otherwise it is the last eval. date the patient had</p>
<p>Reason patient is no longer being followed /participating in MROQC:</p>	<ul style="list-style-type: none"> <li>• Moved</li> <li>• To continue treatment elsewhere</li> <li>• Deceased</li> <li>• Hospice</li> <li>• Metastatic disease</li> <li>• Patient chose to stop treatment</li> <li>• Patient not returning to RT department for follow up</li> <li>• Medical issues (i.e. CVA, MI) prevent further participation</li> <li>• Lung only- annual documentation not available</li> </ul>



LUNG Radiotherapy Technical Details Form	
Data Elements	Options
<p><b>Simulation</b></p> <p>Which lung has the primary tumor?</p>	<ul style="list-style-type: none"> <li>• Right</li> <li>• Left</li> </ul>
<p>Was intravenous contrast used for the patient's treatment planning simulation?</p>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
<p>Select the primary method used to assess the motion of the tumor and organs-at-risk during simulation.</p>	<ul style="list-style-type: none"> <li>• DCT</li> <li>• Fluoroscopy</li> <li>• Slow CT</li> <li>• Motion not assessed</li> <li>• Scans at multiple breath hold states</li> <li>• Other. Please specify: _____</li> </ul>
<p><b>Targets</b></p> <p>Which modalities were used for target delineation? Only choose datasets which were registered and fused to the treatment planning scan. Check all that apply.</p>	<ul style="list-style-type: none"> <li>• CT</li> <li>• Diagnostic CT</li> <li>• PET</li> <li>• MRI</li> </ul>
<p>How was motion accounted for during the treatment of this patient?</p>	<ul style="list-style-type: none"> <li>• ITV approach: no motion control technique was applied, but the target volumes were designed to account for breathing motion (using 4DCT, scans at multiple breath hold states, slow CT, etc.)</li> <li>• Voluntary breath hold without a device</li> <li>• Breath hold with a device (ABC, SDX, etc.)</li> <li>• Gating of radiotherapy (RPM, AlignRT, etc.)</li> <li>• Abdominal compression</li> <li>• Motion was not taken into account while designing volumes or by a motion management technique</li> <li>• Other. Please specify: _____</li> </ul>

### MROQC Lung Data Elements Guide

<p>What was the reason for not considering motion in accordance with the MROQC target delineation guidelines?</p>	<ul style="list-style-type: none"> <li>• DCT is not available at treating institution</li> <li>• Use of slow CT was not feasible, due to time constraints or experience with technique</li> <li>• Other. Please specify: _____</li> </ul>
<p>Was patient specific reproducibility testing performed to ensure the breath hold position was reliable? [If " Voluntary breath hold without a device" or "Breath hold with a device (ABC, SDX, etc.)" or "Abdominal compression"]</p>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
<p>Was motion considered in the delineation of target volumes? [If "Other. Please specify:"]</p>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
<p>Was a motion encompassing GTV (IGTV) structure contoured?</p>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
<p>Select the name of the GTV structure:</p>	<ul style="list-style-type: none"> <li>• Drop-down menu: GTV, GTVp, IGTV, Other. Please specify: _____</li> </ul>
<p>Was a CTV or ICTV structure contoured?</p>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
<p>Enter the volume of the IGTV (GTV) in cc:</p>	<p>_____ cc</p>
<p>Enter the reason(s):</p>	<ul style="list-style-type: none"> <li>• Institutional practice</li> <li>• Physician preference</li> <li>• Ambiguity in imaging/could not define</li> <li>• Other. Please specify: _____</li> </ul>
<p>Was a motion encompassing CTV or ICTV structure defined/contoured?</p>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>

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Select the name of the CTV structure:	<ul style="list-style-type: none"> <li>• Drop-down menu: CTV, CTVp, CTV_High, ICTV, Other. Please specify: _____</li> </ul>
Enter the volume of the ICTV (CTV) in cc	_____ cc
What is the approximate margin between the IGTV (GTV)structure and ICTV (CTV) structure in cm?	_____ cm
Enter the reason(s):	<ul style="list-style-type: none"> <li>• Institutional practice</li> <li>• Physician preference</li> <li>• Ambiguity in imaging/could not define</li> <li>• Other. Please specify: _____</li> </ul>
Was a PTV structure defined?	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
Select the name of the PTV structure:	<ul style="list-style-type: none"> <li>➤ Drop-down menu: PTV, PTVp, PTV_High, Other. Please specify: _____</li> </ul>
Enter the volume of the PTV in cc	_____ cc
What is the approximate margin between the CTV structure (or GTV structure if CTV structure was not defined) and PTV structure in cm?	_____ cm
Enter the reason(s):	<ul style="list-style-type: none"> <li>➤ Institutional practice</li> <li>➤ Physician preference</li> <li>➤ Ambiguity in imaging/could not define</li> <li>➤ Other. Please specify: _____</li> </ul>

### MROQC Lung Data Elements Guide

<p><b>Treatment Planning</b></p> <p>Do any of these structures overlap with a 2 cm expansion of the PTV? Check all that apply.</p>	<ul style="list-style-type: none"> <li>• Spinal cord</li> <li>• Brachial plexus</li> <li>• Heart</li> <li>• Other structure of interest. Please specify: _____</li> <li>• Esophagus</li> <li>• No, the PTV is greater than 2 cm from all other structures</li> </ul>
<p>Select the number of plans treated</p>	<ul style="list-style-type: none"> <li>• drop-down menu: 1-10</li> </ul>
<p>For each plan, specify:</p> <ul style="list-style-type: none"> <li>➤ a. Planning type</li> <li>➤ b) Dose delivered with this plan (Gy</li> <li>➤ c) Number of fractions delivered with this plan</li> <li>➤ d. Was the patient treated BID?</li> <li>➤ e. Treatment region</li> </ul>	<ul style="list-style-type: none"> <li>• Forward planning</li> <li>• Inverse planning</li> <li>• between 1 and 90</li> <li>• between 1 and 40</li> <li>• Yes</li> <li>• No</li> <li>• Primary target</li> <li>• Primary target &amp; nodes</li> <li>• Nodes</li> </ul>

### MROQC Lung Data Elements Guide

<p>➤ Reason for plan</p> <p>➤ f) If not initial, what was the reason?</p> <p>➤ g. Was this plan considered SBRT?</p> <p>➤ h) Did this plan include a concomitant boost?</p> <p>➤ j) If no, enter planned dose:</p> <p>➤ k) If no, enter planned number of fractions:</p>	<ul style="list-style-type: none"> <li>• Initial</li> <li>• Planned Boost</li> <li>• Planned Adaptation</li> <li>• Unplanned Modification</li> </ul> <ul style="list-style-type: none"> <li>• Minimize dose to critical structures (e.g. off-cord or off brachial plexus boost)</li> <li>• Patient anatomy change (e.g. lung inflation, pleural effusion change)</li> <li>• Change in motion management strategy</li> <li>• Other. Please specify: _____</li> </ul> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul> <p>_____ Gy (between 1 and 90)</p> <p>_____ Gy (between 1 and 40)</p>
<p><b>Treatment Delivery and Image Guidance</b></p> <p>What type of imaging was used to verify this patient's setup?</p>	<ul style="list-style-type: none"> <li>• kV/MV portal</li> <li>• CT (CBCT or TomoTherapy CT)</li> <li>• Films</li> <li>• Video-based system</li> <li>• Other. Please specify: _____</li> </ul>

**MROQC Lung Data Elements Guide**

For each imaging type, specify how often the patient was imaged during treatment.

- Daily
- Less than daily but more than weekly
- Weekly
- Other. Please specify: \_\_\_\_\_