

# Oncology Clinical Pathways

## Lung Cancer

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July 2024 – V3.2024



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U.S. Department  
of Veterans Affairs

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# Lung Cancer – Presumptive Conditions

VA automatically presumes that certain disabilities were caused by military service. This is because of the unique circumstances of a specific Veteran's military service. If a presumed condition is diagnosed in a Veteran within a certain group, they can be awarded disability compensation.

## Vietnam Veterans – Agent Orange Exposure or Specified Locations

- Respiratory cancers

## Atomic Veterans Exposed to Ionizing Radiation

- Lung cancer
- Bronchioloalveolar carcinoma

## Gulf War and Post 9/11 Veterans

If the patient served any amount of time in Afghanistan, Djibouti, Syria, or Uzbekistan during the Persian Gulf War, from Sept. 19, 2001, to the present or the Southwest Asia theater of operations from Aug. 2, 1990, to the present, specific conditions include:

- Adenosquamous carcinoma of the lung
- Large cell carcinoma of the lung
- Salivary gland-type tumors of the lung
- Sarcomatoid carcinoma of the lung
- Typical and atypical carcinoid of the lung

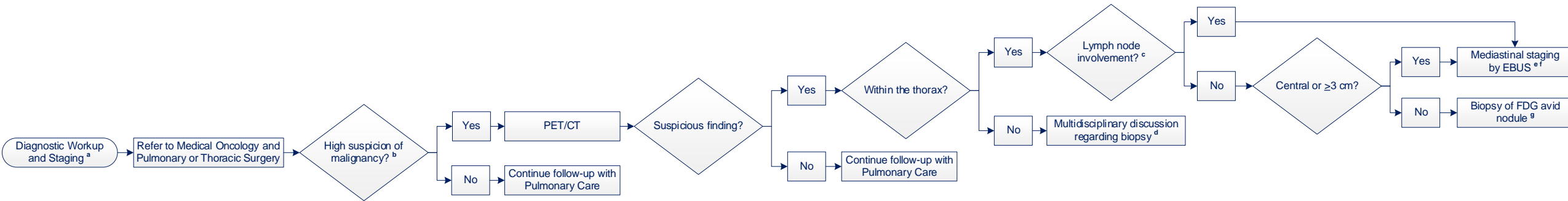
If the patient served on or after Sept. 11, 2001, in Afghanistan, Djibouti, Egypt, Jordan, Lebanon, Syria, Uzbekistan, or Yemen or if the patient served in the \*Southwest Asia theater of operations, or Somalia, on or after Aug. 2, 1990, specific conditions include:

- Respiratory cancer of any type

\* The Southwest Asia theater of operations refers to Iraq, Kuwait, Saudi Arabia, the neutral zone between Iraq and Saudi Arabia, Bahrain, Qatar, the United Arab Emirates, Oman, the Gulf of Aden, the Gulf of Oman, the Persian Gulf, the Arabian Sea, the Red Sea, and the airspace above these locations.

For more information, please visit [U.S. Department of Veterans Affairs - Presumptive Disability Benefits \(va.gov\)](https://www.va.gov)

# Lung Cancer – Diagnostic Workup and Staging



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Diagnostic Workup and Staging** for pulmonary nodule evaluation, nodule with a high probability of cancer, nodule already diagnosed with lung cancer, or abnormal thoracic findings with concerns of cancer

<sup>b</sup> **High Suspicion of Malignancy** includes but is not limited to growth, radiographic properties, or large size

<sup>c</sup> **Lymph Node Involvement** includes any thoracic lymph node pathologic enlargement or FDG avidity

<sup>d</sup> **Molecular Testing** adequacy of tumor tissue should be considered in selection of the biopsy site and the amount of tissue; pursue the least invasive/risk biopsy when appropriate

<sup>e</sup> **Mediastinal Staging** includes EBUS examination of all paratracheal and hilar stations with sampling of any nodes > 0.5 cm; EUS or mediastinoscopy may be an alternative staging modality based upon the location of the concerning lymph node(s)

<sup>f</sup> **Imaging** brain MRIs are indicated for Stage II and above

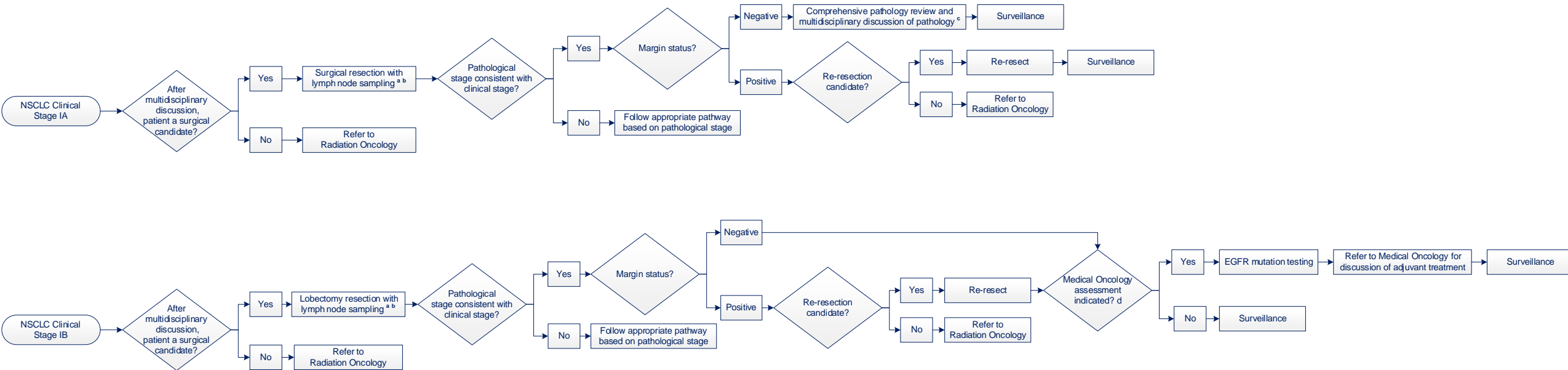
<sup>g</sup> **FDG Avid Nodules** can be evaluated by percutaneous biopsy, surgical biopsy, or navigational bronchoscopy; multidisciplinary discussion can assist in the care plan

**EBUS** Endobronchial Ultrasound

**EUS** Endoscopic Ultrasound

**FDG** Fluorodeoxyglucose

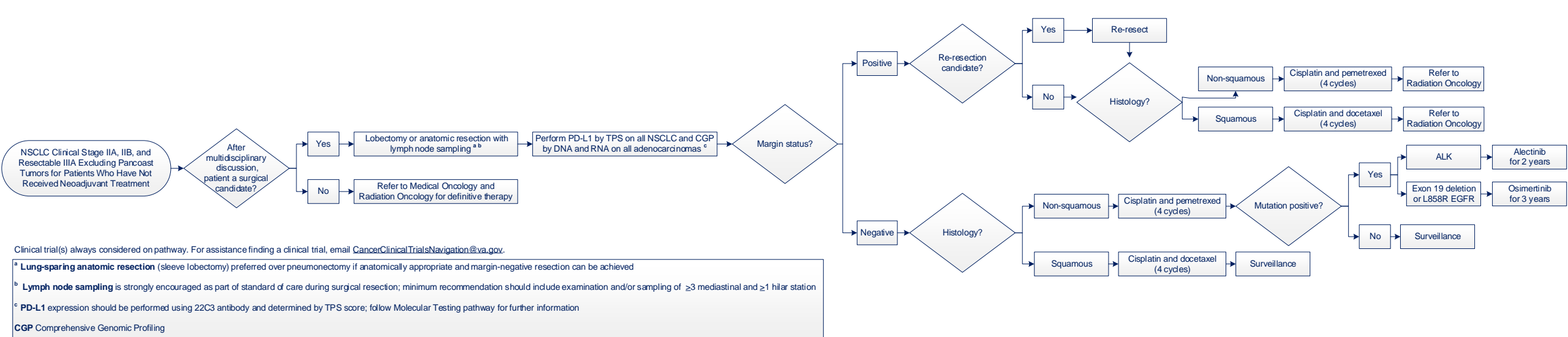
# Lung Cancer – NSCLC Clinical Stage IA and IB



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

- <sup>a</sup> **Surgical Resection** includes lobectomy as preferred resection but sublobar can be considered as clinically indicated; consider sublobar resection for <2cm, peripheral, confirmed negative 10, 4, 7 nodes
- <sup>b</sup> **Lymph node sampling** is strongly encouraged as part of standard of care during surgical resection; minimum recommendation should include examination and/or sampling of ≥3 mediastinal and ≥1 hilar station
- <sup>c</sup> **Comprehensive Pathology Review for High Risk Features** includes poorly differentiated tumors, vascular invasion, wedge resection, visceral pleural involvement, or lymph known status unknown; if ≥1 of these features are present, consider assessment by Medical Oncology
- <sup>d</sup> **Indications for Medical Oncology Assessment** include presence of high risk pathological features that might suggest the role of adjuvant chemotherapy or EGFR mutation that might suggest the role of adjuvant osimertinib

# Lung Cancer – NSCLC Clinical Stage IIA, IIB, and Resectable IIIA Excluding Pancoast Tumors for Patients Who Have Not Received Neoadjuvant Treatment



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

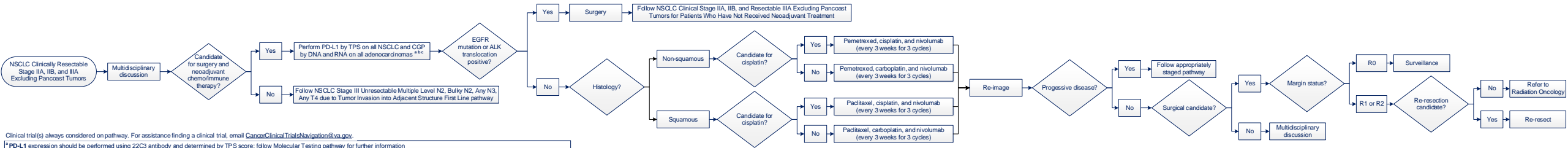
<sup>a</sup> Lung-sparing anatomic resection (sleeve lobectomy) preferred over pneumonectomy if anatomically appropriate and margin-negative resection can be achieved

<sup>b</sup> Lymph node sampling is strongly encouraged as part of standard of care during surgical resection; minimum recommendation should include examination and/or sampling of  $\geq 3$  mediastinal and  $\geq 1$  hilar station

<sup>c</sup> PD-L1 expression should be performed using 22C3 antibody and determined by TPS score; follow Molecular Testing pathway for further information

CGP Comprehensive Genomic Profiling

# Lung Cancer – NSCLC Clinically Resectable Stage IIA, IIB, and IIIA Excluding Pancoast Tumors



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

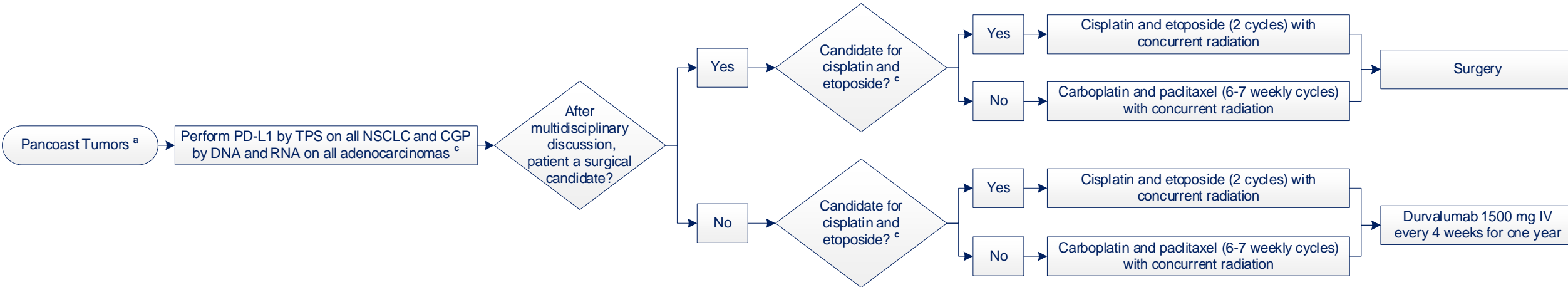
<sup>a</sup> PD-L1 expression should be performed using 22C3 antibody and determined by TPS score; follow Molecular Testing pathway for further information

<sup>b</sup> PD-L1 subgroup analysis did not show statistical improvement in event free survival for patients PD-L1 <1%; greatest benefit for neoadjuvant chemotherapy with immunotherapy was noted in Stage III patients

<sup>c</sup> CGP is indicated because patients with known EGFR mutations or ALK translocations were excluded from CheckMate 816 study establishing the role of neoadjuvant chemotherapy with immunotherapy

CGP Comprehensive Genomic Profiling

# Lung Cancer – Pancoast Tumors



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

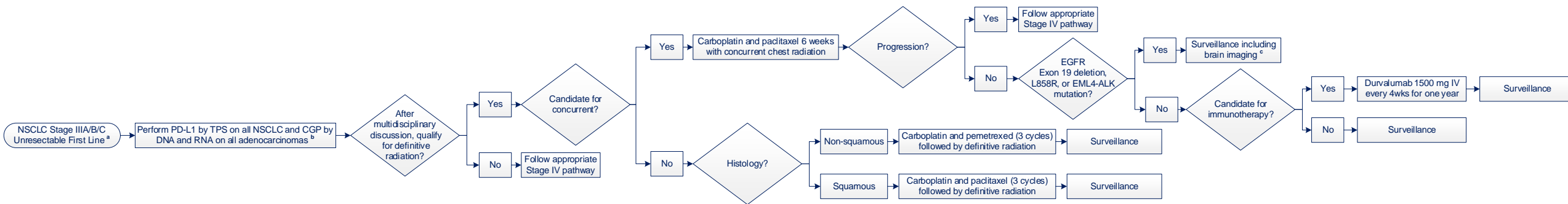
<sup>a</sup> **Pancoast Tumors** clinical diagnosis that includes any of these stages: T3N0, T4N0, and T4N1 are generally considered resectable and T4N2 is considered unresectable

<sup>b</sup> **PD-L1** expression should be performed using 22C3 antibody and determined by TPS score; follow Molecular Testing pathway for further information

<sup>c</sup> **Candidate for cisplatin and etoposide** contraindications include abnormal renal function, ECOG 2, or abnormal heart function



# Lung Cancer – NSCLC Stage IIIA/B/C Unresectable First Line



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

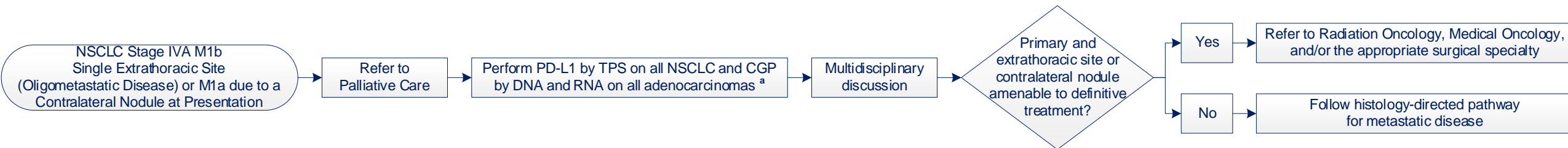
<sup>a</sup> **NSCLC Stage IIIA/B/C Unresectable** includes multiple level N2, bulky N2, any N3, any T4 due to tumor invasion into adjacent structure or poor surgical candidates due to prohibitive risk

<sup>b</sup> **PD-L1** expression should be performed using 22C3 antibody and determined by TPS score; follow Molecular Testing pathway for further information; CGP is indicated because the role of consolidation durvalumab is unclear in EGFR mutant or ALK translocation positive patients

<sup>c</sup> **Surveillance Including Brain Imaging** brain MRI every 2-4 months for 2 years and a CAT scan of the chest to the adrenals every 2-4 months for 2 years

CGP Comprehensive Genomic Profiling

# Lung Cancer – NSCLC Stage IVA M1b Single Extrathoracic Site or M1a Due To A Contralateral Nodule at Presentation

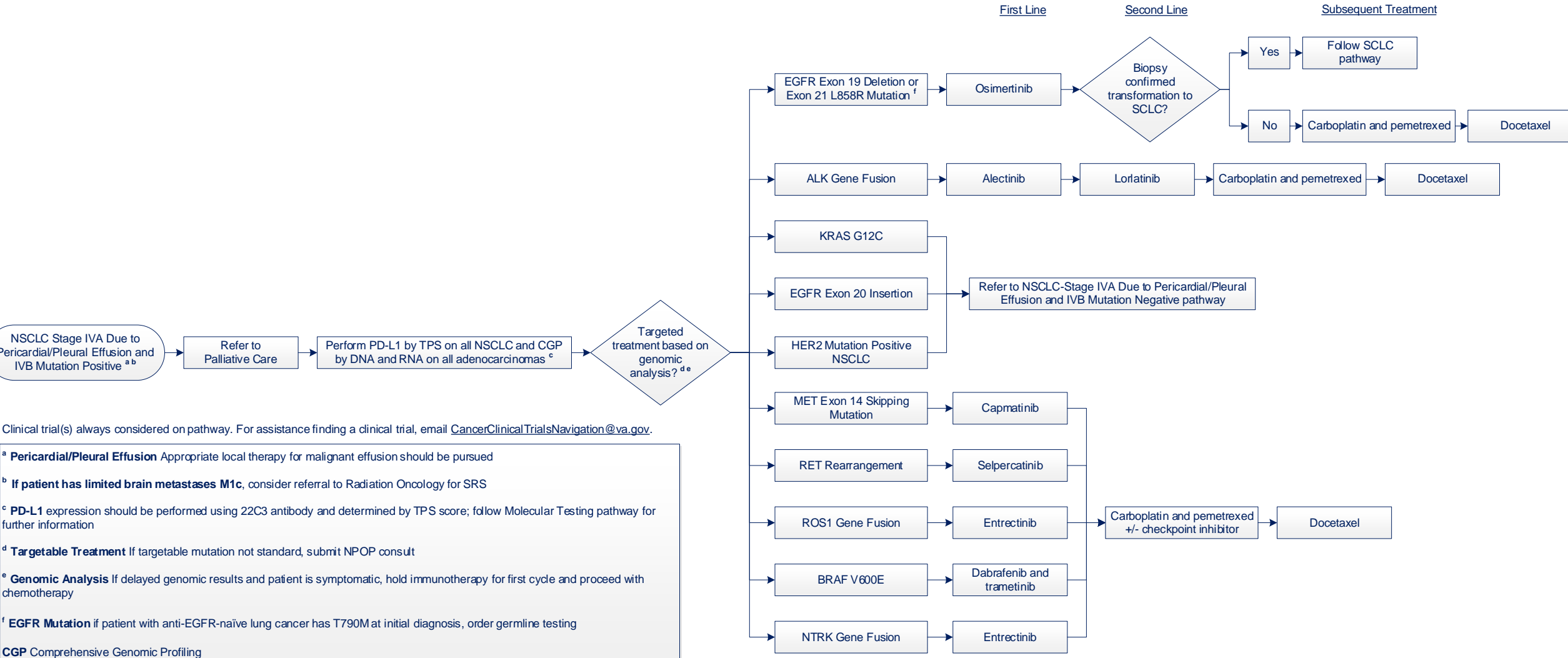


Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **PD-L1** expression should be performed using 22C3 antibody and determined by TPS score; follow Molecular Testing pathway for further information

**CGP** Comprehensive Genomic Profiling

# Lung Cancer – NSCLC Stage IVA Due to Pericardial/Pleural Effusion and IVB Mutation Positive



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Pericardial/Pleural Effusion** Appropriate local therapy for malignant effusion should be pursued

<sup>b</sup> **If patient has limited brain metastases M1c**, consider referral to Radiation Oncology for SRS

<sup>c</sup> **PD-L1** expression should be performed using 22C3 antibody and determined by TPS score; follow Molecular Testing pathway for further information

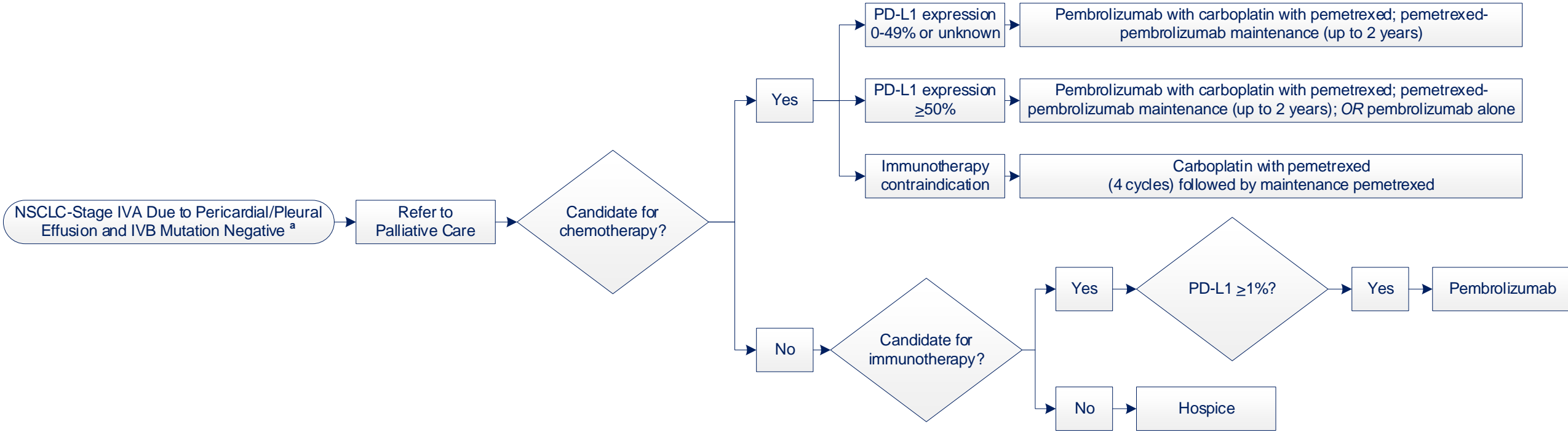
<sup>d</sup> **Targetable Treatment** If targetable mutation not standard, submit NPOP consult

<sup>e</sup> **Genomic Analysis** If delayed genomic results and patient is symptomatic, hold immunotherapy for first cycle and proceed with chemotherapy

<sup>f</sup> **EGFR Mutation** if patient with anti-EGFR-naïve lung cancer has T790M at initial diagnosis, order germline testing

**CGP** Comprehensive Genomic Profiling

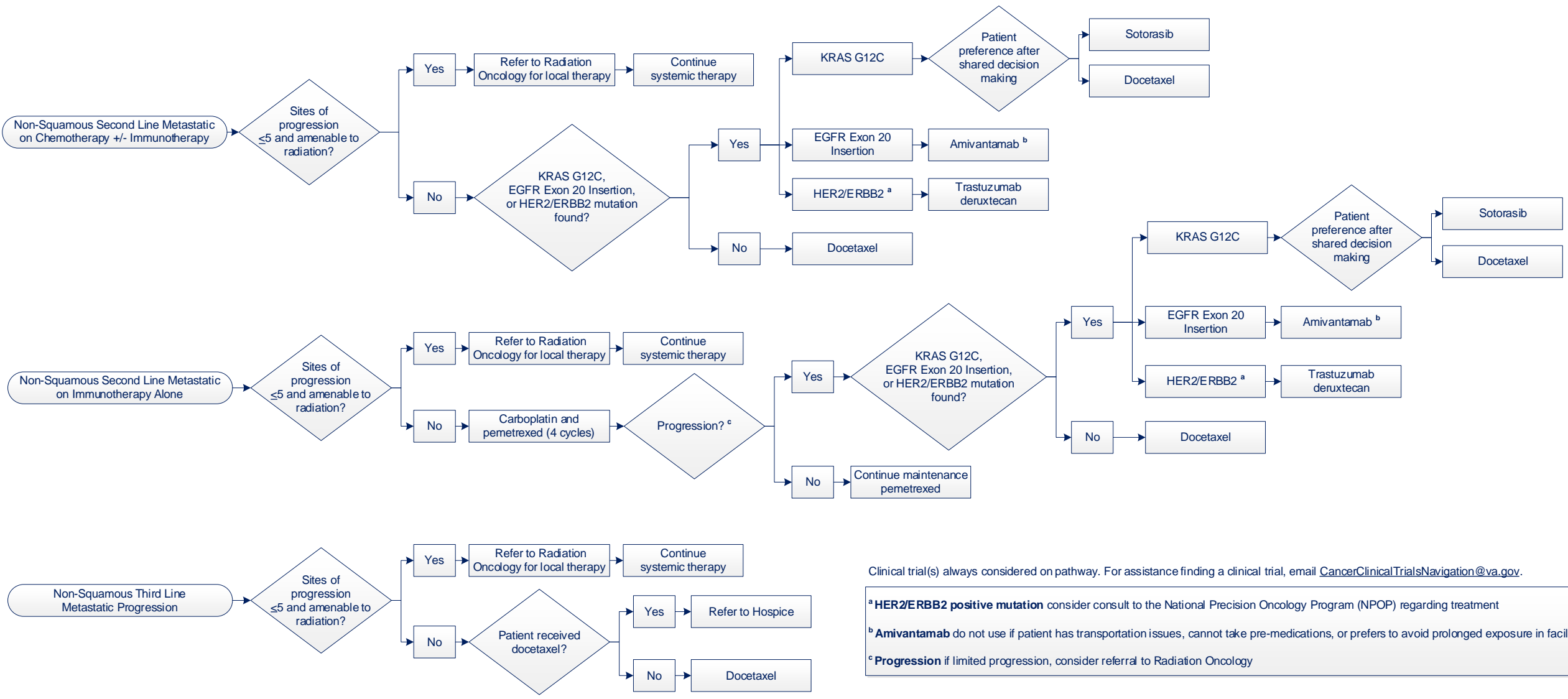
# Lung Cancer – NSCLC Stage IVA Due to Pericardial/Pleural Effusion and IVB Mutation Negative



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Pericardial/Pleural Effusion** appropriate local therapy for malignant effusion should be pursued; pathway also applicable for first line treatment of KRAS G12C, EGFR Exon 20 insertion, and HER2 mutation positive NSCLC

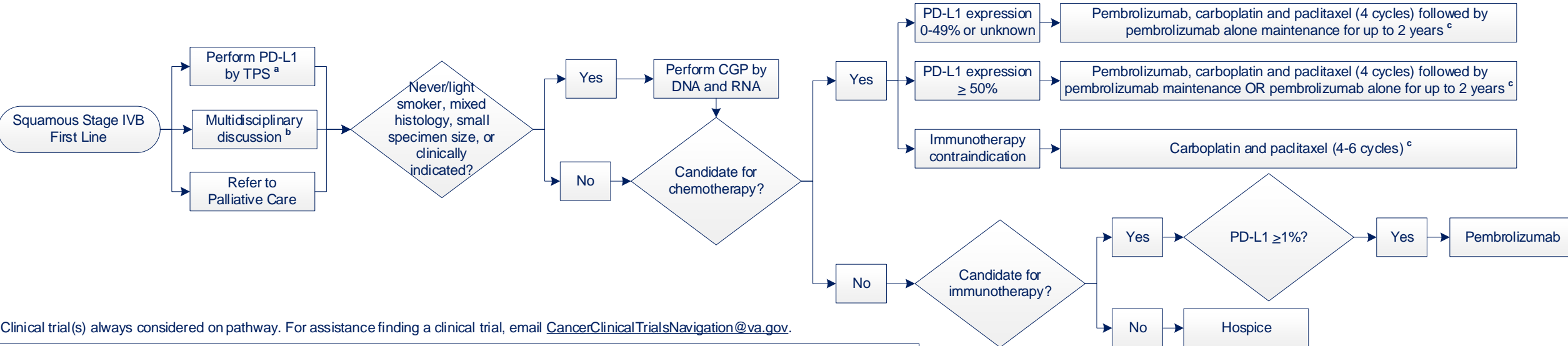
# Lung Cancer – Non-Squamous Second and Third Lines Metastatic



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **HER2/ERBB2 positive mutation** consider consult to the National Precision Oncology Program (NPOP) regarding treatment  
<sup>b</sup> **Amivantamab** do not use if patient has transportation issues, cannot take pre-medications, or prefers to avoid prolonged exposure in facility  
<sup>c</sup> **Progression** if limited progression, consider referral to Radiation Oncology

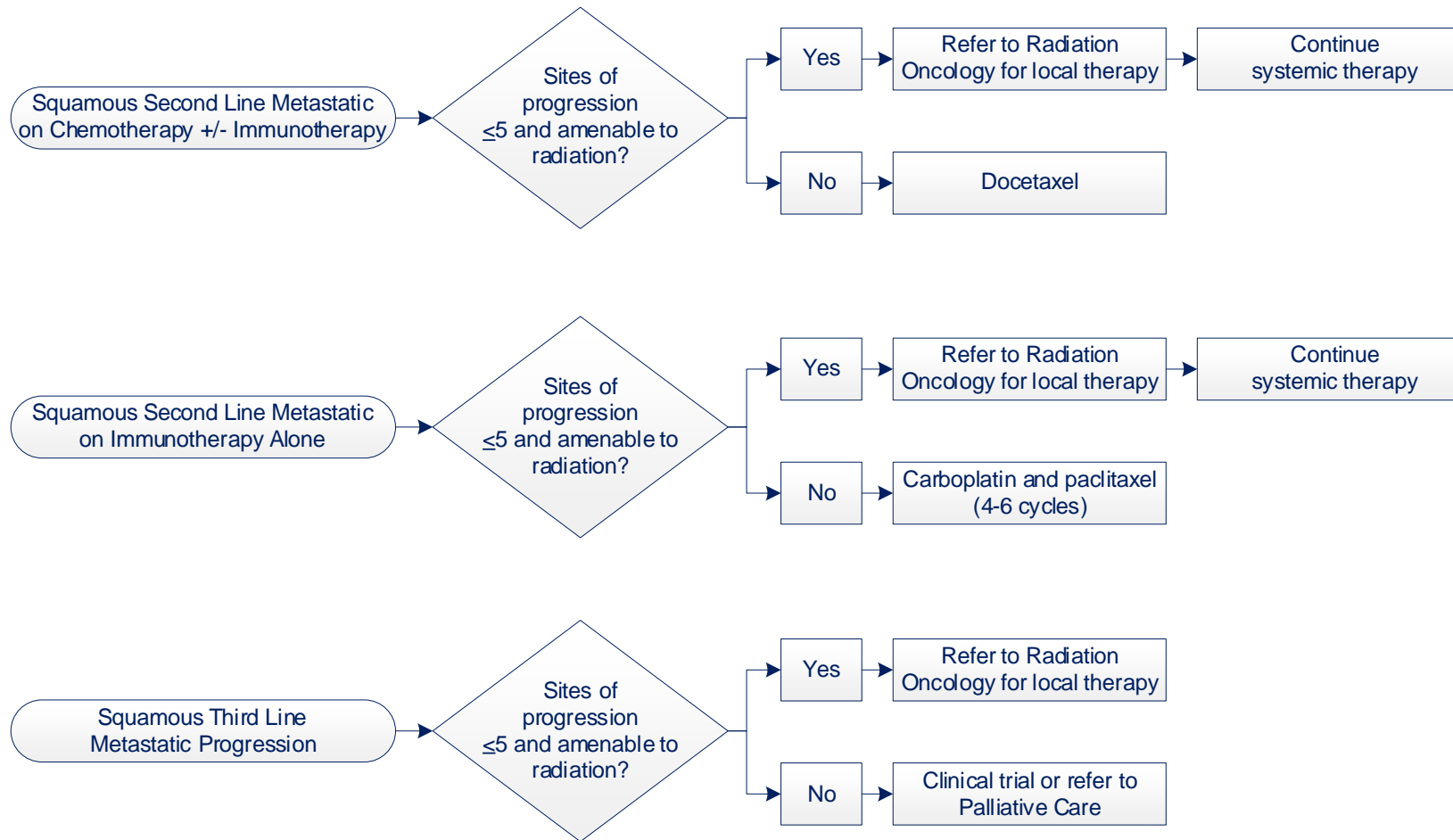
# Lung Cancer – Squamous Stage IVB First Line



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

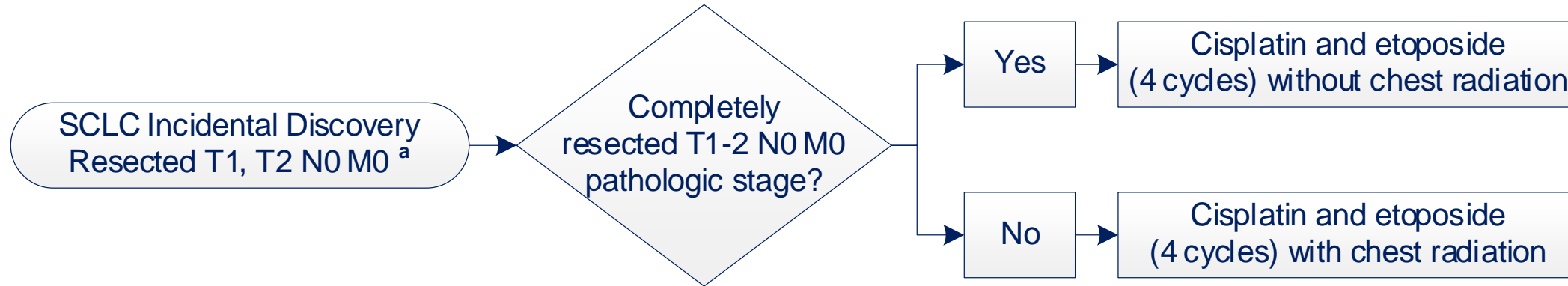
<sup>a</sup> **PD-L1** expression should be performed using 22C3 antibody and determined by TPS score; follow Molecular Testing pathway for further information  
<sup>b</sup> **If patient is symptomatic** refer to Radiation Oncology  
<sup>c</sup> **If limited progression**, consider referral to Radiation Oncology and continuation of first-line systemic therapy

# Lung Cancer – Squamous Second and Third Lines Metastatic



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

# Lung Cancer – SCLC Incidental Discovery Resected T1, T2 N0 M0

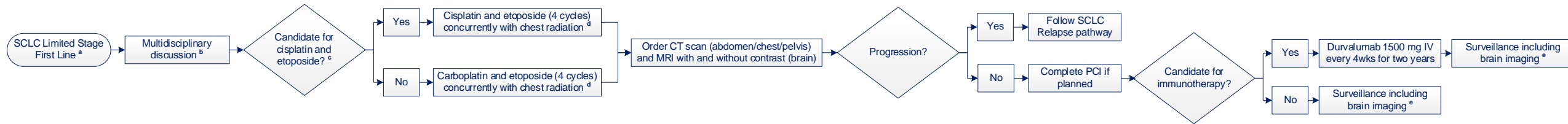


Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Large Cell Neuroendocrine Tumors** can be treated like SCLCs



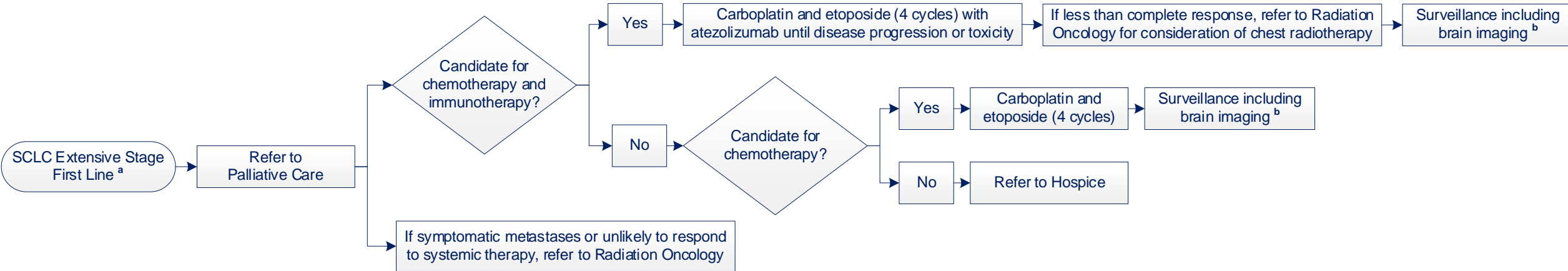
# Lung Cancer – SCLC Limited Stage First Line



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

- <sup>a</sup> **Large Cell Neuroendocrine Tumors** can be treated like SCLCs
- <sup>b</sup> In the rare case of T1-2 N0 M0, surgery can be considered followed by adjuvant chemotherapy
- <sup>c</sup> **Candidate for cisplatin and etoposide** contraindications include abnormal renal function, ECOG 2, or abnormal heart function
- <sup>d</sup> **Initiate radiation** as early as possible, within the first or second cycle of chemotherapy
- <sup>e</sup> **Surveillance Including Brain Imaging** includes brain MRI every 2-4 months for 2 years and a CAT scan of the chest to the adrenals every 2-4 months for 2 years

# Lung Cancer – SCLC Extensive Stage First Line

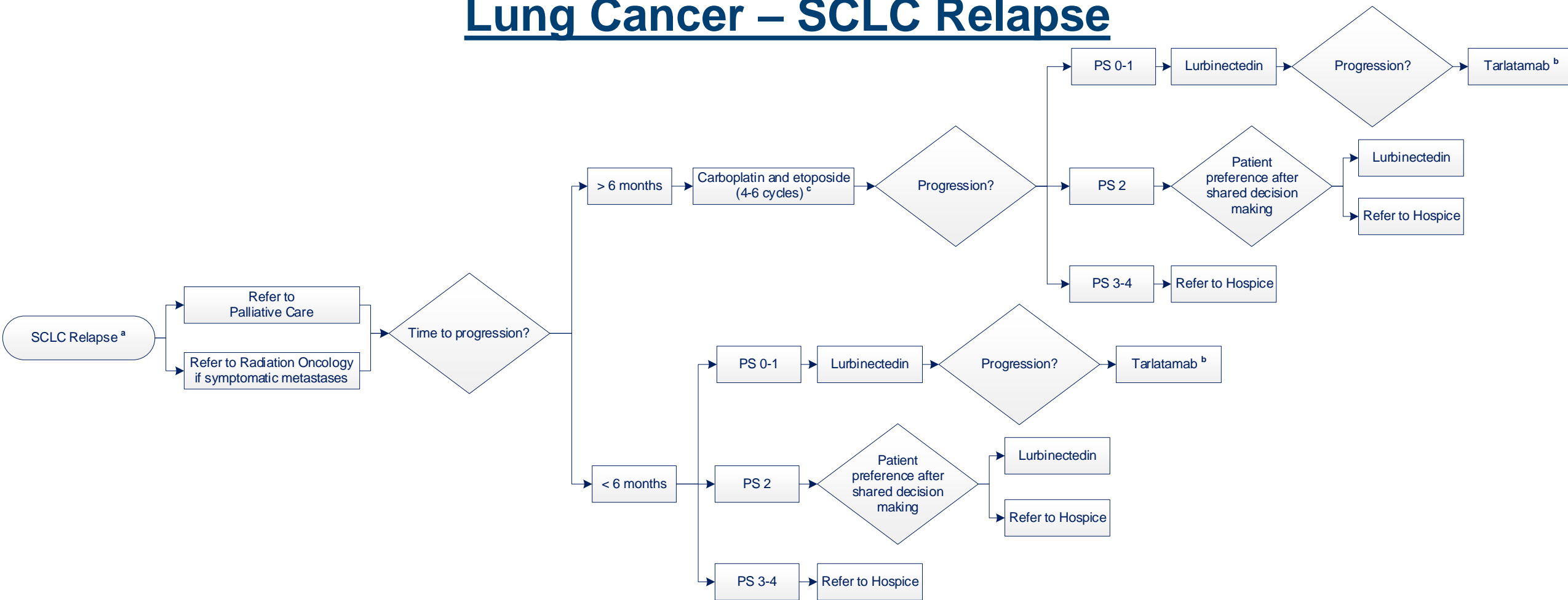


Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Large Cell Neuroendocrine Tumors** can be treated like SCLCs

<sup>b</sup> **Surveillance Including Brain Imaging** includes brain MRI every 2-4 months for 2 years and a CAT scan of the chest to the adrenals every 2-4 months for 2 years

# Lung Cancer – SCLC Relapse



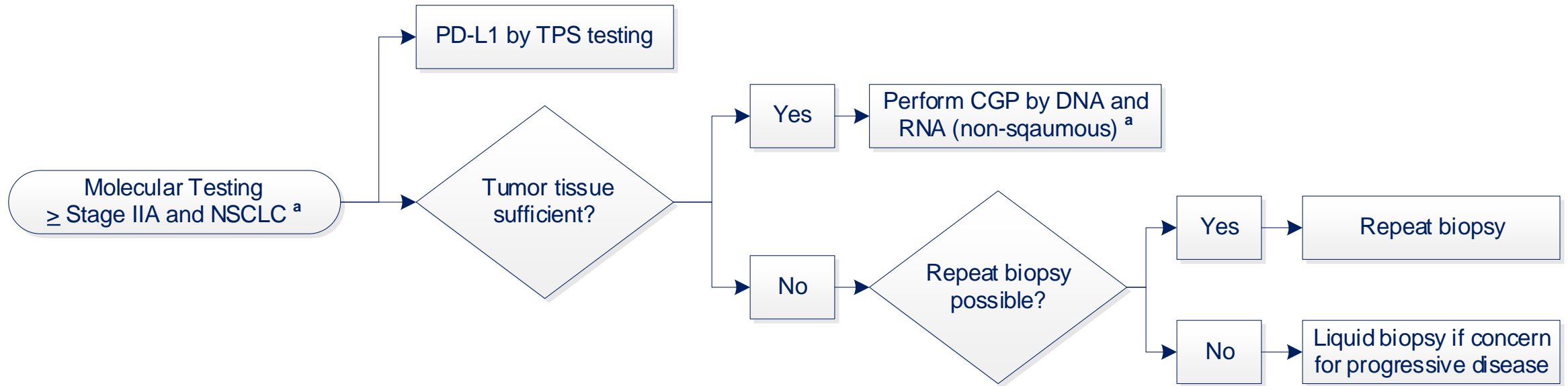
Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Large Cell Neuroendocrine Tumors** can be treated like SCLCs

<sup>b</sup> **Taratamab** this therapy is highly toxic and administration requires significant facility support and comprehensive protocols with experienced personnel capable of identifying, monitoring and managing CRS and Neurotoxicity (ICANS); in addition, patient requirements: PS 0-1, cardiac ejection fraction  $\geq 50\%$ , no evidence or ILD, estimated GFR  $\geq 30$  mL/min/1.73m<sup>2</sup>, adequate blood counts and liver function, and the absence of known or suspected infectious diseases

<sup>c</sup> **If patient is progressing** and did not receive immunotherapy upfront, patient can receive carboplatin, etoposide, and atezolizumab

# Lung Cancer – Molecular Testing



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Molecular Testing** is not routinely recommended for SCLC or SCC

**CGP** Comprehensive Genomic Profiling

# Molecular Testing Table

Eligibility	Test Category	Test Type	Recommended Vendors	NPOP Coverage	Specimen Type
Stage IIA and Higher NSCLC	IHC	PD-L1 expression by IHC using 22C3 antibody	Tempus Foundation Medicine Local Vendor	Yes (when ordered with CGP) Yes (when ordered with CGP) No	Tumor Tissue
Stage IIA and Higher NSCLC Non-Squamous	Somatic NGS*	DNA and RNA-based comprehensive genomic profiling (CGP)	Tempus Foundation Medicine	Yes Yes	Tumor Tissue, Blood
Stage IV Squamous Never/Light Smoker, Mixed Histology, or Small Specimen Size	Somatic NGS*	DNA and RNA-based comprehensive genomic profiling (CGP)	Tempus Foundation Medicine	Yes Yes	Tumor Tissue, Blood
* Somatic NGS testing should adequately cover point mutations, small insertion/deletion mutations, amplifications, and fusion oncogenes; at minimum testing should include coverage of EGFR, ALK, ROS1, RET, MET, BRAF, KRAS, NTRK1, NTRK2, NTRK3, and HER2					
** Tissue testing strongly preferred because it is the only method for RNA based testing. Liquid testing is suboptimal but acceptable only if adequate tissue cannot be obtained.					

# Lung Cancer – Surveillance for Surgically Treated NSCLC Stage IA/IB, IIA/IIB, or IIIA

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 5+
<i>H&amp;P</i> <sup>b</sup>	Every 6 months			Annually		
<i>CT Chest</i> <sup>c</sup>	Every 6 months			Annually		Annual low dose CT <sup>d</sup>

Surveillance for Surgically Treated NSCLC Stage IA/IB, IIA/IIB, or IIIA<sup>a</sup>

Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Surveillance** once treatment is completed; routine brain imaging is not recommended

<sup>b</sup> **H&P** to include smoking cessation

<sup>c</sup> **CT of Chest** initial baseline scan within 3 months of definitive treatment; more frequent scanning may be required

<sup>d</sup> **Annual Low Dose CT** more frequent scanning intervals may be appropriate in some patients, to include SBRT patients; for years 3-5+, low-dose CT scans may be used to screen for a second primary malignancy

# Lung Cancer – Surveillance for NSCLC Stage III Curative Intent with Definitive Chemoradiation

	Year 1 <sup>d</sup>	Year 2	Year 3	Year 4	Year 5	Year 5+
<b>H&amp;P</b> <sup>b</sup>	Every 3 months	Every 4 months	Every 6 months			
<b>CT Chest</b> <sup>c</sup>	Every 3 months	Every 4 months	Every 6 months			Annual low dose CT <sup>e</sup>

Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email [CancerClinicalTrialsNavigation@va.gov](mailto:CancerClinicalTrialsNavigation@va.gov).

<sup>a</sup> **Surveillance** once treatment is completed; routine brain imaging is not recommended

<sup>b</sup> **H&P** to include smoking cessation

<sup>c</sup> **CT of Chest** initial baseline scan within 3 months of definitive treatment; more frequent scanning may be required

<sup>d</sup> **Year 1** not intended to provide guidance for imaging consolidation immunotherapy

<sup>e</sup> **Annual Low Dose CT** more frequent scanning intervals may be appropriate in some patients, to include SBRT patients; for years 3-5+, low-dose CT scans may be used to screen for a second primary malignancy