

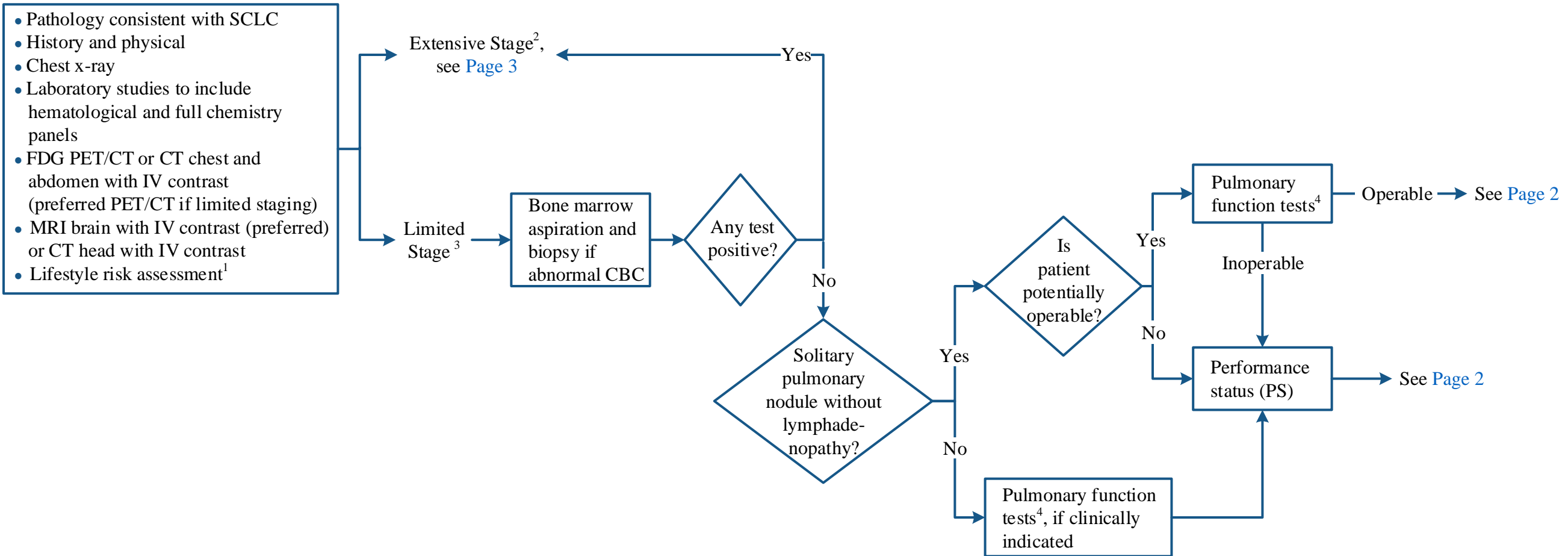
Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.

Note: Consider Clinical Trials as treatment options for eligible patients.

INITIAL EVALUATION

STAGE

FURTHER ASSESSMENT



EBUS = endobronchial ultrasound

¹ See [Physical Activity](#), [Nutrition](#), and [Tobacco Cessation](#) algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice

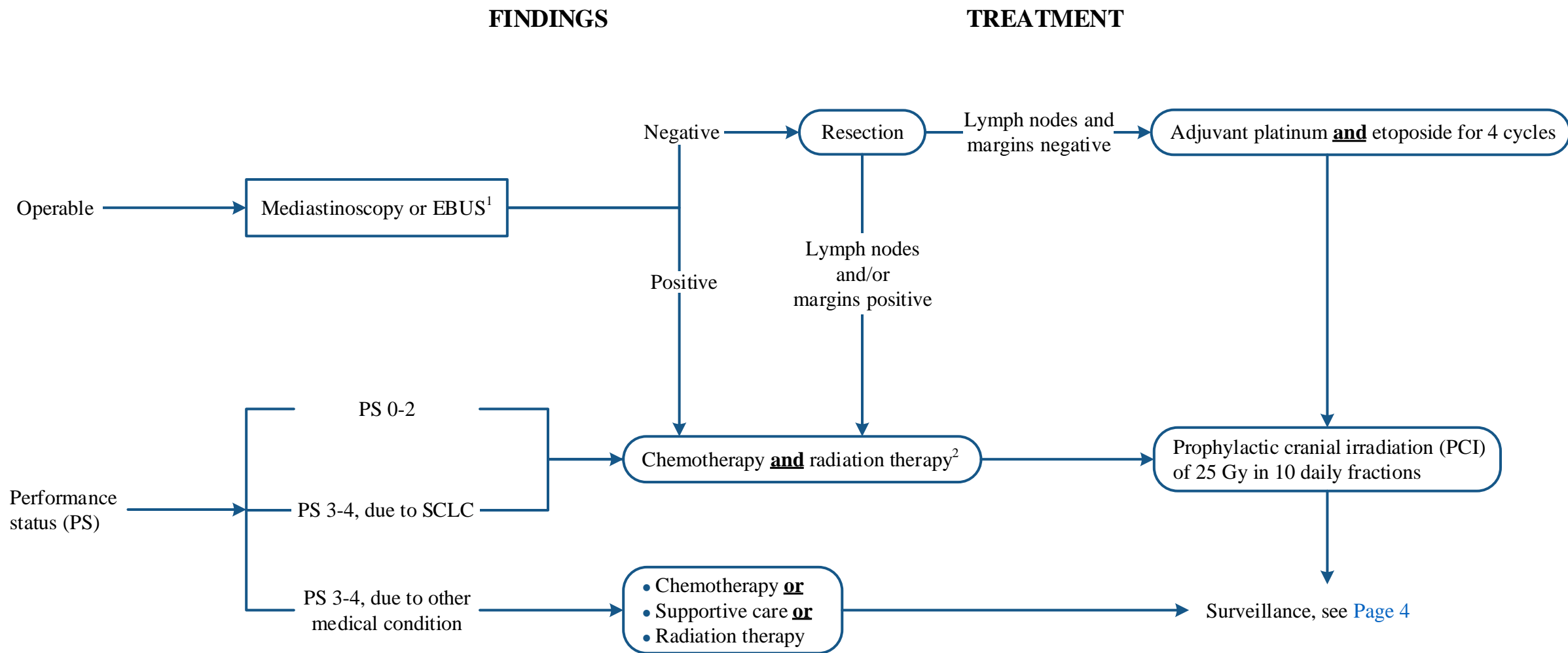
² Extensive stage: disease beyond ipsilateral hemithorax or malignant pleural effusion or obvious metastatic disease

³ Limited stage: disease confined to the ipsilateral hemithorax within a single radiation port

⁴ Pulmonary function tests include: spirometry pre-and-post-bronchodilators, xenon if clinically indicated, exercise oxygen consumption testing if clinically indicated

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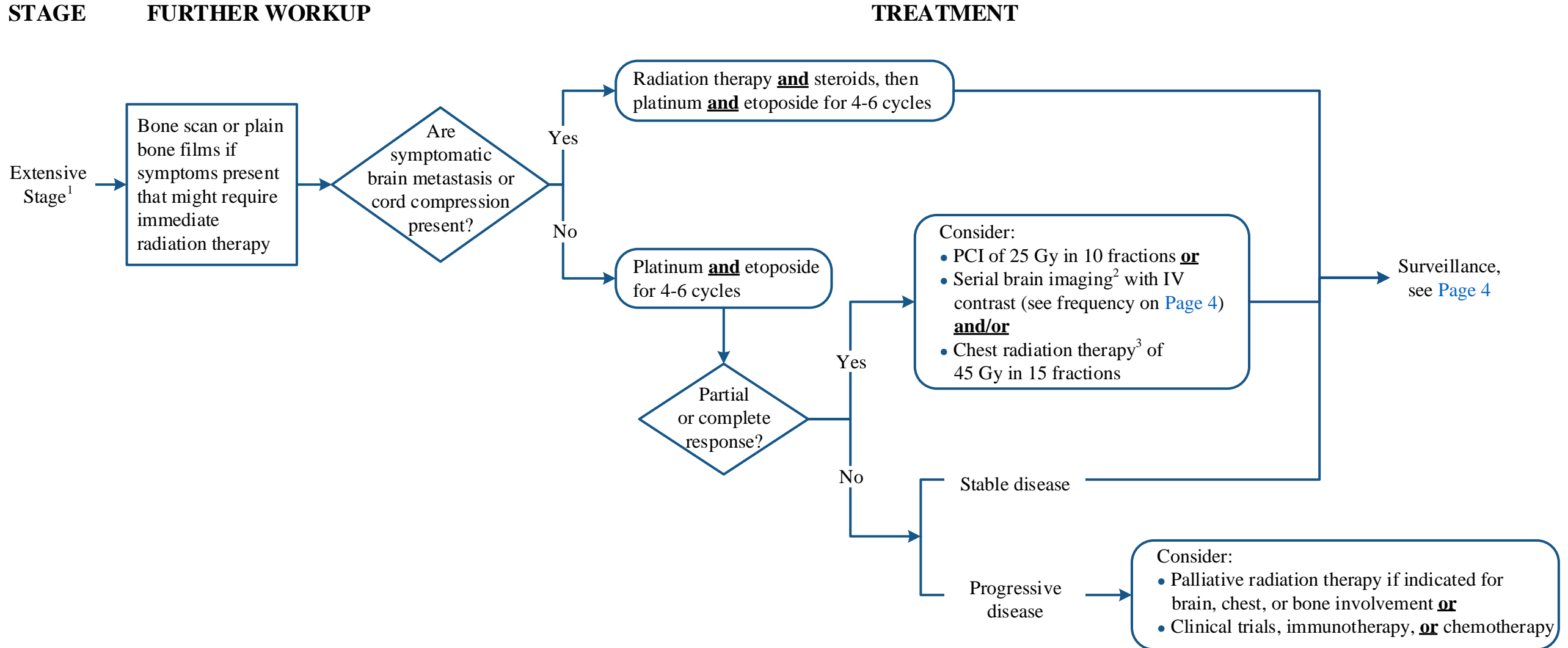


EBUS = endobronchial ultrasound

¹ Consider EBUS for patients treated with radiation therapy also
² Start radiation therapy within the first 2 cycles of chemotherapy

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¹ Extensive stage: disease beyond ipsilateral hemithorax or malignant pleural effusion or obvious metastatic disease
² MRI brain preferred over CT as it is more sensitive in identifying brain metastases
³ For selected patients with residual thoracic disease and low-bulk extrathoracic metastatic disease that has responded to systemic therapy

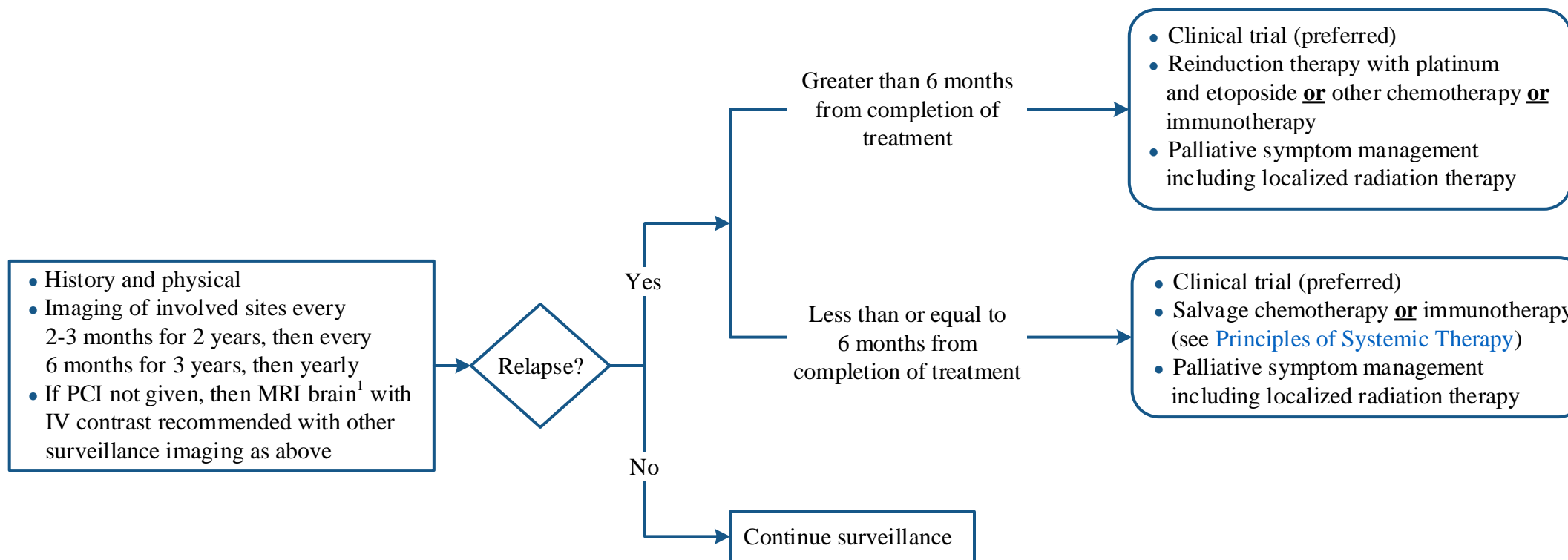
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SURVEILLANCE

TIME OF LAPSE

SALVAGE/PALLIATION



- History and physical
- Imaging of involved sites every 2-3 months for 2 years, then every 6 months for 3 years, then yearly
- If PCI not given, then MRI brain¹ with IV contrast recommended with other surveillance imaging as above

Relapse?

Yes

No

Greater than 6 months from completion of treatment

Less than or equal to 6 months from completion of treatment

Continue surveillance

- Clinical trial (preferred)
- Reinduction therapy with platinum and etoposide **or** other chemotherapy **or** immunotherapy
- Palliative symptom management including localized radiation therapy

- Clinical trial (preferred)
- Salvage chemotherapy **or** immunotherapy (see [Principles of Systemic Therapy](#))
- Palliative symptom management including localized radiation therapy

¹ MRI brain preferred over CT as it is more sensitive in identifying brain metastases

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PRINCIPLES OF SYSTEMIC THERAPY

First-line therapy

- Acceptable regimens for limited stage disease (maximum of 4-6 cycles) include:
 - Cisplatin 60 mg/m² IV on Day 1 and etoposide 120 mg/m² IV on Days 1, 2, 3
 - Cisplatin 80 mg/m² IV on Day 1 and etoposide 100 mg/m² IV on Days 1, 2, 3
 - Carboplatin AUC 5-6 IV on Day 1 and etoposide 100 mg/m² IV on Days 1, 2, 3
 - During systemic therapy plus radiation therapy, cisplatin/etoposide is recommended (category 1)
 - The use of myeloid growth factors is not recommended during concurrent systemic therapy plus radiation therapy (category 1 or not using GM-CSF)
- Acceptable regimens for extensive stage disease (maximum of 4-6 cycles) include:
 - Carboplatin AUC 5-6 IV on Day 1 and etoposide 100 mg/m² IV on Days 1, 2, 3
 - Cisplatin 75 mg/m² IV on Day 1 and etoposide 100 mg/m² IV on Days 1, 2, 3
 - Cisplatin 80 mg/m² IV on Day 1 and etoposide 80 mg/m² IV on Days 1, 2, 3
 - Cisplatin 25 mg/m² IV on Day 1, 2, 3 and etoposide 100 mg/m² IV on Days 1, 2, 3

Second-line therapy

- Clinical trial (preferred)
- If relapse occurs less than or equal to 6 months and performance status 0-2:
 - Topotecan PO or IV
 - Irinotecan
 - Paclitaxel
 - Docetaxel
 - Temozolomide PO
 - Nivolumab plus ipilimumab
 - Vinorelbine
 - Etoposide PO
 - Gemcitabine
- If relapse occurs greater than 6 months after completion of first-line therapy: original regimen
- Consider dose reduction or growth factor support for patients with performance status of 2 or age greater than or equal to 70 years

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PRINCIPLES OF RADIATION THERAPY

Radiation therapy for Limited Stage disease

- Radiation therapy should be given 1.5 Gy twice a day (with at least 6 hours between fractions) to a total dose of 45 Gy. In circumstances where twice daily fractionation is not feasible, an acceptable alternate schedule is 1.8 – 2.0 Gy/day to a dose of 60 – 70 Gy.
- Radiation therapy should be administered concurrently with chemotherapy, ideally beginning during cycle 1 of chemotherapy
- Radiation therapy should be delivered to original tumor volume unless there is marked risk of radiation pneumonitis; decrease field as tumor shrinks
- Appropriate schedule for prophylactic cranial irradiation (PCI) is 25 Gy in 10 fractions
- In patients receiving radiation therapy or chemoradiation with curative intent, treatment interruptions or dose reductions for temporary and manageable toxicities, such as esophagitis and myelosuppression, should be avoided. Careful patient monitoring and aggressive supportive care are preferable to treatment breaks in potentially curable patients. Patients should be evaluated at least once per every 5 fractions to monitor weight changes and toxicity.
- 45 Gy in 30 fractions over 3 weeks would not be recommended with concurrent chemotherapy on Day 1, if the DVH shows V20 more than 35% of target lesion. If the GTV is too large to meet dose volume constraints, give one cycle of chemotherapy or go daily fraction of radiation and cone down of the GTV after re-simulation after 2-3 weeks treatment. This will apply for patients who have FEV1 or DLCO less than 30% of predicted value.
- Elective nodal radiation therapy is not recommended

DVH = dose volume histogram

GTV = gross tumor volume

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This practice algorithm is based on majority expert opinion of the Thoracic Oncology Center Faculty at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

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