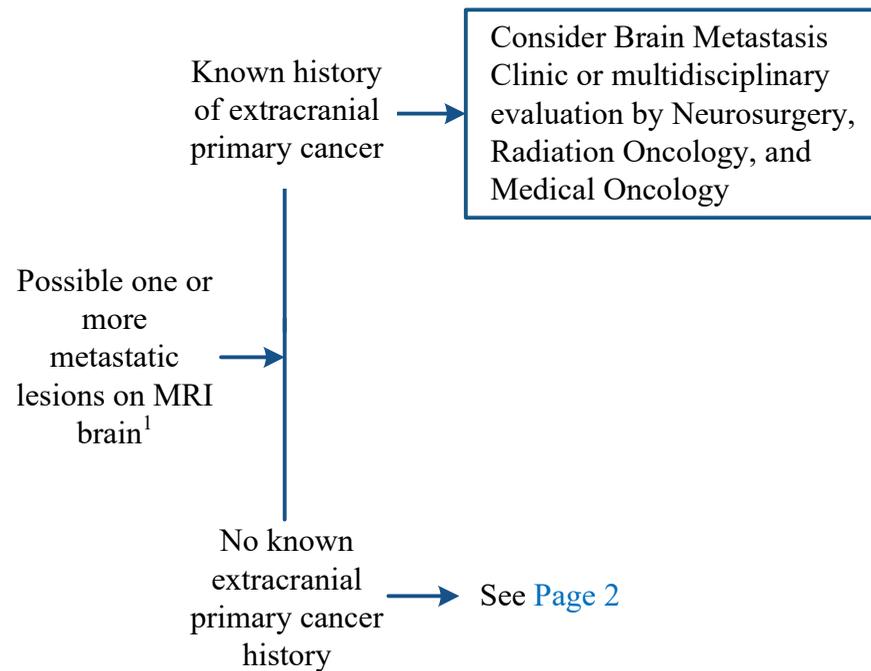


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NOTE: Consider Clinical Trials as treatment options for eligible patients

CLINICAL PRESENTATION



TREATMENT

- Yes**
- Surgery followed by SRS³ **or**
 - Surgery followed by WBRT⁴
 - After surgery and radiation therapy, consider systemic therapy for primary cancer⁵ **or**
 - Consider enrollment in a clinical trial⁴
 - Consider neuropsychological evaluation

- No**
- SRS³ **or**
 - WBRT⁶ (30 Gy/10 fractions)
 - If symptomatic, consider neurology consult
 - If there is suspicion for leptomeningeal disease (LMD), consider specific work-up (see [Leptomeningeal Metastases algorithm](#))
 - Systemic therapy for primary cancer⁵ **or**
 - Consider enrollment in a clinical trial⁴
 - Consider neuropsychological evaluation

FOLLOW-UP

- MRI brain every 2 to 3 months⁷ **and**
- Consider neuropsychological evaluation if not previously done or follow-up **and**
- Continue follow-up for primary cancer as clinically appropriate

SRS = stereotactic radiosurgery
 WBRT = whole brain radiation therapy

¹ Discuss Goal Concordant Care (GCC) with patient or if clinically indicated, with Surrogate-Decision Maker (SDM). GCC should be initiated by the Primary Oncologist. If Primary Oncologist is unavailable, Primary Team Attending Physician to initiate GCC discussion and notify Primary Oncologist. Patients or if clinically indicated the SDM should be informed of therapeutic and/or palliative options. GCC discussion should be consistent, timely, and re-evaluated as clinically indicated. The Advance Care Planning (ACP) note should be used to document GCC discussion. Refer to the [GCC home page](#) (for internal use only).

² The decision to resect a tumor should be made after multidisciplinary discussion of each case, and it will be dependent on the size, location, easibility and necessity (e.g., symptomatic lesion or tissue is required for best clinical decision). For smaller (< 2 cm), deep, or asymptomatic lesions, SRS alone may be more appropriate. Additional treatment of untreated brain metastases after surgery should be considered.

³ SRS is defined as 1-5 fractions per American Society of Radiation Oncology (ASTRO) guidelines. The term SRS implies highly conformal, image-guided, potentially ablative radiotherapy.

⁴ Clinical trial is the preferred option if one is available and the patient is eligible

⁵ Refer to [Cancer Treatment](#) algorithms for melanoma, breast, and lung cancers

⁶ Consider hippocampal sparing (if all lesions >5 mm from the hippocampi) and memantine to prevent cognitive decline associated with WBRT

⁷ In selected cases, surveillance may be spaced out as clinically appropriate. Follow-up will be done by the primary team and the team who provided treatment for the brain metastases.

Brain Metastasis Management

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NOTE: Consider Clinical Trials as treatment options for eligible patients

CLINICAL PRESENTATION

No known extracranial primary cancer history

Symptomatic lesion?

Yes

No

Consult/referral to Neurosurgery for further evaluation

Surgery indicated and feasible¹?

Yes

No

A

Systemic work-up to establish diagnosis, consider:

- CT chest abdomen/pelvis with and without contrast **or**
- Body FDG-PET
- Other imaging and tests as clinically indicated

Is primary cancer diagnosis confirmed?

Yes

No

Establish diagnosis with brain tissue acquisition

TREATMENT

- Establish diagnosis with brain tissue acquisition by tumor resection
- Surgery followed by SRS² **or**
- Surgery followed by WBRT³

- Establish diagnosis with tissue acquisition by tumor biopsy
- Consider systemic work-up as indicated in Box A
- SRS² **or**
- WBRT³ (30 Gy/10 fractions)
- Consider neurology consult. If there is suspicion for leptomeningeal disease (LMD), consider specific work-up (see [Leptomeningeal Metastases algorithm](#))
- Systemic therapy for primary cancer⁴ **or**
- Consider enrollment in a clinical trial⁵

Is primary cancer diagnosis confirmed?

Yes

No

FOLLOW-UP

- Refer to disease-specific specialty for further workup and treatment and/or refer to the Brain Metastasis Clinic or multidisciplinary evaluation by Neurosurgery, Radiation Oncology, and Medical Oncology
- For treatment for additional brain metastases, refer to Treatment options on [Page 1](#)

¹ The decision to resect a tumor should be made after multidisciplinary discussion of each case, and it will be dependent on the size, location, feasibility and necessity. For smaller (< 2 cm), deep, or asymptomatic lesions, SRS alone may be more appropriate. WBRT after surgery or SRS should be considered in selected cases in which multiple brain metastases remain untreated.

² SRS is defined as 1-5 fractions per American Society of Radiation Oncology (ASTRO) guidelines

³ Consider memantine and hippocampal sparing (if lesions <5 mm from hippocampi) to prevent cognitive decline associated with WBRT

⁴ Refer to [Cancer Treatment](#) algorithms for melanoma, breast, and lung cancers

⁵ Clinical trial is the preferred option if one is available and the patient is eligible

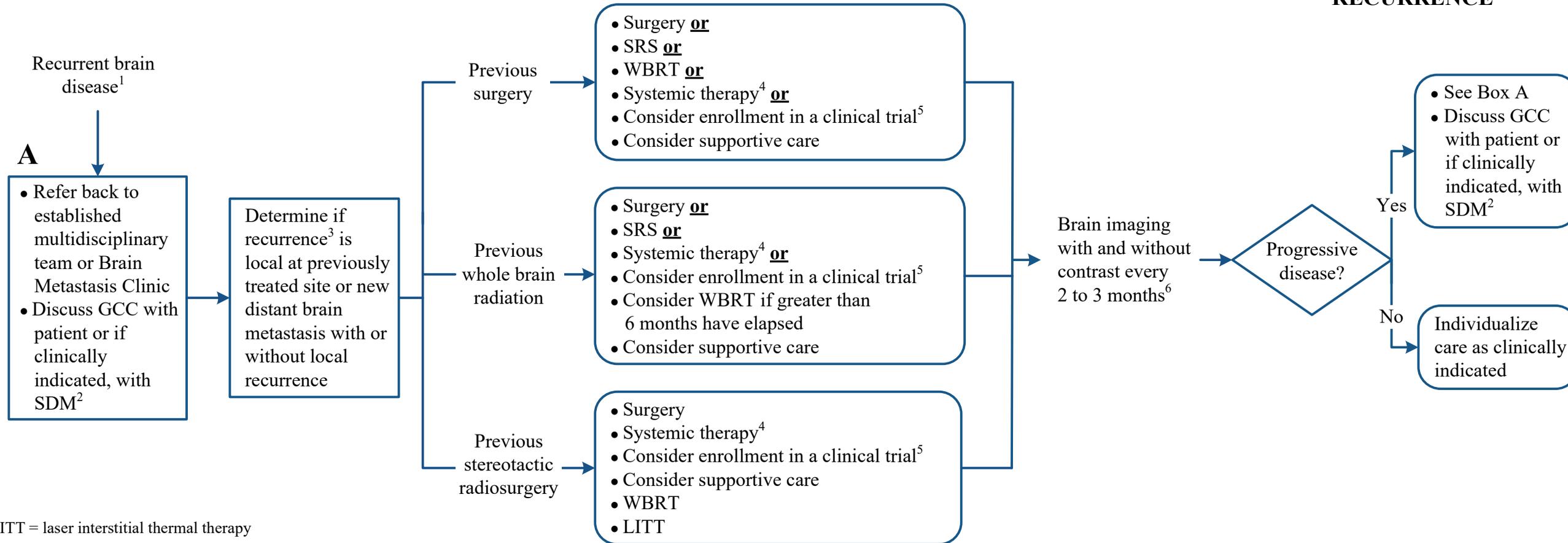
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NOTE: Consider Clinical Trials as treatment options for eligible patients

RECURRENCE

SURVEILLANCE

ADDITIONAL RECURRENCE



LITT = laser interstitial thermal therapy

¹ Clinician should ensure that imaging changes are more likely secondary to tumor recurrence rather than necrosis due to prior stereotactic radiosurgery (SRS)

² GCC should be initiated by the Primary Oncologist. If Primary Oncologist is unavailable, Primary Team Attending Physician to initiate GCC discussion and notify Primary Oncologist. Patients or if clinically indicated the SDM should be informed of therapeutic and/or palliative options. GCC discussion should be consistent, timely, and re-evaluated as clinically indicated. The Advance Care Planning (ACP) note should be used to document GCC discussion. Refer to the [GCC home page](#) (for internal use only).

³ Recurrence on imaging can be confounded by treatment effects; strongly consider tumor tissue sampling if there is a possibility of treatment-related necrosis. Consider advanced brain tumor imaging such as dynamic perfusion and spectroscopic MRI or PET of the brain.

⁴ Systemic disease to be treated as clinically indicated

⁵ Clinical trial is the preferred option if one is available and the patient is eligible

⁶ In selected cases, surveillance may be spaced out as clinically appropriate. Follow-up will be done by the primary team and the team who provided treatment for the brain metastases.

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SUGGESTED READINGS

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This practice algorithm is based on majority expert opinion of the Brain Metastasis workgroup 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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