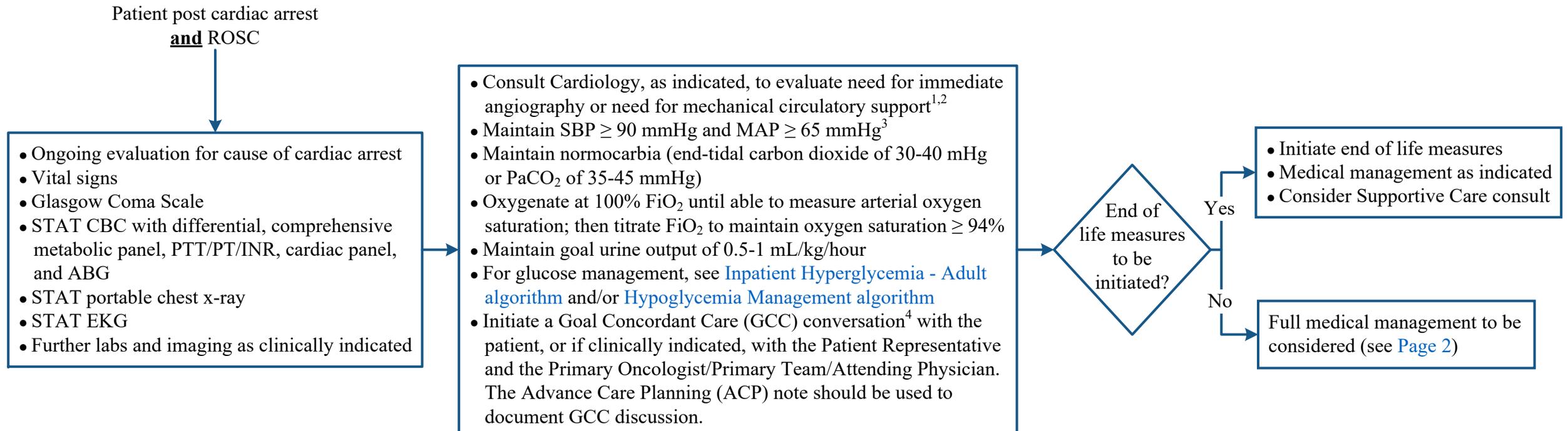


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PRESENTATION AND ASSESSMENT

TREATMENT



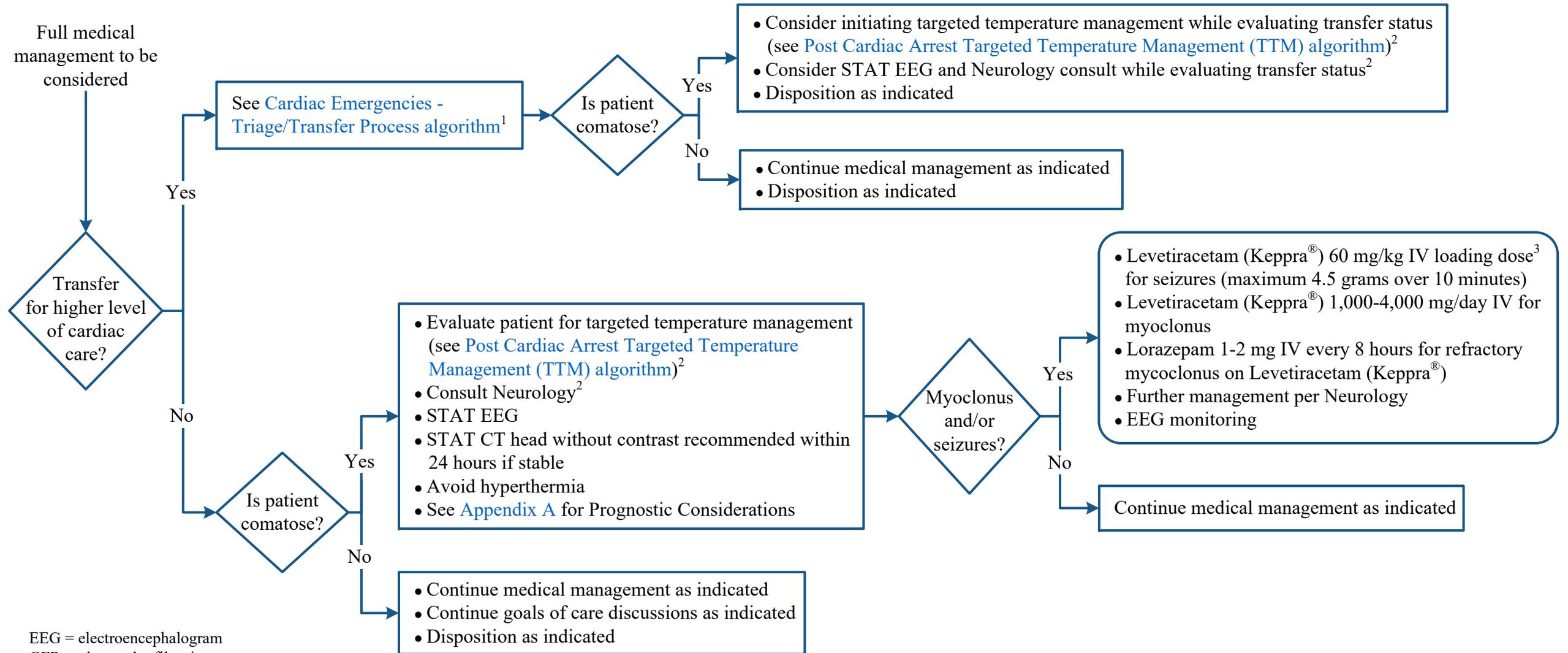
FiO₂ = fraction of inspired oxygen
 MAP = mean arterial pressure
 PaCO₂ = partial pressure of carbon dioxide
 ROSC = return of spontaneous circulation
 SBP = systolic blood pressure

¹ Evaluation and recommendations to be documented in progress notes
² Neurological status should not be used to determine need for immediate angiography
³ Optimal blood pressure should be determined based on optimal organ and brain perfusion for the individual patient
⁴ Refer to [GCC home page](#) (for internal use only)

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FURTHER ASSESSMENT AND TREATMENT

DISPOSITION



EEG = electroencephalogram
 GFR = glomerular filtration rate

¹ Neurological status should not be used to determine need for immediate angiography

² Evaluation and recommendations to be documented in progress notes

³ Reduce loading dose to 20 mg/kg IV if patient is already on levetiracetam (Keppra®) or GFR < 50 mL/minute/1.73 m²

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APPENDIX A: Prognostic Considerations

Note: Not every patient with return of spontaneous circulation (ROSC) will require every test

- Patients who remain comatose in the absence of confounders after ROSC should be evaluated for neurological prognosis, at the earliest, 72 hours after ROSC
- Patients with underlying terminal disease, brain herniation, or other non-survivable situations may be considered for withdrawal of care within 72 hours of ROSC
- Determining neurologic prognosis should be based on a multi-modal approach with a primary focus on clinical assessment. Diagnostic testing which may aid in neurological prognosis include but are not limited to those listed below.
 - Clinical assessment
 - Bilaterally absent pupillary light reflex at 72 hours or more after ROSC
 - Absence of corneal and oculocephalic reflexes at 72 hours or more after ROSC
 - Neurophysiology testing
 - Somatosensory evoked potentials (SSEP) waves in combination with other indices¹
 - Malignant EEG patterns² in combination with other indices
 - Persistent and refractory electrographic seizures
 - Imaging
 - Repeat CT head without contrast for gray white matter distinction³
 - MRI brain without contrast to include diffusion-weighted (DWI), apparent diffusion coefficient (ADC), and fluid-attenuated inversion recovery (FLAIR) sequences
 - Imaging for brain death diagnosis as indicated (see [Determination of Death by Neurological Criteria algorithm](#))
 - Nuclear medicine brain scan with vascular flow
 - Transcranial doppler ultrasonography (TCD)
 - Biomarkers
 - Neuron-specific enolase (NSE) at 24 and 72 hours of ROSC^{4,5,6}

¹ A significant peripheral neuropathy, spinal cord metastasis, and/or brain metastasis may preclude accurate recordings

² Examples of malignant EEG patterns include non reactive EEG in the presence of very low voltage recording, significant burst suppression, generalized periodic discharges, alpha theta coma and stimulus triggered discharges

³ Gray matter to white matter ratio may be considered when possible

⁴ A NSE value of 40-60 micrograms/L or an upward trend has higher specificity for outcome prediction

⁵ NSE could be elevated in certain cancers such as small cell lung cancer and other carcinoid tumors, hemodialysis, brain conditions (limbic encephalitis)

⁶ Neurofilament assay could be considered if NSE is not elevated in the appropriate clinical context (use Misc Reference Lab order)

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