Emergency Management of Acute Ischemic Stroke (AIS) in Adults

Intermountain Canyons, Desert, and Peaks Regions

2026 Update

This CPM is intended to guide frontline clinicians in the evaluation and management of patients with suspected stroke in emergency departments and inpatient settings. The 2026 AHA/ASA Guideline for Early Management of Acute Ischemic Stroke contains several important changes including:

Thrombolytic Treatment

- The tenecteplase (TNK) treatment window expanded from <4.5 hours after last known well (LKW) to up to 24 hours in select patients with favorable imaging findings (see TNK decision algorithm, p. 2).
- Additional patient populations are now eligible for thrombolytic therapy (see TNK contraindications, p. 4).
- Thrombolytic therapy should be considered in patients with disabling neurologic deficits, regardless of NIHSS.

Thrombectomy Treatment

- Eligibility criteria have expanded for patients with basilar artery occlusion, including stronger recommendations and extended treatment windows.
- Mechanical thrombectomy is now recommended for select patients with large-core infarcts. (see *Neurology AIS Resources* for specialist support)

Intermountain's quality of care for the treatment of ischemic stroke is measured against the following standards:

- **Joint Commission and DNV National Quality Measures**
- **Vizient**: Inpatient Mortality
- **American Heart Association**: Get With the Guidelines®; Time to Intravenous Thrombolytic Therapy
- **American Heart Association**: Get With the Guidelines®; Time from Door to Puncture

CPM Responsibility Matrix

	Content Updates	Measurement	Implementation and Adherence
Responsible	Neurosciences Clinical Program (NSCP)	Data Analytics	• NSCP • Emergency Med. Service Lines • TeleNeurosciences • Neuro. Service Lines
Accountable	NSCP	NSCP	
Consulted	• A&A Medical Specialties Clinical Program • Radiology • Pharmacy • Neuro Serv. Line • TeleNeurosciences	Data Analytics DTS	• Emergency Medicine Service Lines • Neuro. Service Lines • Radiology
Informed	• Chief Clinical Program (CCP)Officer • TeleNeurosciences	CCP Officer	• CCP Officer • Clinical Programs Steering Committee

Intermountain Goals and Measures

- ED arrival to Stroke or TeleStroke activation
  - Goal: ≤10 minutes
- ED arrival to CT scan
  - Goal: ≤15 minutes
- ED arrival to IV thrombolytic
  - Goal: ≤60 minutes
    Stretch ≤45 minutes
- ED arrival to deployment of endovascular therapy (EVT) device
  - Goal: ≤90 minutes for direct ED arrival
  - Goal: ≤60 minutes for transferred patients
- Watch metric: rate of symptomatic intracerebral hemorrhagic (sICH) conversion of ischemic stroke.

Key Supporting Evidence

2026 AHA/ASA Guideline for Early Management of Acute Ischemic Stroke

Caregiver Resources

- Intermountain Stroke Services
- Emergency Management of Acute Ischemic Stroke in Pediatrics
- NIH Stroke Scale (NIHSS) English/Spanish
- NIHSS AHA Learning Center
- Emergency Management of Non-Traumatic Intracerebral Hemorrhage CPM
- Transient Ischemic Attack CPM
- Neuro Stroke Dashboard

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Initial Triage

Patient ≥ 18 years of age presents with signs and symptoms of stroke (A)

Determine time last known well (LKW) (B)

<24 hours

- Activate "Code Stroke" (consider code stroke 1 or 2 based on hospital protocol)
- Activate ED Code Stroke order set
- Obtain CT head, CTA head+neck, and CTP
- Maintain appropriate BP at each step (C)

ICH

- Activate Hemorrhagic Stroke order set; Follow *Non-Traumatic ICH CPM*
- Call Neurocritical Care, ICU or neurosurgery depending on local workflow

CT without ICH

>24 hours

- Obtain CT head and CTA head+neck
- Workup possible subacute stroke
- Consider neurology consult if available

Symptoms resolved

- Obtain CT head and CTA head+neck
- Workup possible TIA. See *Transient Ischemic Attack (TIA) CPM*
- Consider neurology consult if available

Subacute stroke, ICH, or LVO

- Consult with neurology
- Consider appropriate level of care for admission

Possible Acute Ischemic Stroke

Tenecteplase (TNK) Decision

(In collaboration with neurology)

LKW <4.5 hrs

Consider TNK treatment if ALL below are true

- Presence of disabling deficits (regardless of NIHSS)
- No other contraindications to TNK (p.4)

If arterial occlusion is present see thrombectomy guidance on next page

See *Neurology AIS Resources* for specialist support

LKW >4.5 – 24 hrs

Consider TNK treatment if ALL below are true

- Presence of disabling deficits (regardless of NIHSS)
- No other contraindications to TNK (p.4)
- CTP shows favorable penumbra
- Absence of significant hypodensity on CT

If unable to make decision based on CTP

Consider STAT MRI to guide TNK decision if ALL below are true.

- Recommended by neurology
- Negative head CT
- MRI obtainable within treatment window
- Patient is a TNK candidate AND desires TNK

(A) BE FAST

- **B**alance or coordination: Sudden loss
- **E**yes: Sudden loss of vision/double vision
- **F**ace: Sudden weakness
- **A**rms or legs: Sudden weakness
- **S**peech: Sudden difficulty
- **T**ime: Time the symptoms started

(B) Determine Time Last Known Well

- Time of last normal interaction with another person
- Bedtime and when patient awoke with deficits
- Patient-reported onset time, if this is dependable despite current deficits

(C) Blood Pressure Goals

Clinical Situation	BP Goal mmHg
Code Stroke activation (prior to CT)	<220/120
Ischemic stroke, No TNK, No LVO	<220/120
Ischemic Stroke, Yes TNK ± LVO	Before TNK <185/110 After TNK: <180/105
Ischemic Stroke, No TNK, Yes LVO	Before thrombectomy <220/120 After thrombectomy <180/105 (do not drive SBP <140)
Hemorrhagic Stroke	*Non-Traumatic ICH CPM*

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Thrombectomy Decision

(In collaboration with neurology)

Thrombectomy decision is at the discretion of the neurologist and neurointerventionalist and is informed by the following clinical findings:

- Degree of hypodensity on CT
- Baseline mRS
- NIHSS

For details see supplementary information: *Neurology AIS Resources*

Likely Probability of Thrombectomy Based on Location and Type of Occlusion	
Location / Type of Occlusion	**General Recommendation**
MCA, ICA, or basilar occlusion	Thrombectomy is usually recommended
MCA branch	Thrombectomy is often recommended
PCA or ACA occlusion	Thrombectomy may be pursued in some situations
Vertebral artery occlusion	Thrombectomy not routinely pursued

Actions Prior to Thrombectomy

To prepare for thrombectomy:

- Keep head of bed flat
- Manage blood pressure according to **(C)**
- Give normobaric hyperoxemia (10 L / min per face mask, 1.0 FiO_2 if intubated) for 4 hrs total hyperoxygenation. Exceptions include:
  - ASPECTS < 6
  - Active respiratory disease
  - ARDS
  - Active requirement of > 3 L / min supplemental oxygen
  - COPD

Hyperoxygenation should not delay thrombectomy. If there are barriers (e.g., during transport) the higher priority is to get to endovascular thrombectomy (EVT) rapidly.

(C) Blood Pressure Goals

Clinical Situation	BP Goal mm Hg
Code Stroke activation (prior to CT)	< 220 / 120
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Ischemic Stroke, Yes TNK ± LVO	Before TNK < 185 / 110 After TNK: <180 / 105
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Contraindications to Thrombolytic Administration

Absolute Contraindications	
CT results	• Acute hemorrhage • Clear extensive hypodensity that appears to be causing the stroke symptoms • Intra-axial neoplasm
Comorbidities	• Severe thrombocytopenia (platelets <100,000/mm^3) • Severe coagulopathy (INR >1.7, aPTT > 40 s, or PT >15 s) • Aortic arch dissection (known or suspected) • Infective endocarditis (known or suspected based on symptoms) • Anti-amyloid-related imaging abnormalities (ARIA)
Pharmacotherapy	• Amyloid immunotherapy for Alzheimer's (e.g., lecanemab, donanemab)
Recent CNS History	• Moderate/severe traumatic brain injury in past 14 days including: – neuroimaging showing skull fracture, hemorrhage, or contusion – Glasgow Coma Score of <13 and loss of consciousness >30 min. • Neurosurgery (intracranial or spinal) in past 14 days • Acute spinal cord injury within past 3 months
Relative Contraindications TNK administration should be individualized based on clinical circumstances, likelihood of severe disability, and consultation with appropriate specialists when needed.	
Comorbidities	• Intracranial arterial dissection • Intracranial vascular malformations – unruptured and untreated • Left atrial or ventricular thrombus (cardiology consult recommended) • Malignancy – systemic and active; safety is unknown (oncology consult recommended) • Pregnancy or postpartum (obstetrics consult recommended) • Concurrent STEMI (cardiology consult recommended) • Acute pericarditis (cardiology consult recommended)
Pharmacotherapy	• DOAC exposure in past 48 hrs. Safety is unknown. Consider timing of DOAC, renal function, stroke severity, and availability of thrombectomy and reversal agents.
Recent CNS History	• Ischemic stroke ≤3 months ago • Moderate/severe traumatic brain injury ≥14 days to 3 months ago (neurosurgery/neurocritical consult recommended) • Neurosurgery ≥14 days to 3 months ago (neurosurgery consult recommended) • Dural puncture ≤7 days ago • Prior intracranial hemorrhage (ICH). Thrombolysis safer for patients if prior ICH was caused by modifiable risk factor such as HTN or coagulopathy.
Other Recent History	• STEMI within last 3 months (cardiology consult recommended) • Arterial puncture of a non-compressible blood vessel (e.g., subclavian artery) ≤7 days ago • Major non-CNS trauma between 14 days and 3 months ago (surgical consult recommended) • Major non-CNS surgery ≤10 days ago (surgical consult recommended) • GI/GU bleeding ≤21 days ago (GI consultation recommended)

No Contraindication		
Benefits of thrombolytic therapy generally outweigh the risks	• Stroke diagnosis uncertainty • Unruptured cranial aneurysm • Cranial neoplasm – extra axial • Stroke associated with extracranial cervical arterial dissection	• Stroke precipitated by angiographic procedure • Recreational drug use • Remote history of GI/GU bleed • Remote history of myocardial infarction • Moya-moya disease

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This CPM presents a model of best care based on the best available scientific evidence at the time of publication. It is not a prescription for every physician or every patient, nor does it replace clinical judgment. All statements, protocols, and recommendations herein are viewed as transitory and iterative. Although physicians are encouraged to follow the CPM to help focus on and measure quality, deviations are a means for discovering improvements in patient care and expanding the knowledge base. Send feedback to Intermountain's Neurosciences Clinical Program.

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