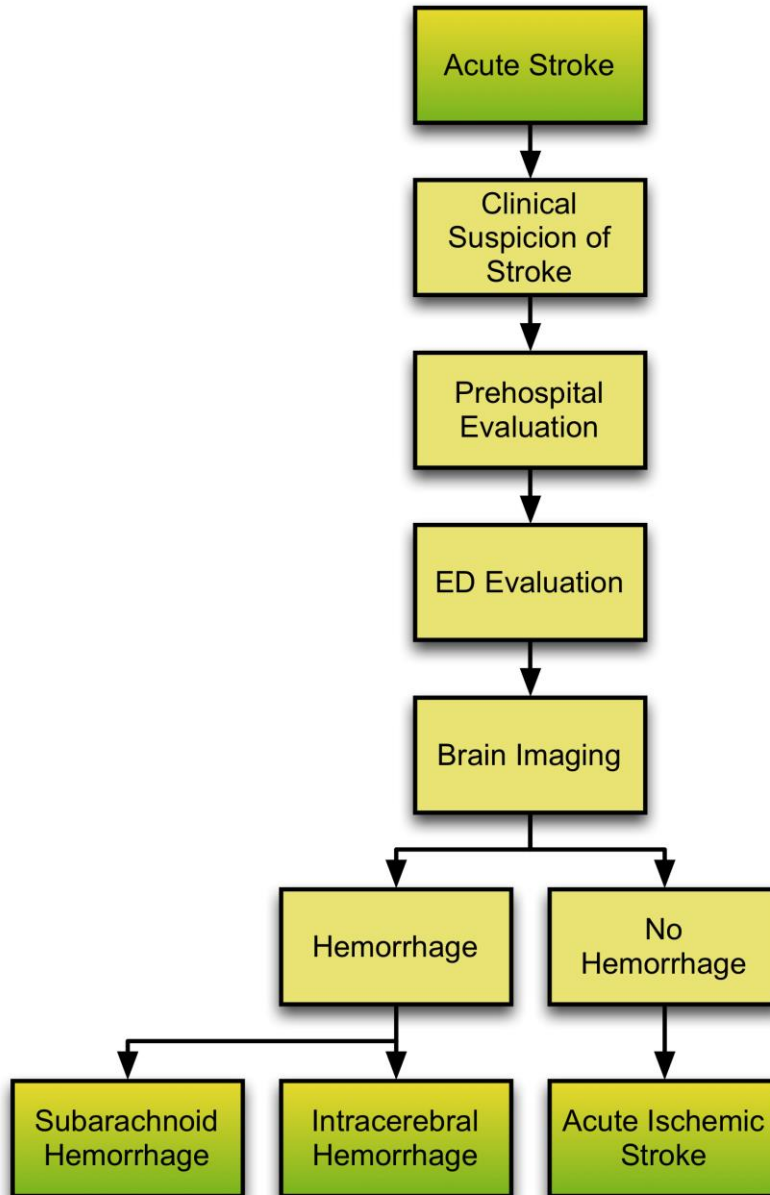


Emergency Neurological Life Support

Acute Stroke Initial Assessment

Version: 2.0

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[Checklist & Communication](#)



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Acute Stroke

Acute stroke is often diagnosed outside of the medical care setting and first responders can have a significant impact on patient outcome by evaluating and transporting the patient quickly to a center with expertise in stroke. This protocol is mostly definitional in that it explains the classification of a patients into 3 diagnoses each with a specific ENLS protocol: [Acute Ischemic Stroke](#), [Intracerebral Hemorrhage](#) and [Subarachnoid Hemorrhage](#). This protocol overlaps somewhat with each of these specific protocols so one should follow the first hour checklist and communication items listed in the specific protocol pertaining to the final diagnosis.



Imaging does not show hemorrhage

If the CT is normal, or shows an ischemic infarct, or an MRI was done using DWI imaging and shows an acute infarct, acute ischemic stroke is diagnosed. Refer to the ENLS protocol [Acute Ischemic Stroke](#).



Imaging Shows Hemorrhage

CT or MR imaging show a hemorrhage

CT or MRI imaging reveal hemorrhage in the brain accounting for their neurological findings. Now determine whether the blood is in the subarachnoid space or within the brain itself (including ventricle).



Intracerebral Hemorrhage

Most of the blood is within the brain parenchyma

If there was clear evidence of head trauma, the blood may be simply due to the trauma alone. If so, refer to ENLS protocol [Traumatic Brain Injury](#).

If there is no evidence of head trauma, refer to the ENLS protocol [Intracerebral Hemorrhage](#).

Clinical suspicion of stroke

Typically discovered out of hospital

Clinical suspicion of a stroke should be raised if there is acute onset of focal neurologic symptoms: typically, unilateral weakness of the face and arm, the face, arm and leg or of a single limb. Sensory complaints (numbness/tingling) may also be present. Gaze deviation to one side, no blink to your fingers coming from the left or the right to an eye (called a visual field cut/no blink to visual threat), inability to speak but with eyes open, or unilateral problems with coordination or the sudden inability to walk. Sudden onset, severe headache may be a sign of subarachnoid hemorrhage (ruptured cerebral aneurysm). All of these may be present alone or in combination. The key component is sudden onset.

Prehospital evaluation

Prehospital Evaluation:

- 911/EMS services alerted by phone
- ABCs
- Stroke screening tool
- Figure out the time the patient was last known to normal; if the patient cannot tell you, ask a bystander. If the patient went to bed and awoke with the stroke symptoms, the time of onset is defined as when they went to bed
- Medication list*
- Triage to closest stroke center

* When asking about medications, be sure to ask about anticoagulants: e.g. warfarin, heparin (dialysis), low molecular weight heparin (enoxaparin, dalteparin), dabigatrin, apixaban, and rivaroxaban, and when medication was last taken/administered.



Primary Emergency Department Assessment

Emergency department evaluation:

- ABCs
- Focused neurologic exam (5 minutes): GCS, NIHSS
- History: medications, document any atrial fibrillation
- Labs: CBC, PT/PTT, glucose, chemistry panel

Cerebrovascular Imaging

Imaging:

- CT or MRI - CT is usually faster
- Consider "Stroke CT" that includes non-contrast head CT, CTA (angiography) of the neck and brain, and CT perfusion of the brain
- Consider MRI that includes MRA of head and neck, DWI and MR perfusion of the brain

Note: imaging inclusions and exclusions regarding t-PA administration are typically based on a non-contrast CT of the head alone.

See [Acute Ischemic Stroke](#) algorithm for more detail on imaging modalities.

Subarachnoid Hemorrhage

CT or MRI shows blood in the subarachnoid space

The predominance of blood is in the subarachnoid space. If there was clear evidence of head trauma, the blood may be simply due to the trauma alone. If so, refer to the ENLS protocol [Traumatic Brain Injury](#).

If the predominance of blood is in the subarachnoid space and there is no evidence of head trauma, the hemorrhage is likely due to a ruptured cerebral aneurysm. Refer to the ENLS protocol [Subarachnoid Hemorrhage](#).