


SUSPECTED STROKE

UPDATED 2/2024


ALL PROVIDERS/EMT

- Focused history and physical exam
 - Blood glucose, temperature and oxygen saturation assessment.
 - Keep NPO.
 - Document symptom onset time and time last seen normal.
- Continuous cardiac, blood pressure, ETCO₂, and pulse oximetry monitoring
- Obtain a 12 Lead EKG, if available but do not delay transport.
 - Remember that patients presenting with stroke like symptoms and ST-elevation may in fact have an aortic dissection. Notify receiving facility of your findings.
- Treatment Plan**
 - Perform **Cincinnati Stroke Scale (CSS)** to determine if a stroke is likely present (below)
 - If any one of these three signs are abnormal, the probability of stroke is 72%.
 - If **ALL 3** signs are abnormal, there is a high probability that the stroke is due to an LVO.
 - Like a positive Cincinnati Stroke Triage Assessment Tool (C-STAT), a CSS score of 3 or more indicates a large vessel occlusion (LVO) stroke is likely present. An LVO stroke may be best treated with an endovascular thrombectomy (direct clot removal) at a specialized stroke center (TSC or CSC).
 - Determine Last Known Well (LKW) time
 - Time when the patient was last seen without new stroke symptoms
 - Destination guidelines for stroke patients:
 - If **CSS is 3 AND** you will arrive at the destination hospital within:
 - 0-4 hours since LKW: Transport to nearest IV tPA-capable hospital (with pre-notification and possible LVO transport protocol activated by hospital).
 - 4-24 hours since LKW: Transport to thrombectomy-capable center (TSC/CSC) if no more than 30 minutes of added transport time over transport to a closer SRF / PSC.
 - > 24 hours since LKW: Transport to closest stroke center (any level of certification)
 - If **CSS is negative**, Transport to closest stroke center of any level of certification.
 - Consider air medical transport to facilitate rapid transport when needed.
 - Acquire the cell phone number of family members/next of kin to provide to clinicians so they can call them and ask questions if needed.
 - Alert the receiving emergency department that you are transporting a suspected stroke patient as soon as you have made a destination decision. Inform them if the patient is “CSS” positive, their numerical number, and of their presenting symptoms.


Cincinnati Stroke Scale (CSS)



Face drooping



Arm weakness



Speech problems

Facial droop = 1 point

- a) Normal: Both sides of face move equally (0 points)
- b) Abnormal: One side of face does not move at all (1 point)

Arm weakness = 1 point

- a) Normal: Both arms move equally or not at all (0 points)
- b) Abnormal: One arm drifts down compared to the other (1 point)

Speech problems = 1 point

- a) Normal: Patient uses correct words with no slurring (0 points)
- b) Abnormal: Slurred or inappropriate words or mute (1 point)

Total Score = 0-3

Interpretation:

- If any 1 of these 3 signs is abnormal, the probability of a stroke is 72%.
- If **ALL 3** signs are abnormal, there is a high probability that the stroke is due to an LVO.

- Pediatric Considerations**

- Children can have strokes too. Some risk factors include sickle cell disease, congenital and acquired heart disease, head and neck infections, systemic conditions, (e.g. inflammatory bowel disease and autoimmune disorders), head trauma or dehydration.

ADULT

PEDIATRIC (<15 years of Age)
NOTE: Pediatric weight-based dosing should not exceed Adult dosing.

EMT

EMT

- Apply oxygen to maintain oxygen saturation 90 - 95%
- Evaluate and Document **Cincinnati Stroke Scale (CSS)** during assessment. The scale is positive (a stroke is likely) if ANY of following are abnormal:
 - **Facial Droop = 1 point**
 - Normal: Both sides of face move equally (0 points)
 - Abnormal: One side of face does not move as well as the other (or not at all) (1 point)
 - **Arm Drift = 1 point**
 - Normal: Both arms move equally or not at all (0 points)
 - Abnormal: One arm does not move, or drifts down compared to the other (1 point)
 - **Speech = 1 point**
 - Normal: Patient uses correct words with no slurring (0 points)
 - Abnormal: Slurred or inappropriate words or mute (1 point)

- Apply oxygen to maintain oxygen saturation 90 - 95%
- Evaluate and Document **Cincinnati Stroke Scale (CSS)** during assessment. The scale is positive (a stroke is likely) if ANY of the following are abnormal:
 - **Facial Droop = 1 point**
 - Normal: Both sides of face move equally (0 points)
 - Abnormal: One side of face does not move as well as the other (or not at all) (1 point)
 - **Arm Drift = 1 point**
 - Normal: Both arms move equally or not at all (0 points)
 - Abnormal: One arm does not move, or drifts down compared to the other. (1 point)
 - **Speech = 1 point**
 - Normal: Patient uses correct words with no slurring (0 points)
 - Abnormal: Slurred or inappropriate words or mute (1 point)

AEMT

AEMT

- Advanced airway, vascular access and fluid therapy

- Advanced airway, vascular access and fluid therapy

PARAMEDIC

PARAMEDIC