

APPENDIX A

Prehospital Stroke Screening Systems from Different Communities

■ Cincinnati Prehospital Stroke Scale

Assess for the unilateral presence of at least one of the following:

| <i>Item</i> | <i>Description</i> |
|----------------|--|
| Facial droop | Ask the patient to smile. Watch for weakness on one side of the face. |
| Arm drift | Ask the patient to hold both arms out with palms up and eyes closed for 10 seconds. Watch for a drift of one side. A positive result is present if there is weakness in one arm. Weakness in both arms or normal strength is a negative test result. |
| Slurred speech | Ask the patient to repeat a simple sentence such as "The sky is blue in Cincinnati." Inability to repeat the words correctly and intelligibly is a positive result. |

■ Los Angeles Prehospital Stroke Scale

| <i>Criteria</i> | <i>Yes</i> | <i>Unknown</i> | <i>No</i> |
|---|--------------------------|--------------------------|--------------------------|
| 1 Age > 45 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 No history of seizures | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Symptoms < 24 hrs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Not wheelchair-bound or bedridden at baseline | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 Glucose 60–400 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Assess symmetry in facial movement, hand grip, or arm strength

| | <i>Normal</i> | <i>Right</i> | <i>Left</i> |
|---|--------------------------|--|--|
| Facial smile/grimace | <input type="checkbox"/> | <input type="checkbox"/> Droop | <input type="checkbox"/> Droop |
| Grip | <input type="checkbox"/> | <input type="checkbox"/> Weak <input type="checkbox"/> None | <input type="checkbox"/> Weak <input type="checkbox"/> None |
| Arm strength | <input type="checkbox"/> | <input type="checkbox"/> Drifts down <input type="checkbox"/> Falls rapidly | <input type="checkbox"/> Drifts down <input type="checkbox"/> Falls rapidly |
| | <i>Yes</i> | | <i>No</i> |
| 6 Based on exam, patient has only unilateral weakness | <input type="checkbox"/> | | <input type="checkbox"/> |

Items 1-6 all Yes or Unknown, then LAPSS criteria are met. If LAPSS criteria are met, then call the receiving hospital with a "code stroke"; if not, then return to the appropriate treatment protocol. (Note: the patient may still be experiencing a stroke even if the LAPSS criteria are not met.) From Kidwell CS, Starkman S, Eckstein M, et al. Identifying stroke in the field. Prospective validation of the Los Angeles Prehospital Stroke Screen (LAPSS). Stroke 2000; 31: pp. 71-76.

■ Dallas Area Stroke Council Stroke Evaluation Sheet

| | <i>Yes</i> | <i>No</i> | <i>Unknown</i> |
|--|--------------------------|--------------------------|--------------------------|
| 1 Age 18 years old or older? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Symptom(s) onset 3.5 hours or less? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Are any of the following symptoms present? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| a) Facial droop | | | |
| b) Sudden asymmetry in neurological exam | | | |
| c) Weak grip or loss of grip | | | |
| d) Arm drift | | | |
| e) Sudden abnormal speech | | | |
| f) Sudden imbalance in walking | | | |
| g) Acute arm and/or leg weakness | | | |
| h) Sudden loss of vision | | | |

If the answers to questions 1, 2, and 3 are all “yes,” the patient is considered to be having an acute stroke event under this protocol. If the answer to any of these 3 questions is “no” or “unknown,” then the patient should be transported to the closest appropriate facility or to the hospital of the patient’s choice.

■ BREMSS Stroke Observation Scale

| | |
|-------------------------------|--|
| <i>Level of consciousness</i> | Alert – 0 Requires stimulation – 2 |
| <i>Visual function</i> | No deficit – 0 Any deficit – 2 |
| <i>Facial function</i> | Symmetrical movements upon smiling – 0 Any lateralization – 2 |
| <i>Arm/leg movements</i> | Normal symmetry – 0 Arm or leg weaker than contralateral – 2 |
| <i>Verbal function</i> | Normal communication skills – 0 Abnormal articulation or language content – 2 |

Entering a patient into the Stroke System

- 1 Call the Trauma Communication Center (TCC) as soon as practical.
- 2 Identity yourself and your agency by name and number. If on-line medical direction is necessary, the receiving stroke hospital becomes medical direction. TCC will help coordinate on-line medical direction with a physician immediately.
- 3 Give location and request any additional resources needed.
- 4 Give age and sex of patient (patient name is not necessary).
- 5 Give criteria of entry.
- 6 Give vital signs — BP, P, R, GCSS or AVPU, glucometer reading.
- 7 TCC will offer available stroke hospitals based on information given above.
- 8 Give transportation type/provider.
- 9 Give PCR number and time of transport.

The receiving stroke hospital should be updated by the transporting unit 5–10 minutes out. This update need only consist of any patient changes and patient’s current condition. A repeat of information used to enter the patient into the stroke system is not necessary, as this information will be relayed by the TCC to the receiving stroke hospital.

After the patient is delivered to the stroke hospital, the transporting provider should call the TCC with Patient Care Report times.

■ West Central Florida EMS

STROKE ALERT AGENCY _____

Date: _____/Time: _____ Rescue Unit #: _____ Age _____ Male: Female:

Pt. Name _____ Incident # _____

CINCINNATI STROKE SCALE (FAST)

(check if abnormal)

- F-(face) FACIAL DROOP:** Have patient smile or show teeth. (Look for asymmetry.)
Normal: Both sides of the face move equally or not at all.
Abnormal: One side of the patient's face droops.
- A-(arm) MOTOR WEAKNESS:** Arm drift (close eyes, extend arms, palms up).
Normal: Remain extended equally, or drifts equally or does not move at all.
Abnormal: One arm drifts down when compared with the other.
- S-(speech) "You can't teach an old dog new tricks"** (repeat phrase).
Normal: Phrase is repeated clearly and correctly.
Abnormal: Words are slurred (dysarthria) or abnormal (aphasia) or none.

T-TIME of SYMPTOM ONSET: _____ **!**

EVENT WITNESS NAME _____ Cell Phone _____ Home _____ Pager _____

CLOSEST RELATIVE NAME (if different) _____

Cell Phone _____ Home _____ Pager _____

STROKE ALERT criteria met – Transport IMMEDIATELY.

Determine if destination facility can handle an acute stroke (see below).

PERTINENT HISTORY/SYMPTOMS

- Cardiac Arrhythmias
- Weakness/numbness
- Dizziness
- Headache, Nausea/Vomiting, Neck Pain*
- Visual Disturbances
- Other _____
- Head trauma at onset**
- Seizure at onset**
- On Coumadin (Warfarin)**
- Recent or current bleeding, trauma, surgery, or invasive procedure**
- Bleeding Disorder**
- Pregnancy**

EVALUATION:

SpO2 _____ % Glucose _____ mg/dl

TREATMENT:

Head Elevation > 30 (unless hypotensive)
 IV NaCl (2 sites preferred, draw labs)
 O2 @ 2 L/min (unless hypoxic then high flow)
 Drug Therapy _____
 Other _____

*HEADACHE ONSET: If present, was onset that of a classic "explosive" headache that is the "worst of the patient's life"?: YES NO (if yes, consider aneurysm)

Vital Signs: P: _____ R: _____ BP: Lt: _____ Rt: _____

Destination: Onset < 2hours, Transport to facility capable of IV thrombolytics within 3 hour window

Onset 2-4 hours, Consider transport to facility capable of Intra-cerebral thrombolytics

* For suspected aneurysms **or**

** When lytics are potentially contraindicated: consider transport (including aeromedical) to Neuroendovascular/Neurosurgical facility

Hospital Destination: _____ Time Stroke Alert called: _____

Name of hospital contact person: _____ Time arrived at hospital _____