FLUSHING VOLUNTEER FIRE DEPARTMENT

104 High Flushing, Ohio 43977

Phone: (740)968-4700 Fax: (740)968-1002 Email fvfd@ymail.com

Flushing Volunteer Fire Department

Agency # 07-221

Medical Director Dr William Brocklehurst,MD

Stroke Protocol enclosed

Sincerely,
Robert Eberhart
FVFD Fire Chief

GENERAL CONSIDERATIONS

A. Patients who experience a transient ischemic attack (TIA) develop most of the same signs and symptoms as those who are experiencing a stroke. The signs and symptoms of TIAs can last from minutes up to a few hours. Thus, the patient may initially present with typical signs and symptoms of a stroke, but those findings may progressively resolve. TIAs are frequently a warning sign of impending stroke. Therefore, the patient needs to be transported, without delay, to the most appropriate hospital for further evaluation even if the TIA has resolved.

B. Some patients who have had a stroke may be unable to communicate but can understand what is being said to and around them.

C. Place the patient's affected or paralyzed extremity in a secure and safe position during patient movement and transport.

D. Hypertension in stroke patients routinely should not be treated in the prehospital setting. Any treatment of hypertension should be completed with on-line medical direction. Nitroglycerin should not be used unless signs and symptoms consistent with acute myocardial infarction (AMI) are present.

E. New therapies for stroke are now available. Stroke patients can receive effective acute treatment up to 24 hours after the onset of symptoms. Early notification of the receiving hospital and minimizing scene time are important elements of a strategy to treat stroke patients quickly and improve patient outcomes.

F. Time of onset of signs and symptoms must always be obtained, documented, and relayed to the receiving facility. Time of onset is defined as the time the patient was last known to be at their normal baseline unless the onset was witnessed. Time of onset of symptoms needs to be accurately determined for consideration of thrombolytic therapy or endovascular intervention. In patients whose symptoms were present upon awakening, their symptom onset is estimated from the last time that the patient's neurologic status was known to be at their normal baseline neurologic status or the time just prior to going to sleep ("last known well").

G. When obtaining the patient's medical history, ask the patient or family members on scene if the patient takes warfarin or any other anticoagulant medication. If known by the patient or the family, obtain the medical condition for which the patient has been prescribed an anticoagulant and if the patient has fallen during the onset of stroke symptoms or has sustained recent trauma.

H. A validated prehospital stroke scale and a validated prehospital stroke severity scale should be used during the assessment of a stroke patient. If available, telemedicine is a valuable adjunct for patient assessment and triage. Currently, there is no evidence-based research that demonstrates that one prehospital stroke assessment tool is superior compared to others. In addition, stroke scales have not been validated for pediatric patients. A validated prehospital stroke scale may include, but is not limited to, assessment of:

   1. Facial droop/smile/grimace
   2. Arm drift
   3. Speech

   A validated prehospital stroke severity scale may include, but is not limited to, presence of:

   1. Vision disturbance
   2. Aphasia
   3. Sensory neglect

I. Patients who are poorly responsive to verbal or painful stimuli, exhibiting decorticate or decerebrate posturing, or have a rapid decline in their neurologic status need ALS as soon as possible.

J. The acuity of hospitals with certified stroke centers includes acute stroke ready, primary stroke, thrombectomy-capable, and comprehensive stroke centers. Certified thrombectomy-capable and

comprehensive stroke centers have endovascular thrombectomy (EVT) capabilities for the treatment of stroke victims with a large vessel occlusion (LVO).

K. Patients for whom the onset of stroke symptoms can be confirmed within 24 hours or less of the activation of initiation of the emergency response system should be transported directly to a certified stroke center based upon the local resources and stroke system of care. Patients with a suspected LVO based upon the use of a stroke severity tool should be transported to a thrombectomy-capable or comprehensive stroke center if the additional transport time is not more than 15 – 30 minutes. At a minimum and as a secondary option, the patient with a suspected acute stroke should be transported to a hospital with a functioning CT scanner and emergent radiology services available.

EMT

A. Open and manage the airway and provide oxygen by nasal cannula 4 L/min and increase as needed with respiratory distress.

1. Apply pulse oximeter and treat per procedure. Maintain 94 – 98% SpO_2.

2. Be prepared to oxygenate and/or assist ventilations with oral or nasal airway and BVM or PPV.

B. Evaluate patient's general appearance, relevant history of condition and determine:

Onset of the event
Provocation or palliation
Quality of the pain
Region and radiation
Severity
Time

Signs and symptoms
Allergies
Medications
Past Medical History - especially, recent surgery, any abnormal related ingestion, previous trauma, related medical diseases
Last oral intake
Events leading to present illness

C. Determine blood glucose level.

1. For a blood glucose < 60 mg/dL, administer 1 tube of oral glucose. May be repeated in 10 minutes if blood glucose remains below 60 mg/dL.

PATIENT MUST HAVE A GAG REFLEX

2. Blood glucose ≥ 60 mg/dL, begin immediate transport.

D. If unable to check blood glucose, with signs of stroke, establish communications with medical direction and advise of patient condition.

E. Transport immediately unless an ALS unit is enroute for a stroke patient with severe or worsening symptoms and has an ETA of less than 5 minutes to the scene.

AEMT

A. Assist EMS professionals, obtain patient condition and circumstance.

B. Apply monitor and check rhythm.

C. Start heplock/saline lock or IV normal saline TKO while enroute to hospital.

D. Determine blood glucose level.

1. If blood glucose less < 60 mg/dL, administer dextrose 25 Gm IV push or glucagon 1 mg IM. The administration may be repeated in 10 minutes if blood glucose remains below 60 mg/dL.

DO NOT DELAY TRANSPORT

PARAMEDIC

A. Assume charge of situation and confer with EMS professionals about condition of patient and situation.

B. If patient does not have a secure protected airway, intubate per the endotracheal intubation guideline.

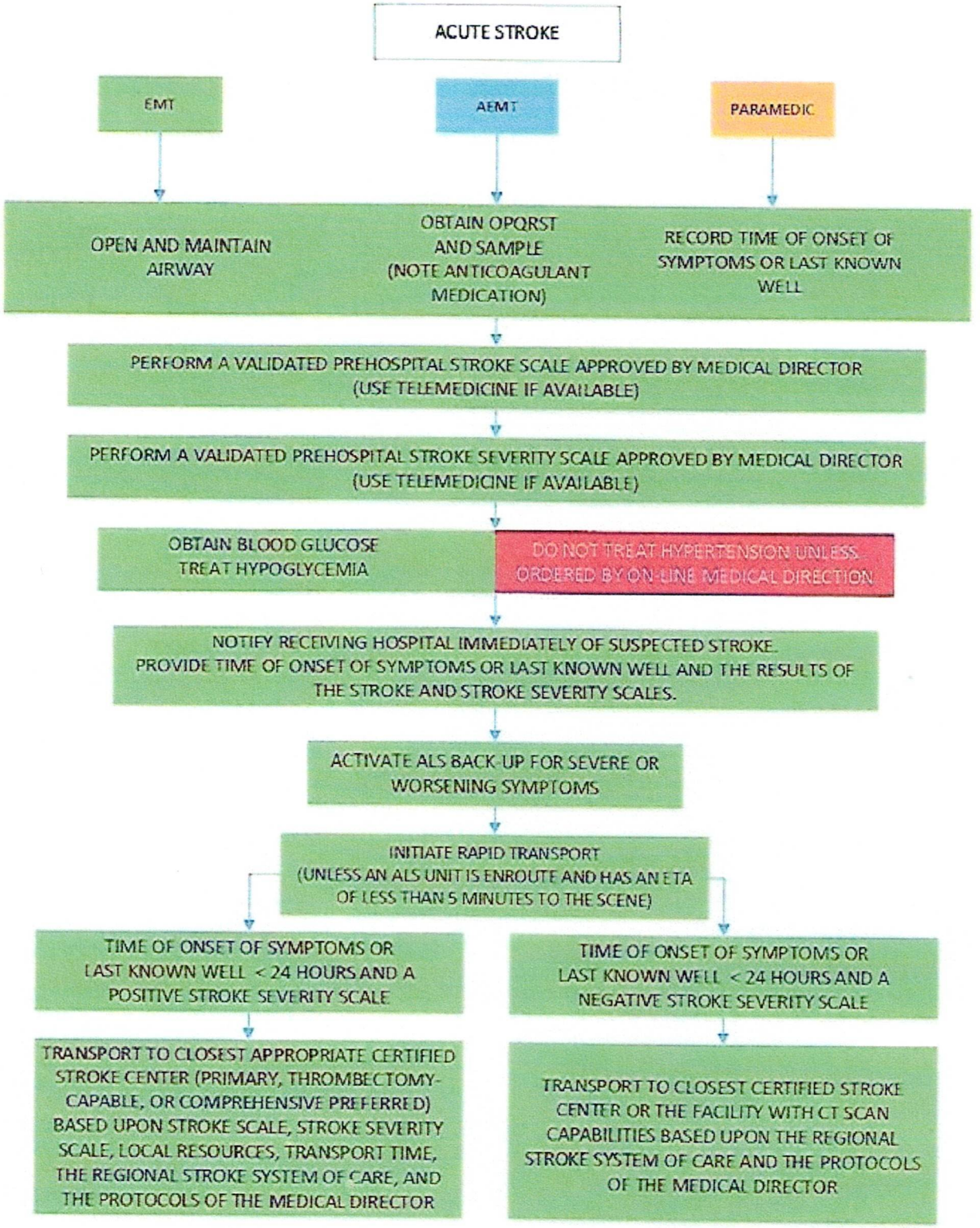
C. Apply monitor and check rhythm.

D. Establish heplock/saline lock or IV normal saline TKO.

E. Determine blood glucose level.

1. If blood glucose < 60 mg/dL, administer dextrose 25 Gm IV push or glucagon 1 mg IM. The administration may be repeated in 10 minutes if blood glucose remains below 60 mg/dL.

F. Re-evaluate patient condition, contact medical direction, and transport immediately to hospital.


ACUTE STROKE
EMT
AEMT
PARAMEDIC
OPEN AND MAINTAIN AIRWAY
OBTAIN OPQRST AND SAMPLE (NOTE ANTICOAGULANT MEDICATION)
RECORD TIME OF ONSET OF SYMPTOMS OR LAST KNOWN WELL
PERFORM A VALIDATED PREHOSPITAL STROKE SCALE APPROVED BY MEDICAL DIRECTOR (USE TELEMEDICINE IF AVAILABLE)
PERFORM A VALIDATED PREHOSPITAL STROKE SEVERITY SCALE APPROVED BY MEDICAL DIRECTOR (USE TELEMEDICINE IF AVAILABLE)
OBTAIN BLOOD GLUCOSE TREAT HYPOGLYCEMIA
DO NOT TREAT HYPERTENSION UNLESS ORDERED BY ON-LINE MEDICAL DIRECTION
NOTIFY RECEIVING HOSPITAL IMMEDIATELY OF SUSPECTED STROKE. PROVIDE TIME OF ONSET OF SYMPTOMS OR LAST KNOWN WELL AND THE RESULTS OF THE STROKE AND STROKE SEVERITY SCALES.
ACTIVATE ALS BACK-UP FOR SEVERE OR WORSENING SYMPTOMS
INITIATE RAPID TRANSPORT (UNLESS AN ALS UNIT IS ENROUTE AND HAS AN ETA OF LESS THAN 5 MINUTES TO THE SCENE)
TIME OF ONSET OF SYMPTOMS OR LAST KNOWN WELL < 24 HOURS AND A POSITIVE STROKE SEVERITY SCALE
TIME OF ONSET OF SYMPTOMS OR LAST KNOWN WELL < 24 HOURS AND A NEGATIVE STROKE SEVERITY SCALE
TRANSPORT TO CLOSEST APPROPRIATE CERTIFIED STROKE CENTER (PRIMARY, THROMBECTOMY-CAPABLE, OR COMPREHENSIVE PREFERRED) BASED UPON STROKE SCALE, STROKE SEVERITY SCALE, LOCAL RESOURCES, TRANSPORT TIME, THE REGIONAL STROKE SYSTEM OF CARE, AND THE PROTOCOLS OF THE MEDICAL DIRECTOR
TRANSPORT TO CLOSEST CERTIFIED STROKE CENTER OR THE FACILITY WITH CT SCAN CAPABILITIES BASED UPON THE REGIONAL STROKE SYSTEM OF CARE AND THE PROTOCOLS OF THE MEDICAL DIRECTOR

ACUTE STROKE

B BALANCE – Is there a sudden loss of balance or coordination?

E EYES – Is there sudden double or blurred vision and/or sudden trouble seeing that persists?

F FACE – Ask person to smile. Is one or both sides of the face drooping?

A ARMS – Ask the person to raise both arms does one side drift downward? What about weakness or numbness on one side?

S SPEECH – Does the person have slurred or garbled speech? Can the person repeat a simple phrase?

T TIME – Transport Immediately (unless ALS is under 5 minutes away).