



TEXAS  
Health and Human  
Services

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Texas Department of State  
Health Services

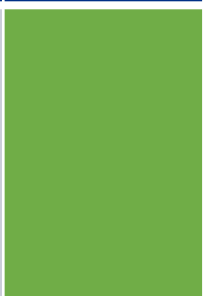

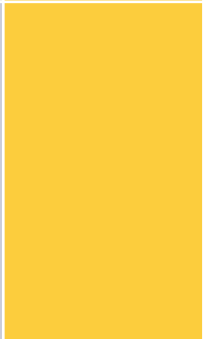
# GETAC Stroke Committee Meeting November 2025

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Professor, Neuroradiology Division  
UT Southwestern Medical Center

# Stroke Committee

**Priority Not Implemented**  
**Priority Activities Recorded**  
**Priorities Completed and being Monitored**

Committee Priorities	Current Activities	Status
<b>Report and share quarterly Texas Stroke Quality Performance Report</b>	<ul style="list-style-type: none"> <li>Review and disseminate Texas Stroke Quality report.</li> <li>Share with TCCVDS.</li> <li>Use the quality report to identify barriers to stroke care and opportunities for improvement.</li> <li><b>Encourage stroke facility document in the GWTG prehospital and interfacility layers.</b></li> </ul>	
RDC report	<ul style="list-style-type: none"> <li>Discussion about using RDC for performance report when 60% stroke facilities participating</li> </ul>	
Quality and patient safety issue	<ul style="list-style-type: none"> <li>Letter presented from providers siting patient safety issue regarding Neuro IR call coverage.</li> <li>Multiple providers in state of Texas gave first-hand experience supporting statements in the letter.</li> <li>Stroke Committee voted to approve the concerns are a quality and patient safety issue that need to be reviewed.</li> <li>Seek approval from GETAC Council</li> </ul>	

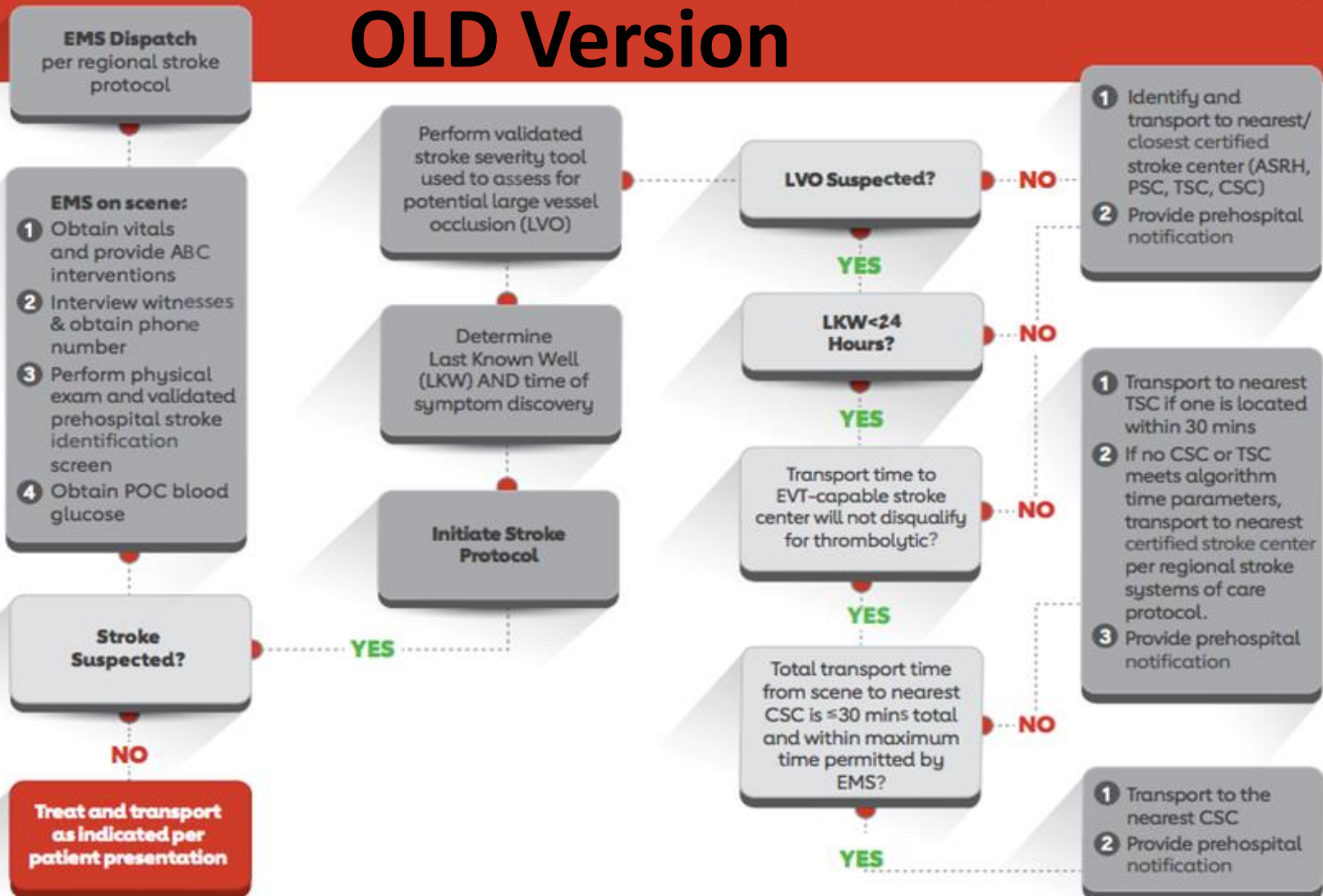
# Stroke Committee

Priority Not Implemented  
Priority Activities Recorded  
Priorities Completed and being Monitored

Committee Priorities	Current Activities	Status
<p><b>Prehospital Stroke algorithm – Recommendation</b></p>	<ul style="list-style-type: none"> <li>• Worked with Drs. Fagan and Winckler from last session, revisions were presented and approved by the Stroke, EMS, Air Medical and EMS Medical Director Committees 11/2024.</li> <li>• <span style="color: red;">GETAC Council approved.</span></li> <li>• <b>Next steps if approved: work on final versions, March Session present to RACs and EMS Education Committee.</b></li> <li>• <b>Resource document pending</b></li> </ul>	
<p>Stroke facility infrastructure and requirements</p>	<ul style="list-style-type: none"> <li>• The Stroke System of Care Work Group is outlining best practices and recommendations to present to the Stroke Committee.</li> <li>• On hold while moving other initiatives forward this past session.</li> </ul>	
<p>Pediatric Task Force</p>	<ul style="list-style-type: none"> <li>• Worked with Drs. Fagan and Winckler from last session, revisions were presented and approved by the Pediatric Committee. The Stroke Committee asked for clarification on naming for pediatric facility regionally accepted to care for pediatric stroke. Other committees deferred until have approval.</li> <li>• Elizabeth, Jorie, legal representative and myself meet to discuss.</li> <li>• Next steps, minimum capability recommendations for pediatric hospital to be recognized as capable of caring for pediatric stroke.</li> </ul>	

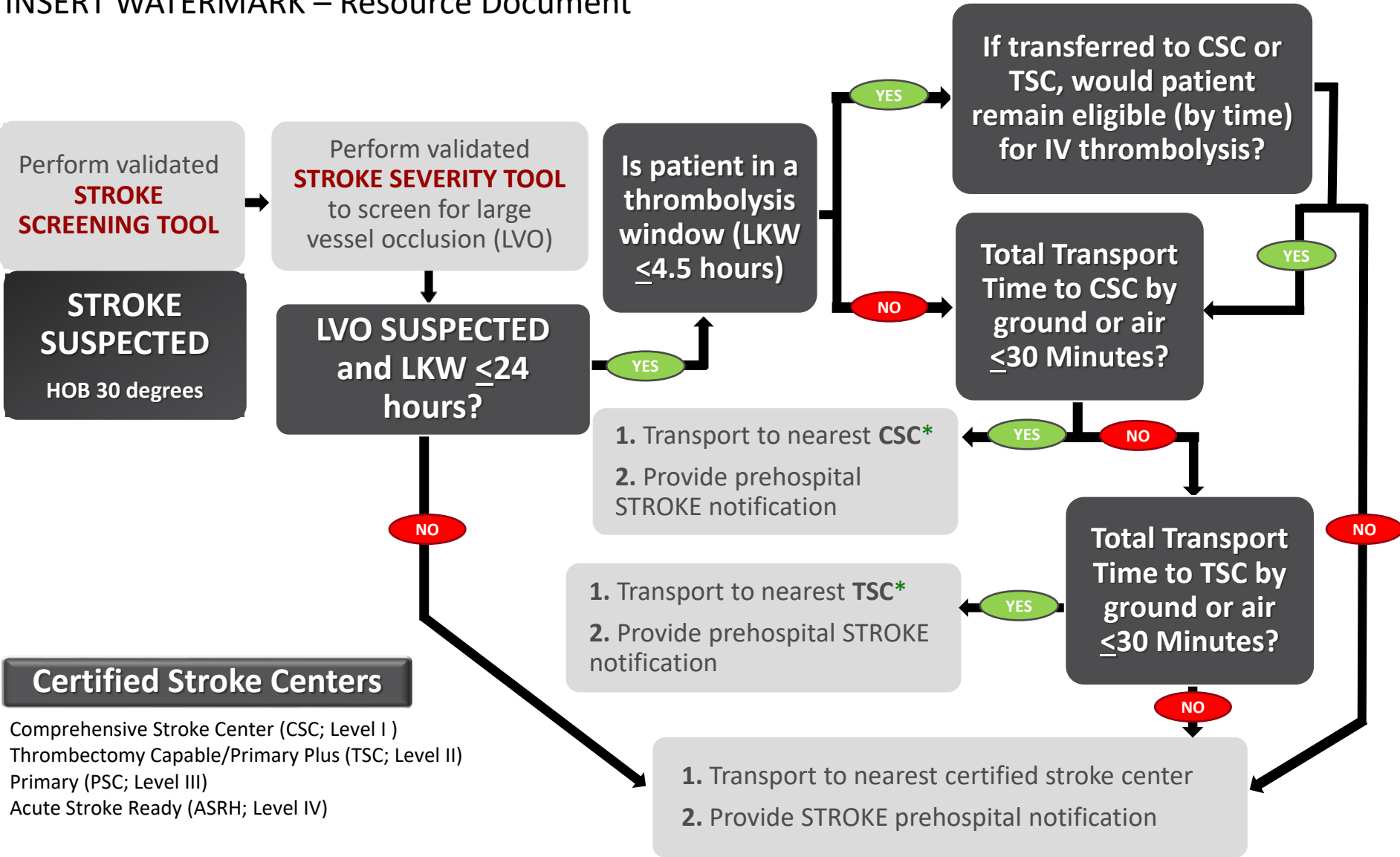


## OLD Version



# EMS ACUTE STROKE ROUTING RESOURCE DOCUMENT - URBAN

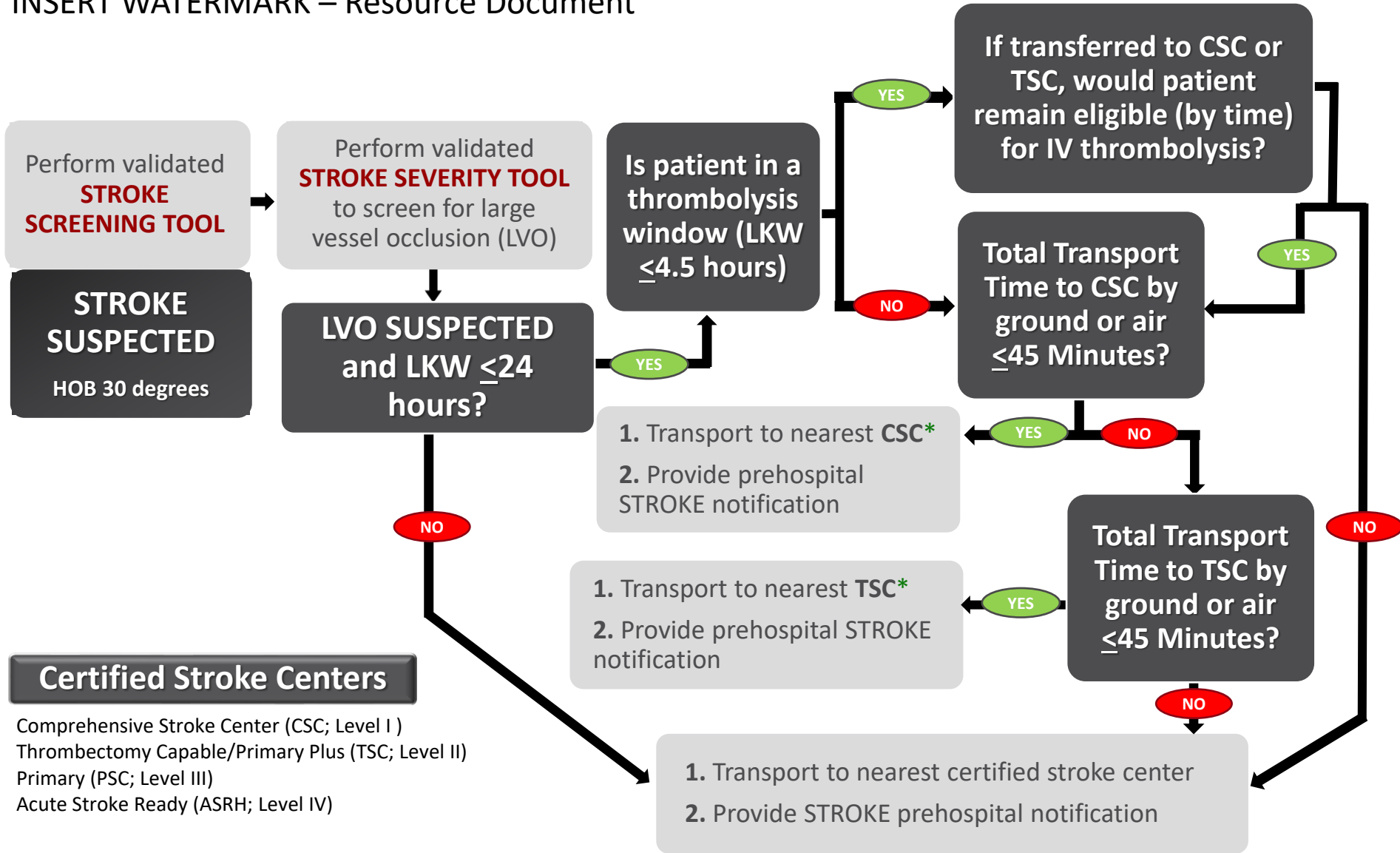
INSERT WATERMARK – Resource Document



5 LKW – last known well; LVO – large vessel occlusion; \* If LVO suspected, consider air transport from scene response to CSC/TSC  
**Disclaimer:** Regional stroke protocols are developed and implemented based on local guidelines, medical directors' recommendations, and Regional Advisory Councils (RACs). Variations in protocols may exist between different regions. For the most accurate and applicable guidelines, please consult the specific protocols established by your local health authorities and medical professionals.

# EMS ACUTE STROKE ROUTING RESOURCE DOCUMENT - SUBURBAN

INSERT WATERMARK – Resource Document



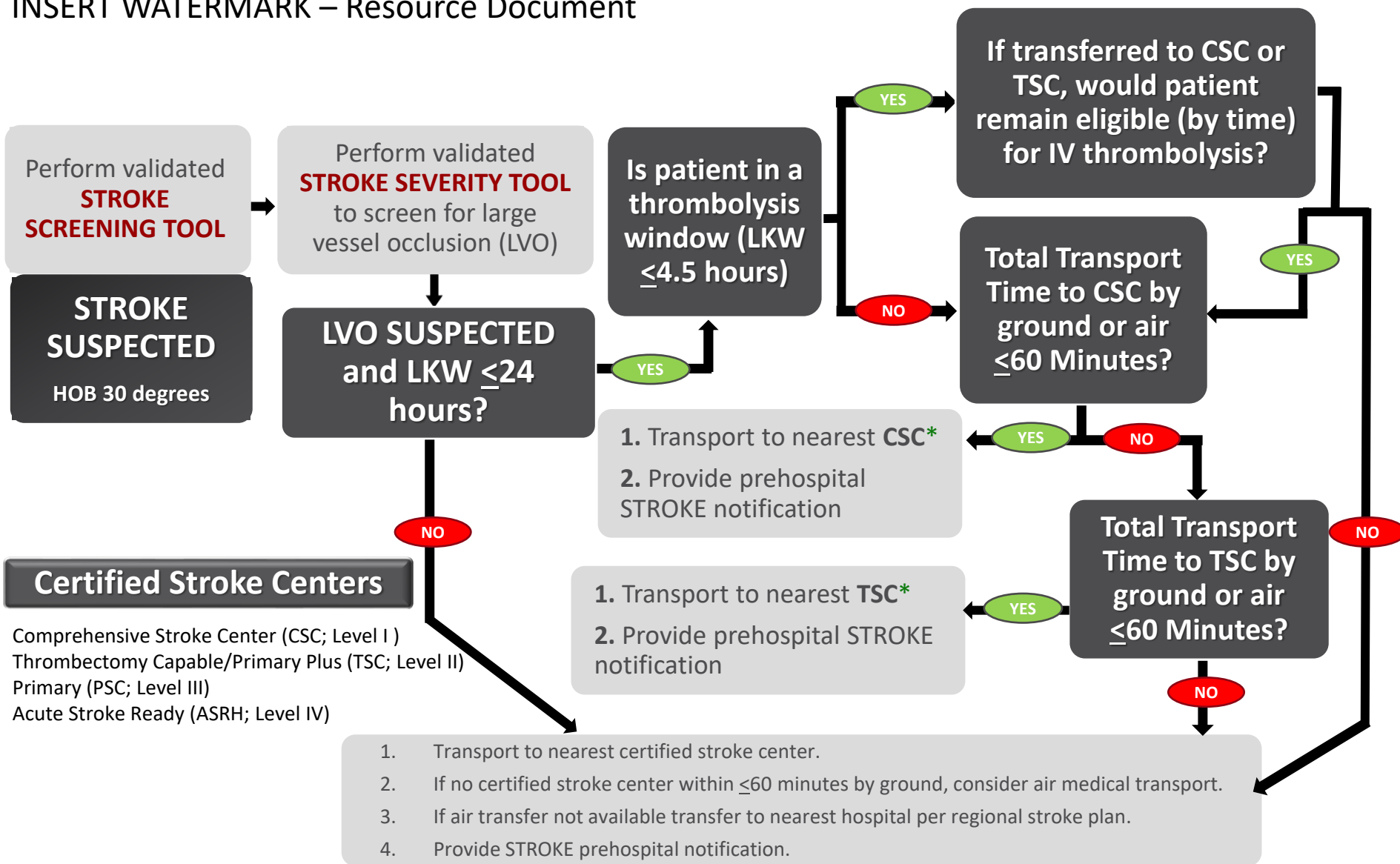
## Certified Stroke Centers

- Comprehensive Stroke Center (CSC; Level I)
- Thrombectomy Capable/Primary Plus (TSC; Level II)
- Primary (PSC; Level III)
- Acute Stroke Ready (ASRH; Level IV)

6 LKW – last known well; LVO – large vessel occlusion; \* If LVO suspected, consider air transport from scene response to CSC/TSC  
 Disclaimer: Regional stroke protocols are developed and implemented based on local guidelines, medical directors' recommendations, and Regional Advisory Councils (RACs). Variations in protocols may exist between different regions. For the most accurate and applicable guidelines, please consult the specific protocols established by your local health authorities and medical professionals.

# EMS ACUTE STROKE ROUTING RESOURCE DOCUMENT - RURAL

INSERT WATERMARK – Resource Document



LKW – last known well; LVO – large vessel occlusion; \* If LVO suspected, consider air transport from scene response  
**Disclaimer:** Regional stroke protocols are developed and implemented based on local guidelines, medical directors' recommendations, and Regional Advisory Councils (RACs). Variations in protocols may exist between different regions. For the most accurate and applicable guidelines, please consult the specific protocols established by your local health authorities and medical professionals.



# Healthcare Resources, Geography and Population Density

## Urban

- RUCA code 1
- Population densities ( $\geq 50,000$  residents)
- And abundant healthcare resources, with access to one or more TSCs/CSCs within 30 minutes transport time by EMS ground

## Suburban

- RUCA codes 2-3
- Large residential community adjacent to urban core
- Population density closer to the urban threshold
- May have access to both community hospitals and suburban or urban advanced stroke centers
- TSC, CSC with a 30-60 minutes transport time by EMS air or ground

## Rural

- RUCA codes 4-10
- Population densities ( $<50,000$  residents)
- Limited local general healthcare resources, few nearby ASRH or PSC
- Often no TSC/CSC within 60 minutes transport time by ground EMS, but may be one within 60 minutes by air



# EMS ACUTE PEDIATRIC STROKE RESOURCE DOCUMENT

## INSERT WATERMARK – Resource Document

### PEDIATRIC STROKE SCREEN POSITIVE

#### Sudden Onset/Wake from Sleep:

- Numbness
- Weakness
- Difficulty speaking or understanding
- Loss of vision/double vision
- Altered mental status
- Loss of balance or coordination
- New onset focal seizure
- Severe headache without cause

#### Management:

- Position head of bed 30 degrees
- Obtain vascular access if it does not delay transport

Pediatric Patient Stable

YES

NO

Transport to Nearest Facility or Per Regional Pediatric Plan

Patient Within 24 Hours of LKW

YES

NO

Age Appropriate for Adult Stroke Facility\*

YES

NO

Stroke LVO Screen Positive

YES

NO

CSC ≤30 mins by Air or Ground\*\*

YES

NO

Transport to CSC

TSC ≤30 mins by Air or Ground\*\*

YES

Transport to TSC

★Transport Recognized Stroke Facility with Pediatric Capability

YES

★Recognized Stroke Facility with Pediatric Capability ≤60 min by Air or Ground Total Transport Time

NO

\*RAC should outline the patient age appropriate for adult stroke facility admission based on regional facility resources or hospital policies; \*\* Within ≤30 minutes past the nearest Recognized Stroke Facility with Pediatric Capabilities and no more than 60 minutes total transport time by air or ground; ★ A pediatric hospital with recognized capability to care for pediatric patients with stroke. CSC; Comprehensive Stroke Center; TSC; Thrombectomy Capable Stroke Center; LVO; large vessel occlusion; RAC- Regional Advisory Council

**Disclaimer:** Regional stroke protocols are developed and implemented based on local guidelines, medical directors' recommendations, and Regional Advisory Councils (RACs). Variations in protocols may exist between different regions. For the most accurate and applicable guidelines, please consult the specific protocols established by your local health authorities and medical professionals. LKW – last known well; LVO – large vessel occlusion

# These pages are unchanged from the last meeting

## **EMS Pediatric Stroke Triage Recommendations**

Pediatric Stroke is a rare disease that is, nevertheless, included among the top ten causes of death in pediatrics.<sup>1</sup> However, rapid recognition and appropriate treatment of pediatric stroke can profoundly improve outcomes for these children, sparing them from decades of disability.<sup>2,3</sup> Thrombectomy has been shown to improve outcomes in pediatric large artery occlusion stroke.<sup>4</sup> This guidance document is designed to help EMS providers recognize and triage pediatric stroke patients quickly to facilitate improved outcomes throughout the state.

### **Goal:**

To enhance EMS identification of strokes in the pediatric population (infants and children less than 18 years of age), as well as to increase rapid triage and transport to the nearest appropriate facility.

### **Purpose:**

In consultation with EMS, ER, stroke, pediatric neurology, and pediatric leaders from around the state and current American Heart Association recommendations, we have developed the below EMS guidelines for pediatric patients with a known or suspected stroke.<sup>5,6</sup>

## **General Information on Pediatric Stroke**

Pediatric stroke can present with focal neurologic signs, as well as non-specific signs like seizure or altered mental status.<sup>7-11</sup>

### **Sudden onset of any of the following suggests the possibility of acute stroke:**

- Numbness or weakness of face, arm and/or leg (especially on one side of the body)
  - Confusion
  - Trouble speaking or understanding language
  - Trouble seeing in one or both eyes or double vision
  - Altered Mental Status
  - Trouble walking
  - Dizziness
  - Loss of balance or coordination
  - Severe headache with no known cause (suggests hemorrhagic stroke), especially with altered mental status
- ❖ For patients with any of the above neurological signs, especially with the listed conditions below, consider triaging as an acute stroke.

### **Patients with any of the following are at higher risk for acute stroke:**

- Heart disease
- History of blood vessel problems in the brain
- History of stroke
- Sickle cell disease
- Cancer
- History of blood clots

Last Updated – 10.17.2024

### **Common pediatric stroke mimics:**

- Alcoholic intoxication
- Cerebral infections
- Drug overdose
- Hypoglycemia
- Hyperglycemia
- Genetic/metabolic disorders
- Atypical migraines
- Neuropathies (e.g. Bell's palsy)
- Seizure
- Post-ictal state
- Tumors

## **Prehospital Triage of Stroke Patients**

**Basic Level – in suspected stroke cases, as with all other pediatric patients, assess and treat ABCDEs per universal pediatric recommendations:**

- **A (Airway):** Airway support and ventilation assistance are recommended for patients with acute stroke who have decreased consciousness or who have compromised airway. Ensure airway patency with suctioning and OPA or NPA, as needed.
- **B (Breathing):** Supplemental oxygen should be provided to maintain oxygen saturation > 94% (continuous monitoring).
- **NOTE:** some patients with congenital heart disease have a different goal saturation level (80-90% in some cases). Confirm normal level with parents/caretakers if unsure.
- **C (Circulation):** Evaluate and treat signs/symptoms of shock according to the Shock Clinical Practice Guidelines
- **D (Disability):** Assess and document GCS, pupillary size and reactivity.
- **E (Exposure/Environmental):** Assess for evidence of traumatic injury, especially head injury.

### **Stabilization and initial management:**

- If there is evidence of shock, treat according to the Shock clinical practice guidelines.
- If there is hypoglycemia (POC glucose < 60 mg/dL), treat according to diabetic emergencies clinical practice guidelines.
- If there are seizures, treat according to the seizure clinical practice guidelines.
- Place the patient in a supine position, head of the bed elevated 30 degrees.
- Cardiac monitoring during transport is recommended.

Last Updated – 10.17.2024

**Cardiovascular examination:**

- Record blood pressure, rate, rhythm, respiratory rate and oxygen saturation.
- Obtain an EKG if it will not delay transport.

**Neurological assessment for pediatric stroke:**

- Weakness of face, arm and/or leg (especially on one side of the body)
- Numbness on one side of the face or body
- Confusion
- Trouble speaking or understanding language
- Trouble seeing in one or both eyes or double vision
- Altered Mental Status
- Trouble walking
- Dizziness
- Loss of balance or coordination
- Severe headache with no known cause (suggests hemorrhagic stroke), especially with altered mental status
- Seizure with post-ictal focal deficit (like weakness) that does not resolve quickly (~15 minutes)

**History:**

Interview patient, family members and other witnesses to determine symptoms, time of symptom discovery and last known well (LKW), or last time patient was without symptoms.

Ask about seizure at onset, head trauma, history of recent surgeries, history of bleeding problems, and signs of possible brain hemorrhage (severe headache of sudden onset, nausea/vomiting with headache or loss of consciousness). Obtain mobile number of next of kin and witnesses.

- ❖ **NOTE:** For "wake up strokes" the last known well time is the last time that they were witnessed to be at their baseline, which may be the night before. The time they are found is not the last known well time.

**Additional History:**

- Obtain past medical history and history of past and recent surgeries.
- Allergies (e.g., iodinated contrast)
- Pre-existing substantial disability (e.g., unable to walk independently)
- Device and implant history (e.g., left ventricular assist device, pacemaker, valve replacement, VP shunt)

**Medications:**

- Obtain a list of all medications including antiplatelet agents (e.g., aspirin, clopidogrel [Plavix]) and blood thinners (direct thrombin inhibitors, factor Xa inhibitors, low molecular weight heparin [enoxaparin/ **Lovenox**], unfractionated heparin, warfarin [Coumadin], rivaroxaban [Xarelto], dabigatran [Pradaxa], apixaban [Eliquis], **edoxaban [Savaysa]**).
- If possible, record when the last dose was taken.

Last Updated – 10.17.2024

**Management:**

EMS personnel should address ABCDEs per universal pediatric guidelines. Additional initial management steps include:

1. Prevent aspiration, HOB > 30. Ensure airway patency with suctioning and OPA or NPA as needed.
2. Provide supplemental oxygen if needed to keep oxygen saturation > 94%.
  - a. (Adjust if the patient has known congenital heart disease with a different goal oxygen saturation)
3. Treat hypotension per regional pediatric protocols.
4. Maintain blood pressure below 20% above 95<sup>th</sup>ile for age.<sup>12</sup> Call online medical control if systolic blood pressure consistently above this percentile. The below table is an example of an upper limit of systolic blood pressure by age.

Age	Goal Systolic Blood Pressure
1-4 years	<130mmHg
5-10 years	<145mmHg
11-17 years	<160mmHg

5. Hypoglycemia (blood glucose < 70 mg/dL)<sup>13</sup> should be treated in patients suspected of acute ischemic stroke.\* Evidence indicates that persistent in-hospital hyperglycemia during the first 24 hours after stroke is associated with worse outcomes and increased risk of hemorrhagic conversion in adults than normoglycemia. You should treat hyperglycemia with a blood glucose range of 140-180 being preferred.
6. To facilitate expedited stroke workup in the ED, place two peripheral IVs so long as it does not delay transport time.

**System Triage:**

Goal on-scene time is 10-15 minutes or less. Encourage the family to go directly to the ED if not transported with the patient.

Last Updated – 10.17.2024

Simplified instructions and blood pressure goals

Expert consensus for blood glucose goals 70-180 in children

Consensus definition

### Destination Decision-Making for Pediatric Suspected Stroke in Rural, Urban and Suburban Areas

Each Regional Advisory Council (RAC) should outline the patient age appropriate for adult stroke facility admission based on regional facility resources or hospital policies.

1. Pediatric patient suspected of stroke, medically stable, and last known well  $\leq$  24 hours; triage based on following criteria.

#### Age appropriateness for adult stroke facility:

- Pediatric suspected stroke, **age < appropriate:**
  - Transport suspected stroke patients to the nearest **Recognized Stroke Facility with Pediatric Capabilities**.
    - **Recognized Stroke Facility with Pediatric Capabilities** – a pediatric hospital with recognized capability to care for pediatric patients with stroke.
  - If no **Recognized Stroke Facility with Pediatric Capabilities** is within 60-minute by air or ground total transport time or the patient is unstable, transport to the nearest **Pediatric Facility**.
- Pediatric suspected stroke, **age  $\geq$  appropriate:**
  - **Perform Validated Stroke Severity Screening Tool** to access for potential large vessel occlusion (LVO), such as RACE score.<sup>14</sup>
  - **If LVO Screening Tool Positive:**
    - Transport suspected stroke patients to the nearest adult **Comprehensive Stroke Center (CSC/ Level 1)** if within  $\leq$  30 minutes from the nearest **Recognized Stroke Facility with Pediatric Capabilities** and no more than 60-minute total transport time by air or ground.
    - If no **CSC** is available within 30 minutes, transport to nearest thrombectomy capable stroke center (**TSC/ Level 2**) if within  $\leq$  30 minutes from the nearest **Recognized Stroke Facility with Pediatric Capabilities** and no more than 60-minute total transport time by air or ground.
    - If neither a **CSC** nor **TSC** is available within  $\leq$  30 minutes, transport to the nearest **Recognized Stroke Facility with Pediatric Capabilities**.
    - If no **Recognized Stroke Facility with Pediatric Capabilities** is available within  $\leq$  60 minutes or the patient is unstable, transport to the nearest **Pediatric Facility**.
  - **If LVO Screening Tool Negative:**
    - Transport suspected stroke patients to the nearest **Recognized Stroke Facility with Pediatric Capabilities**.
    - If no **Recognized Stroke Facility with Pediatric Capabilities** is within 60-minute by air or ground total transport time or the patient is unstable, transport to the nearest **Pediatric Facility**.

2. Pediatric patient suspected of stroke and last known well  $>$  24 hours, triage based on following criteria.

- Pediatric suspected stroke, **for all ages:**
  - Transport suspected stroke patients to the nearest **Recognized Stroke Facility with Pediatric Capabilities**.

Last Updated – 10.17.2024

- If no **Recognized Stroke Facility with Pediatric Capabilities** is within a 60-minute total transport time or the patient is unstable, transport to the nearest **Pediatric Facility**.

- ❖ **For all ages**, consider air medical if prolonged transport time  $>$  60 minutes.
- ❖ **Stroke Prenotification**, alert receiving facility that a suspected pediatric stroke patient is in route prior to arrival. A stroke alert prior to arrival will mobilize appropriate resources before patient arrival.
  - Prenotification should include: Age, last known well, current vital signs, stroke screening tool score (if performed) and symptoms (weakness on one side, altered mental status, etc).
- ❖ **Hand-off Goal:** 120 seconds for EMS to ED triage nurse hand-off.

(Note – Plan is adapted from 2022 Pediatric Stroke North Central Texas Regional Stroke Plan)

Last Updated – 10.17.2024

Focus on triaging appropriate patients to thrombectomy capable centers due to large effect size in pediatric studies

Recommend use of screening tool (just like adults) for older children

# Stroke Committee

Priority Not Implemented  
Priority Activities Recorded  
Priorities Completed and being Monitored

Committee Priorities	Current Activities	Status
<b>Interfacility Stroke Terminology</b>	<ul style="list-style-type: none"> <li>Worked with Drs. Fagan and Winckler from last session, revisions were presented and approved by the Stroke, EMS, Air Medical and EMS Medical Director Committees 11/2024.</li> <li><span style="color: red;">GETAC Council did not approve.</span></li> <li>Next steps if approved: March Session present to RACs and EMS Education Committee.</li> </ul>	
<b>DIDO performance recommendations</b>	<ul style="list-style-type: none"> <li>Worked with Drs. Fagan and Winckler from last session, revisions were presented and approved by the Stroke, EMS, Air Medical and EMS Medical Director Committees 11/2024.</li> <li><span style="color: red;">GETAC Council approved.</span></li> <li>Next steps if approved: March Session present to RACs and EMS Education Committee.</li> <li>Long-term goal, collect the data to outline barriers for interfacility transfers and opportunities to facilitate faster DIDO</li> </ul>	
Establish research opportunity in the state of Texas to help advance stroke care in the state	<ul style="list-style-type: none"> <li>Working on Texas study evaluating if providing standardized stroke education improves performance.</li> <li>Discussed briefly Needs Assessment for EMS Stroke Education Survey.</li> </ul>	

# INTERFACILITY STROKE TERMINOLOGY

1

**Level 1 Stroke** = Patient with an ischemic or hemorrhagic stroke in need of an emergent intervention

2

**Level 2 Stroke** = Patient with an ischemic or hemorrhagic stroke in need of an urgent transfer for higher level of care but without emergent need of an intervention

3

**Level 3 Stroke** = Patient with an ischemic or hemorrhagic stroke in need of transfer but without emergent or urgent needs

- **Level 1 and 2 Stroke**- time from *agency notification* to *arrival at transferring hospital*  $\leq 30$  minutes by air or ground urban/suburban and 45 minutes rural areas.
- **Level 1 Stroke**- if ground transportation to transferring facility or transport time to receiving facility  $> 30$  minutes consider air transport.

INSERT WATERMARK – Resource Document

# Breaking Down DIDO

## DIDO Metrics for patients with LVO in need of thrombectomy Goal 90 minutes

Transferring facility **Door to Transfer Request** to receiving facility and ground or air medical transport

**Median 30 minutes or less  
(call as soon as possible)**  
\*Consider early activation if auto-accept with receiving facility is not in place

Receiving Facility **Notification to Response** acceptance or rejection

**Median 15 minutes or less**

Transfer Request to Transport Arrival

**50% at goal: 30 minutes by air or ground  
urban/suburban and 45 minutes rural**

Transport Arrival to Door Out

**Median 15 minutes or less**



## Interfacility Transfer Layer Measures to Follow GWTG

Performance Measure	Goal
AHASTR165 Arrival to transfer request	Median $\leq$ 30 minutes
AHASTR166 Arrival to transport request	Median $\leq$ 30 minutes
AHASTR171 Transfer requested by referring hospital to transfer accepted by receiving hospital	Median $\leq$ 15 minutes
AHASTR172: Transport requested to transport arrived	50% at goal: 30 minutes by air or ground urban/suburban and 45 minutes rural
AHASTR173 Transport arrived to transfer out at referring hospital	Median $\leq$ 15 minutes





# Stroke Committee

**Priority Not Implemented**  
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Committee Priorities	Current Activities	Status
<b>Post Acute Stroke Care Work Group</b>	<ul style="list-style-type: none"> <li>Presented to the Stroke Committee, approved 11/2024</li> <li><b>Request approval from GETAC Council 03/2025</b></li> </ul>	
<b>Stroke Managers Mentorship Program</b>	<ul style="list-style-type: none"> <li>Education Work Group discussing platform and feasibility of implementation.</li> <li>Elizabeth and Jorie to advise.</li> </ul>	
<b>STRAC Stroke Program Manager Manual</b>	<ul style="list-style-type: none"> <li>Collect and share resources related to stroke program management, stroke coordinator &amp; manager roles and process improvement.</li> <li>Presented last session, will discuss further about dissemination at the next session.</li> </ul>	
<b>Texas Stroke Coordinators Collaborative Survey</b>	<ul style="list-style-type: none"> <li>Education Work Group working on revisions to the survey seeking to pair mentor and mentee.</li> <li>Plan to present next session to committee.</li> </ul>	

# Stroke Committee

**Priority Not Implemented**  
**Priority Activities Recorded**  
**Priorities Completed and being Monitored**

Committee Priorities	Current Activities	Status
Texas EMS Stroke Survey	<ul style="list-style-type: none"> <li>• <b>Approved</b></li> <li>• <b>Joseph assisting with disseminating survey</b></li> <li>• <b>Extend Deadline</b></li> </ul>	
Stroke Committee endorsed stroke education and certification courses	<ul style="list-style-type: none"> <li>• Ongoing effort identifying stroke educational opportunities for providers.</li> </ul>	
Stroke Education Resource for stroke facilities	<ul style="list-style-type: none"> <li>• Working with DSHS for website access to stroke education</li> <li>• Elizabeth to report back to the Stroke Committee next session</li> </ul>	
Work with DSHS to outline recommendations for stroke rules for ASRH	<ul style="list-style-type: none"> <li>• Pending further direction</li> </ul>	

# EDUCATION WORK GROUP

- Stroke Education Resources for Texas
  - DSHS is offering opportunity to post link on website for stroke education.

## Education Opportunity

### Texas Pediatric Readiness Education Series

The Texas Pediatric Readiness Improvement Project is a collaborative effort endorsed by the Governor's Emergency Medical Services (EMS) and Trauma Advisory Council (GETAC) to improve pediatric outcomes and support rural trauma centers in meeting the proposed Texas trauma rules slated to become effective in September 2024.

Beginning in January 2024, 1-hour virtual sessions will highlight evidence-based practices and resources for adoption in the emergency department, review standardized simulation cases, and integrate opportunities to engage in pediatric quality improvement efforts. The education series is available at no cost.

[REGISTER TODAY](#)

[VIEW RECORDED WEBINARS](#)

# Stroke Committee

Priority Not Implemented  
Priority Activities Recorded  
Priorities Completed and  
being Monitored

Committee Priorities	Current Activities	Status
Rural Stroke Work Group	<ul style="list-style-type: none"><li>• First meeting 02/2025</li></ul>	



Thank You