Big Country Regional Advisory Council (BCRAC)

Trauma Service Area (TSA) - D

Regional Plan

(Stroke, STEMI & Trauma)

Big Country Regional Advisory Council
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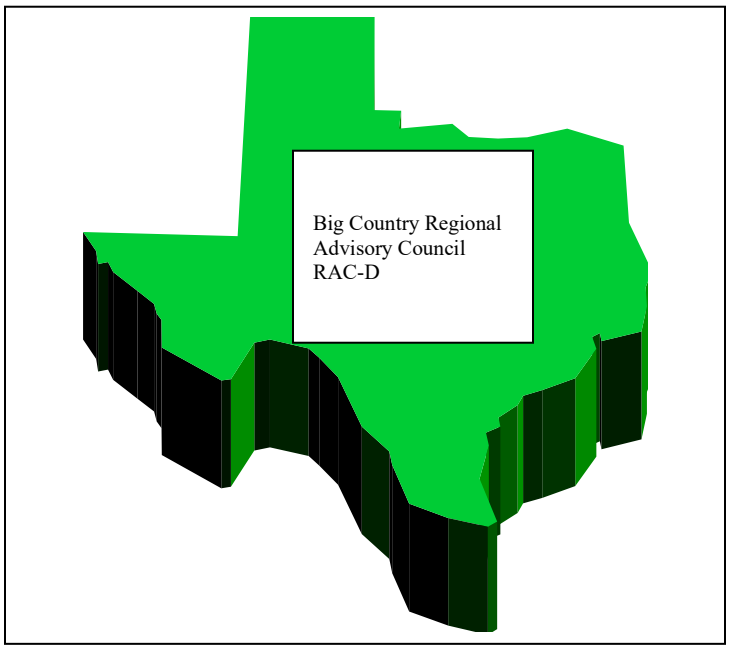
2026



For the state service delivery area including Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Knox, Mitchell, Nolan, Shackelford, Stephens, Stonewall, Taylor and Throckmorton

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STROKE

Introduction

Organization and Service Area

The Big Country Regional Advisory Committee (RAC-D) is comprised of the Central West Texas counties of **Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Knox, Mitchell, Nolan, Shackelford, Stephens, Stonewall**, **Taylor and Throckmorton**. BCRAC represents the Trauma Service Area-D, a geographic area as defined by the Texas Department of State Health Services and is a non-profit organization.

Service Area/Facilities

The BCRAC Service Area is comprised of fifteen (15) rural counties and one (1) urban county (Taylor). Located in Taylor County, Abilene is home to 125,182 residents with Taylor County estimated population at 143,208 residents. Abilene is a regional commerce center for residents of west central Texas. The area economy is based on agriculture, oil and gas production, education, and manufacturing. Of the top 20 largest employers in Abilene, 5 are directly involved in health care in some format and employ a minimum of 5,000 employees at any given time. Located three hours from Dallas/Fort Worth and four hours from San Antonio, Abilene serves a regional trade area and is considered the primary catchment area for our EMS system. Abilene is home to Dyess Air Force Base, home of the B-1 bomber squadron, which employs some 6,000 civilian and military personnel. The population in the remaining fifteen county service area is estimated at 161,529 for a total service area population of 304,737. Individual counties and estimated populations in this service area include*:

COUNTY	**POPULATION**	**SQ. MILES**	**HOSP./TRAUMA LEV.**
Taylor	*143,208*	*917*	*Hendrick Medical Ctr North -III* *Hendrick Medical Ctr South -undesignated*
Brown	38,095	936	*Hendrick Medical Ctr* Brownwood -IV
Callahan	13,708	899	No Hospital
Coleman	7684	1277	Coleman Co. Med. Ctr-IV
Comanche	13,591	930	Comanche Co. Med Ctr-IV
Eastland	17,725	924	Eastland Memorial Hospital-IV
Fisher	3672	897	Fisher Co. Hospital-IV
Haskell	5416	901	Haskell Memorial Hospital-IV
Jones	19,663	931	Anson Gen. Hospital-undesignated
Knox	3353	845	Knox Co. Hospital- IV
Mitchell	8990	916	Mitchell Co. Hospital- IV
Nolan	14,738	915	Rolling Plains Mem Hosp - IV
Shackelford	3105	915	No Hospital
Stephens	9101	894	Stephens Memorial Hosp - IV
Stonewall	1245	925	Stonewall Mem Hosp - undesignated
Throckmorton 1440		912	Throckmorton Co. Hosp - IV
TOTALS	**304,737**	**14934**	**(US Census Bureau 2020)**

(*Italicized county, population, and square mileage indicates “primary” catchment with all others indicating “secondary” catchment.)

TSA-D
BRAC-Stroke

MISSION
The BCRAC Stroke Committee's mission is to provide a comprehensive continuum of quality health care for all stroke patients in TSA-D, through continuing Education, Prevention and Performance Improvement.

VISION
The BCRAC will provide leadership in our region to improve outcomes and reduce disability related to stroke.

ORGANIZATION
The BRAC strives to provide the infrastructure and leadership necessary to sustain a stroke system of care within the 16 county region. Representatives from regional hospitals, EMS providers, Air transport and other first responders collaborate to ensure appropriate triage, transfer and guideline-directed care is provided to stroke patients in the region. Designated stroke facilities' leadership provides benchmarks, feedback and clinical practice guideline updates to ensure care is consistent across the continuum. The BRAC shares continuing education opportunities related to stroke and is involved in providing stroke education to the public through members of the Stroke Sub-Committee Hendrick Health's Pre-Hospital Committee meets quarterly outside of scheduled RAC meetings.

Regional Stroke Plan

This Plan has been developed in accordance with generally accepted national stroke guidelines and procedures for implementation of a comprehensive Emergency Medical Services (EMS) and Stroke System plan. This plan does not establish a legal standard of care, but rather is intended as an aid to decision-making in general patient care scenarios. It is not intended to supersede the physician's medical judgment to order treatment.

GOALS

1. To reduce the morbidity, mortality and disability of the stroke patient population.
2. To recognize facilities' capability to treat stroke patients within TSA-D based on the State requirements for Stroke Center Designation.

OBJECTIVES

1. To improve the overall care of stroke patients by rapidly recognizing the signs of a stroke and transporting the potential stroke patient to the appropriate facility, in the appropriate time, with the appropriate level of resources.
2. To identify facilities and corresponding level of stroke management within TSA-D.
3. To improve patient outcomes in the region.

DISCUSSION

While it is recognized many of the facilities within TSA-D may elect NOT to seek Stroke Center Designation, in effort to provide the optimum in patient care and thereby improve outcomes, BCRAC has elected to utilize the criteria set forth by the State of Texas for Stroke Center Designation as the foundation in identifying individual facility capabilities.

REGULATORY AGENCIES AND GUIDELINE RESOURCES FOR STROKE CARE

1. DSHS Stroke Designation | Texas DSHS
   A) All designated stroke facilities must participate in the regional and statewide stroke systems.
   B) The Governor's EMS and Trauma Advisory Council (GETAC) Stroke Committee of the Department of State Health Services (DSHS) Stroke Committee recommend the designation of four levels of state recognized stroke centers/facilities as follows:
      Level I – Comprehensive
      Level II – Advanced
      Level III – Primary
      Level IV – Acute Stroke Ready

   C) Designation requirements by level
      1. For DSHS Stroke Designation levels I, III, and IV Refer to the Brain Attack Coalition Publications
         a) Recommendations for Comprehensive Stroke Centers (2005)
         b) Revised and Updated Recommendations for the Establishment of Primary Stroke Centers (2011)
         c) Formation and Function of Acute Stroke Ready Hospitals (2013)
      2. For DSHS Stroke Designation level 2, Refer to EMS Trauma Systems Section Stroke Facility Designation Advanced Level II Stroke Designation Department Approved Guidelines (May 2023)
      3. Each designated stroke center is required to maintain designation requirements.
      4. Refer to DSHS website for complete list of hospitals or centers meeting state approved criteria and their Stroke Center/Facility designation.
      5. Online stroke resources
         - American Heart Association (www.americanheart.org)
         - American Stroke Association (www.strokeassociation.org)
         - Brain Attack Coalition (www.stroke-site.org)

DESIGNATED STROKE FACILITIES

If a BRAC hospital or center fails to meet the criteria for a state stroke center/facility level designation for more than 6 weeks or if a hospital or center no longer chooses to maintain state stroke center/facility level designation, the hospital shall immediately notify, by certified mail return receipt requesting, the DSHS, local EMS, and governing RAC.

STROKE SYSTEM QI Regional data is presented quarterly at the Pre-Hospital Committee Meetings. The Stroke Sub-Committee meets quarterly prior to RAC meeting for process improvement in the region.

STROKE DATA INDICATORS:

EMS

Pre-Hospital Cincinnati Stroke Scale Performed and Documented in EMS record
Stroke Severity Screen Performed and Documented in EMS Record
Pre-Hospital Stroke Alert
First Medical Contact to Endovascular Thrombectomy

REGIONAL FACILITIES

Door to CT <25 min
CT interpretation <45 min
CTA performed or Stroke Severity Screen documented (ischemic)

Door to thrombolytic (alteplase or tenecteplase) <60 min
Door in Door Out Goal <90 min
Door to Puncture (endovascular thrombectomy) <90 min
Confidentiality - All information and materials provided and/or presented during QI meetings are strictly confidential.

TSA D - EMS SERVICES

1) Abilene Fire Department-EMS
2) Air Evac Lifeteam 63-Abilene
3) Air Evac 115- Eastland
4) Air Evac 52- Brownwood
5) Citizens EMS
6) Comanche County EMS
7) Cross Plains EMS
8) Dublin EMS
9) Eastland Memorial Hospital EMS
10) Eula VFD
11) Fisher County Hospital District EMS
12) Hamlin EMS
13) Haskell County Ambulance Service
14) Heart of Texas EMS-Coleman
15) Jim Ned VFD
16) Knox County EMS
17) Lifeguard Ambulance Service- Brownwood
18) MetroCare Services Abilene-L.P.
19) Mitchell County EMS
20) Native Air of Snyder
21) North Runnels Hospital EMS
22) Potosi Volunteer Fire Department
23) Ranger Fire Department-EMS
24) Sacred Cross EMS
25) Scurry County EMS
26) Shackelford County EMS
27) Stamford EMS
28) Sacred Cross EMS – Stephens County
29) Stonewall County Ambulance Service
30) Sweetwater Fire Department
31) Taylor County EMS
32) Throckmorton County EMS

Contact information can be found on the Big Country Regional Advisory Council Home page

EMS Providers | Mysite (bigcountryrac.org)

TSA-D Regional Hospitals

Level III (Primary) Stroke Centers

Hospital Name – Town	IV thrombolytic?	Thrombectomy Capability?	Neurosurgery Capability?
Hendrick Medical Center North – Abilene	YES - Tenecteplase	YES	YES
Hendrick Medical Center South – Abilene	YES - Tenecteplase	NO	NO

Level IV (Acute Stroke Ready) Stroke Center

Hospital Name – Town	IV thrombolytic?	CT	CTA
Coleman County Medical Center - Coleman	YES - Tenecteplase	YES	YES

Regional Support Facilities (without designation)

Hospital Name – Town	IV thrombolytic?	CT	CTA
Comanche County Medical Center -Comanche	YES Tenecteplase; Alteplase	YES	YES
Eastland Memorial Hospital – Eastland	YES - Tenecteplase	YES	YES
Fisher County Hospital – Rotan.	YES - Tenecteplase	YES	YES
Haskell Memorial Hospital – Haskell	YES - Tenecteplase	YES	YES
Stonewall Memorial Hospital – Aspermont	YES – Both Alteplase/Tenecteplase	YES	YES
Hendrick Medical Center Brownwood – Brownwood	YES - Tenecteplase	YES	YES
Knox County Hospital – Knox City	YES Tenecteplase	YES	YES
Mitchell County Hospital – Colorado City	YES - Tenecteplase	YES	Yes
North Runnels	YES - Tenecteplase	YES	NO
Rolling Plains Memorial Hospital – Sweetwater	YES - Tenecteplase	YES	YES
Stephens Memorial Hospital – Breckenridge	YES - Tenecteplase	YES	YES
Throckmorton County Hospital - Throckmorton	NO	NO	NO

Emergent Access Facilities

Hospital Name-Town	IV thrombolytic?	CT	CTA
Anson General – Anson (24-hour Emergency Room only	YES - Tenecteplase	YES	YES

No Hospital

Callahan County, Shackelford County

Below are lists of possible facilities that may be utilized outside TSA D. These facilities are identified as within 250 miles of TSA-D Lead Facility in Abilene.

- **Level I Designated Stroke Facilities outside TSA-D**

  Texas Health Harris Methodist Fort Worth
  1301 Pennsylvania Ave
  Fort Worth, TX 76104
  817-250-2000

  UT Southwestern Medical Center
  5323 Harry Hines Blvd
  Dallas, TX 75300
  214-648-3111

  Medical City Fort Worth
  900 8th Street
  Fort Worth, TX 76104
  217-336-2100

  Covenant Medical Center
  3610 22nd Street
  Suite 301
  Lubbock, Texas 79410
  806-725-1630

For other Texas designated stroke facilities, refer to
www.dshs.texas.gov/dshs-ems-trauma-systems/stroke-system-development/texas-stroke-facilities

Stroke Patient Transport - Stroke patients in TSA-D are transported according to patient need, availability of air transport resources, and environmental conditions. Ground transport via BLS or ALS ground ambulance is available throughout the Region. Air Medical transport (fixed and roto wing) is also available in this Region.

PRE-HOSPITAL TRIAGE

GOAL: Patients with acute stroke symptoms should receive expeditious EMS dispatch and response. EMS personnel should be knowledgeable in the assessment, management, and triage of suspected stroke patients.

Personnel should be skilled in the performance of stroke screening and in determining the timing, onset and nature of the symptoms. Because some acute stroke treatments require the provision of definitive care within a specific time frame, EMS personnel should communicate with the receiving facilities as soon as possible and transport the patient to the nearest appropriate acute care facility.

PURPOSE: To ensure the prompt availability of medical resources needed for optimal patient care, each patient will be assessed for the presence of neurological changes using a prehospital stroke screen and severity screen for possible LVO, and concurrent disease/predisposing factors.

SYSTEM TRIAGE

GOAL: Patients with an onset of stroke symptoms < 4 ½ hours should be taken to the closest regional facility with the following capability:

- Interpreted computed tomography (CT) imaging scan is available within 45 minutes of patient arrival.
- Thrombolytics can be administered within 60 minutes of patient arrival.
- Physician is available within 10 minutes of patient arrival.

If stroke symptoms ≥4 ½ to <24 hours and the Stroke Severity Scale is positive for possible LVO, transfer to nearest designated stroke facility with thrombectomy capability. Hendrick Medical Center North is the only facility with thrombectomy capability in TSA-D.

Patients with an onset of stroke symptoms occurring outside of the thrombolytic window of <4.5 hours of LKN and with a LVO screen negative should be transported to the nearest acute care facility for initial diagnosis and treatment.

In any situation, unstable patients (ABC's, cardiac arrest, etcetera) should be taken to the nearest facility for stabilization.

This plan is based on accepted best practice guidelines but does allow for patient preference.

BCRAC PREHOSPITAL TRANSPORT GUIDELINES FOR STROKE

SUSPECTED STROKE

Assessment Guidelines:

- Onset S/S
- Time "last known normal"
- Complete Vital Signs
- Blood Glucose*
- Pre-Hospital Stroke Scale
- Stroke severity scale to assess for possible LVO
- Thrombolytic Checklist
- 12-Lead ECG

*Consider other etiologies such as hypoglycemia and seizure.

Minimum Treatment Guidelines:

- Oxygen per TDP to keep SPO2 >94%
- IV NS TKO (as per skill level)
- Consider antihypertensive agent for blood pressures above 220/110
- Rapid transport to appropriate facility as indicated.
- Divert to the closest hospital for airway management or stabilization.
- Consider Air Medical transport for patient deterioration.

Transport decision should be based on time of onset as appropriate.

If >30 minutes for ground transport, <u>consider</u> Air Medical Transport to decrease time.

LKN <4.5 hours

→ **Closest Stroke Facility with thrombolytic capability (Level I, II, III, IV)**

LKN 4.5 - 24 hours

→
- **If LVO screen positive, transport to closest facility with thrombectomy capability**
- **If LVO screen negative, transport to closest stroke facility (Level I, II, III, IV)**

LKN Beyond 24 hours

(Or undetermined time of onset)

→ **Non-emergency transport**
This patient is outside the window for reperfusion.

HELICOPTER ACTIVATION

GOAL: Air transport resources will be appropriately utilized in order to reduce delays in providing optimal stroke care.

DECISION CRITERIA TO ACTIVATE:

1. If the expected transport time is excessive (>30 minutes), activation of air transport resources should be considered.
2. Capability of closest appropriate facility (See System Triage section).

HOSPITAL TRIAGE CRITERIA

GOAL: Facilities will rapidly identify potential stroke patients and deliver evidence-based care.

OBJECTIVES:

1. Ensure each stroke patient is rapidly identified and accurately assessed based on the last known normal. The patient will be treated appropriately or transferred to the nearest acute care facility for appropriate intervention. (See page 8 for regional facility imaging and thrombolytic capability)
2. Ensure prompt availability of medical resources for optimal patient care.

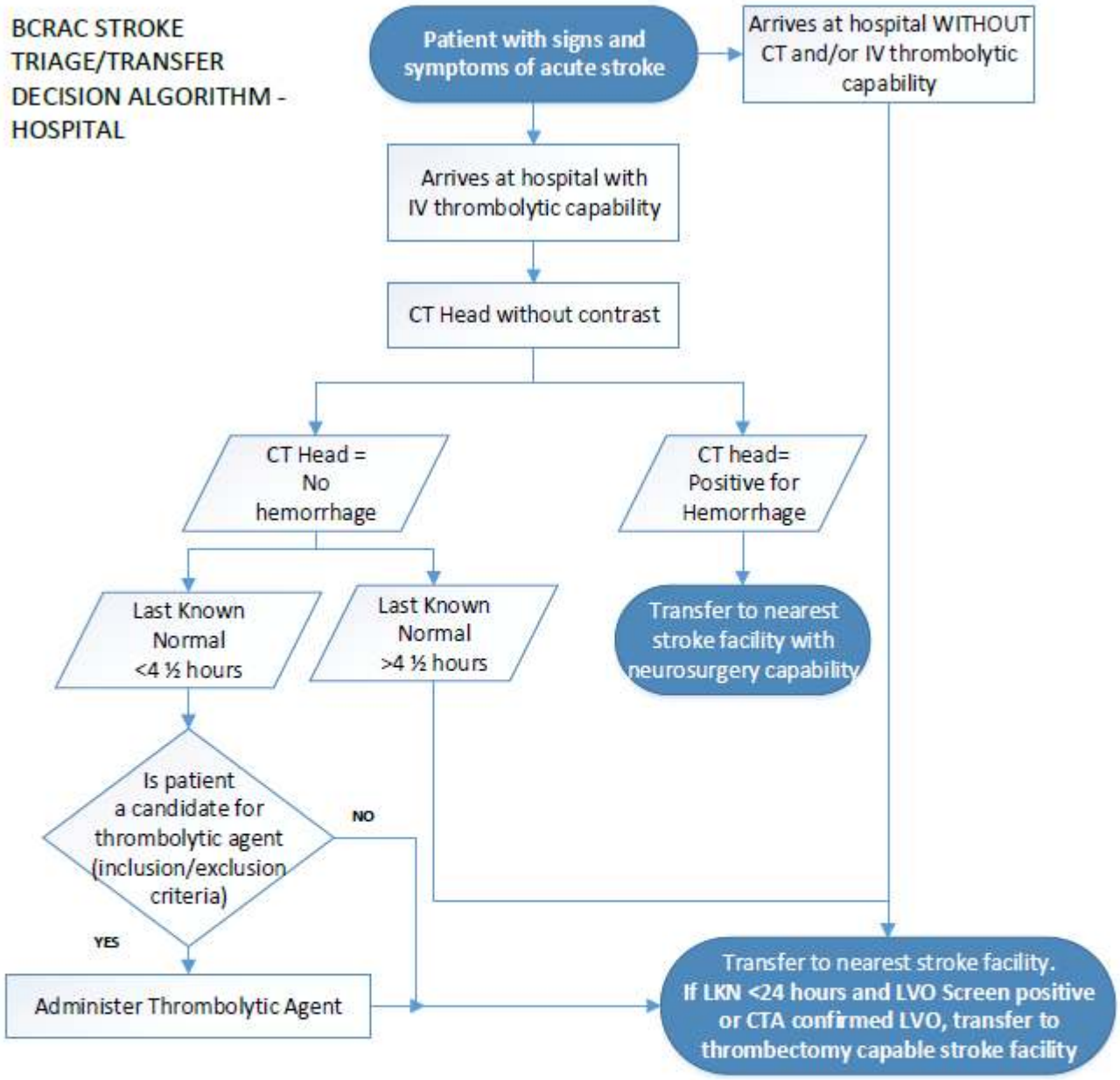
INTER-HOSPITAL TRANSFERS

GOAL: Inter-hospital transfer plans within TSA-D will ensure stroke patients requiring additional or specialized care and treatment beyond a facility's capability are rapidly identified and transferred to appropriate facilities.

OBJECTIVES:

1. Ensure all regional hospitals make transfer decisions based on the BRAC Stroke Triage/Transfer Decision Algorithm – Hospital (See page 13).
2. Identify standards of care for stroke treatment
3. Consider early air medical activation for inter-hospital transfers.

BCRAC STROKE TRIAGE/TRANSFER DECISION ALGORITHM - HOSPITAL



Inter-facility Nursing Handoff:

- Time of Last Known Normal
- Patient's presenting symptoms
- Medications administered (including pior to hospital arrival)
- Home Medications (please include any anticoagulants/antiplatelets)
- Imaging performed and results
- NIHSS/Glasgow Coma Scale
- Abnormal Labs, POCT Glucose
- Vital Signs
- IV access
- Family contact information and relationship

Large Vessel Occlusion (LVO) Screening Tool

V -Vision
A -Aphasia
N -Neglect

FACILITY DIVERSION:

Goal

TSA-D stroke facilities will communicate “facility diversion” status promptly and clearly to regional EMS and other facilities in order to ensure that stroke patients are transported to the nearest appropriate stroke facility.

System Objectives

1. To ensure that stroke patients will be transported to the nearest appropriate stroke facility.

2. To develop system protocols for regional facility and stroke diversion status:
    - Situations which would require the facility to go on diversion
    - Notification/activation of facility diversion status
    - Procedure for termination of diversion status

3. Regional stroke care problems associated with facility diversion will be assessed through the BCRAC Committee and/or Pre-Hospital Committee.

If the designated stroke facility has an interruption in capabilities or capacity critical to the evaluation and treatment of a stroke patient, the facility will immediately notify local EMS providers, referring facilities, and their RAC through EMResource’s electronic communication with time-stamp capabilities.

STROKE PLAN RECOMMENDATIONS

Last Known Normal (LKN) Accurate communication of last known normal- not when symptoms found

Pre-Hospital Stroke Scale – Regional EMS providers should assess and document the pre-hospital stroke scale such as the Cincinnati Pre-Hospital Stroke Scale (CPSS) or FAST-ED.

Stroke Severity Score (LVO Screening Tool) – Regional EMS providers and hospitals should assess and document the LVO screening. ED physicians and staff should be familiar with these tools. Examples: VAN or RACE score.

NIH Stroke Scale – It is recommended facilities have a written protocol utilizing the NIH Stroke Scale.

Glasgow Coma Scale- Clinical scale used to reliably measure a person's consciousness after a brain injury

IV thrombolytic Checklist – The facility should utilize the regional IV thrombolytic Checklist or a similar checklist with the same information.

Thrombolytic Therapy Administration Protocol* – This criterion refers to a facility having a written protocol for administering thrombolytics if the facility will be administering thrombolytics.

- **Alteplase for ischemic stroke: 0.9 mg/kg with Max dose 90 mg.** Give 10% of total dose administered as a bolus over 1 minute. Then the remainder of the dose over 60 minutes.

OR

- **Tenecteplase for ischemic stroke** 0.25 mg/kg with a max dose of 25 mg IVP over 5 seconds or FDA approved weight range dosing.

*If regional facility is **unable** to administer a thrombolytic within the 4 ½ hour window, facility should communicate to EMS provider of need to bypass to nearest facility with capability. See "Facility Bypass".

24/7 STAT CT* – This criterion is desired. This criterion refers to the ability to have a CT completed and read within 45 minutes of arrival to ED.

*If no CT capability, facility should communicate to EMS provider of need to bypass for patients with signs and symptoms of stroke.

24/7 STAT CTA* – This criterion is desired. If unable to perform CTA or results are pending, regional facility should screen for large vessel occlusions (LVO) for patients presenting with signs and symptoms of an acute ischemic stroke with negative CT head and Last Known Normal <24 hours.

*Do not delay transfer if results are pending. Call accepting facility with results while patient is in route.

TRANSFER AGREEMENTS –It is recommended that regional referral facilities have transfer agreements with a level I, II or III Stroke Center.

AGREEMENTS WITH EMS PROVIDERS – The facility should have at least one written agreement with an EMS Provider allowing stroke patients to be treated as priority one/emergent.

RECOMMENDED STAFF EDUCATION

NIH Stroke Scale Education – It is recommended facilities have written protocols outlining NIH Stroke Scale education for all nursing staff and physicians involved in stroke care.

Other Stroke Education – It is recommended EMS providers and facilities provide stroke education for personnel.

Optional Tracking Tool for Sending Hospitals

Optional Tracking Tool for Stroke Center/Receiving Hospital Use

Stroke Sending Facility Tracking Form

Patient Sticker	ED Physician: Primary Nurse: Tele-Neuro Physician (if applicable):

#	Time	Steps	Document in EMR
		First documented time of Patient arrival (Private Vehicle or EMS)	
1		LKN (Time of Last Known Normal)	YES
2		Stroke code/alert called	YES
3		Physician Notified	YES
4		STAT CT Head (Door to CT <20 min)	
		STAT CTA Head and Neck OR LVO Screening Tool (LKN <24 hours) **Do not delay transfer for read.**	
5		Baseline NIHSS _____ Baseline GCS_____	YES
		NIHSS <15 min prior to lytic (if applicable)_____	YES
6		Pt meets criteria for thrombolytic? YES/NO WT in Kg: _____ Thrombolytic Administration Time _____ Drug_____ Dosage_____	YES
7		Monitor NIHSS and VS every 15 minutes x 8, then every 30 minutes	YES
8		VAN (Visual/Aphasia/Neglect) or CTA confirms LVO _____Positive; _____ Negative Stroke Severity Screen for Large Vessel Occlusion **(If positive, place HOB Flat)**	YES
9		Call for acceptance of stroke patient (name of facility)_____	
10		Communicate last NIHSS and VS to EMS/Air Transport and when next assessment is due	
11		Keep patient NPO until screened for dysphagia (including meds)	YES
12		Discharge/departure time_____ (NIHSS____ and GCS _____ <15 min prior to departure)	YES

See Appropriate	NURSING:	TIMES:
• BCRAC Stroke Triage/Transfer Decision Algorithm-Hospital	O STAT POC glucose O Result?_____ O EKG O Initiate IV line O Draw labs	• Stroke Code: LKN 0-6 hrs • Stroke Alert: LKN 6-24 hrs • Door-Provider: <10 min • Door-CT: <20 min • EKG: <45 min • CT results: <45 min • Door-Thrombolytic: <60 min (Goal <30-45 min) • Door-in-Door-Out Goal <90 min NOTE: If hemorrhage and on anticoagulant, goal for reversal agent <60 min
	O troponin O CBC,CMP, O PT/PTT O Continuous Cardiac Monitoring O 02 per TDP ____ L/min via	

BP Parameters:	Pre-thrombolytic BP <185/110- Maintain at <180/105 Permissive hypertension if not a thrombolytic candidate and no hemorrhage Hemorrhagic stroke BP goal SBP ≤140 -Maintain SBP 130-150

TRACKING TOOL IS NOT A PART OF THE PERMANENT RECORD

RAC-D Stroke Tracking Tool-Receiving Center

Optional Tracking Tool for Stroke Center/Receiving Hospital Use

BRAC Stroke Tracking Tool- Regional Hospital

Patient Sticker	ED Physician:
	Tele-Neuro Physician:
	Admitting Physician:
	ED Primary RN:

#	Time	Steps	Document in Flowsheets
1		First documented time of Patient arrival (Private Vehicle or EMS)	
2		LKN	YES
3		Stroke code/alert called	YES
4		ED Physician notified _____	YES
		Physician at bedside _____	
5		STAT CT Head (per stroke protocol)	
6		STAT CTA (per stroke protocol) immediately after CT Head	
7		Baseline NIHSS _____	YES
		AND NIHSS Prior to lytic _____	YES
		AND NIHSS post lytic (see checklist for timing)	YES
		Handoff NIHSS (Perform together. Receiving RN documents) _____	
		GCS on arrival _____ NIHSS on arrival _____ NIHSS and GCS <15 min prior to transfer (Document on MOT)	YES
8		Yale Swallow Protocol PASS/FAIL/ or Deferred due to exclusion criteria NPO until screened for dysphagia	YES
9		Pt meets criteria for thrombolytic? YES/NO Thrombolytic Administration Time _____ Cosignature required for dose calculation ____	YES
10		Tele-Neuro consult Time Tele- Neuro on screen/telephone?	YES

See Appropriate Algorithms	NURSING:	TIMES:
• ED Stroke Code/ Alert • Hemorrhagic - • Ischemic LVO -	O STAT POC glucose O Result?_____ O EKG O Initiate IV line O Draw labs	• Stroke Code: LKN 0-6 hrs • Stroke Alert: LKN 6-24 hrs • Door-Provider: 10 min • Door-CT: <20 min
	O ISTAT TROPONIN O CBC,CMP, O PT/PTT O Continuous Cardiac Monitoring O 02 per TDP (SpO2 >95%) ____ L/min via	• EKG: <45 min • Door-Lab Results: <45 min • CT results: <45 min • Door-Thrombolytic: <30-45 min (Must be <60 min)

BP Parameters:	Pre-thrombolytic BP <185/110- Maintain at <180/105 Permissive hypertension if not a thrombolytic candidate and no hemorrhage Hemorrhagic stroke BP goal SBP ≤140 -Maintain SBP 130-150

NOT PART OF THE PERMANENT RECORD!

BRAC Stroke Committee October 2025

TRACKING TOOL IS NOT A PART OF THE PERMANENT RECORD

Thrombolytic Eligibility Criteria (Ischemic Stroke):

Inclusion criteria:

If any of the following is not checked, a thrombolytic agent should NOT be administered. I If ALL of the following are checked, proceed with the checklist

- Age 18 years or older.
- Clinical diagnosis of Ischemic Stroke causing a measurable neurologic deficit.
- Time of symptom onset well established to be less than 4.5 hours (270 minutes).

Exclusion criteria:

If any of the following is marked, DO NOT administer thrombolytic agent (tenecteplase or alteplase)

Patient History:

- Ischemic stroke or severe head trauma in the previous three months.
- History of previous intracranial hemorrhage.
- Intra-axial intracranial neoplasm, vascular malformation, or aneurysm.
- GI malignancy.
- Gastrointestinal hemorrhage in the previous 21 days.
- Intracranial or intraspinal surgery within the previous three months.

Clinical:

- Symptoms suggestive of subarachnoid hemorrhage.
- Persistent blood pressure elevation (SBP greater than 185 or DBP greater than 110 mmHg).
- Active intracranial hemorrhage and/or internal bleeding.
- Presentation consistent with infective endocarditis.
- Stroke known or suspected to be associated with aortic arch dissection.

Hematologic:

- Active bleeding diathesis, including, but not limited to platelet count less than 100,000/mm3.
- Current anticoagulant use with international normalized ration (INR) greater than 1.7, or prothrombin time (PT) greater than 15 seconds, or activated partial thromboplastin time (aPTT) greater than 40 seconds.
- Therapeutic doses of low molecular weight heparin received within last 24 hours (e.g. to treat venous thromboembolism (VT) and acute coronary syndrome (ACS)); this exclusion does not apply to prophylactic doses (e.g. to prevent VTE).
- Current use (i.e. last dose within 48 hours in a patient with normal renal function) of a direct thrombin inhibitor or direct factor Xa inhibitor with evidence of anticoagulant effect by laboratory tests such as aPTT, INR, ecarin clotting time (ECT), thrombin time (TT), or appropriate
  factor Xa activity assays.

Head CT:

- Evidence of hemorrhage.
- Extensive regions of obvious hypodensity consistent with irreversible injury.

Warnings:

With careful consideration and weighting of risk-to-benefit, patients may receive intravenous thrombolysis despite one or more warnings. **Intravenous tPA appears to be safe and may be beneficial for patients with these criteria, including patients taking oral anticoagulants with an INR less than 1.7.

- **Advanced Age (80 years or greater).
- **Oral anticoagulants use regardless of INR.
- **Stroke severity - too severe (NIHSS* greater than 25). *National Institute of Health Stroke Scale
- **Combination of both previous ischemic stroke and diabetes mellitus.
- Only minor and isolated neurologic signs or rapidly improving symptoms.
- Serum glucose less than 50 mg/dL (less than 2.8 mmol/L).
- Serious trauma or major surgery within the past 14 days.
- History of gastrointestinal bleeding (remote) or genitourinary bleeding.
- Seizure at the onset of stroke with postictal neurologic impairment.
- Pregnancy.
- Arterial puncture at non-compressible site in the previous 7 days

Intra-arterial Intervention: For suspected Large Vessel Occlusion (LVO) AND if the time of symptom onset is less than 24 hours, contact Neuro interventionalist or consider transfer to higher level of care for intra-arterial intervention at thrombectomy capable stroke center (level II).

Suspected large vessel occlusion (LVO) patients should be considered for thrombolytic administration prior to transfer using inclusion/exclusion criteria.

STEMI

Summary

As directed by the Governors EMS and Trauma Advisory Council (GETAC), the Big County Regional Advisory Council (BCRAC) has been charged with developing and maintaining a region-wide system and standard of care for patients experiencing an ST elevation myocardial infarction (STEMI). Guidelines from The American Heart Association (AHA) and The American College of Cardiology (ACC) have been incorporated into this document.

The purpose of the Regional STEMI Plan is to establish a uniform set of criteria for triage and transport of acute STEMI patients.

It is important to note that STEMI patients should be recognized as quickly as possible to identify those eligible for thrombolytic or invasive therapy. Copious data have shown that both morbidity and mortality can be reduced by an approach of rapid interventional reperfusion targeted to within ninety minutes of "first medical contact". Further data have demonstrated that in-the-field recognition by pre- hospital providers utilizing 12-lead ECG coupled with pre-hospital notification of the receiving facilities can further reduce time to reperfusion and is associated with further improvement in outcomes. EMS personnel must be trained to recognize, treat and transport ST Elevation Myocardial Infarction (STEMI) patients in a timely manner.

Several studies have also demonstrated that many patients are not treated quickly enough to derive the clinical benefits of reperfusion therapy. System barriers can cause significant delays in treating patients quickly and efficiently. Our goal is to mitigate system related issues and enact the recommendations in this plan.

The primary goal of the BCRAC Regional STEMI Plan is: **To develop a STEMI Emergency Care System that, when implemented, will result in decreased cardiac mortality and morbidity in the BCRAC Region.** In order to accomplish this, a number of specific processes are essential. These are:

1) The ability to rapidly and accurately identify patients suffering from STEMI.
2) Patients who have sustained a STEMI event must receive care in a hospital that has a STEMI treatment program in place which is capable of providing immediate and comprehensive assessment, resuscitation, intervention and definitive care.
3) The BCRAC must assist in the coordination of a process for continuous and effective region-wide coordination of pre-hospital and hospital care resources, so that STEMI patients will be most expeditiously transported to the closest available interventional facility capable of performing PCI, so patient care can be provided in a manner that is both appropriate and timely, while establishing and maintaining continuity. To accomplish this process there must be a method of tracking the care capability for STEMI patients and reviewing the quality of the process itself.

Definitions

12-lead electrocardiogram (ECG/EKG) - A test using a device that measures the electrical activity of the heartbeat and can help medical personnel determine if a heart attack has occurred and whether the heart attack was a STEMI or non-STEMI event. When a 12-lead ECG is done, 10 wires (" 12 leads"} are attached to the arms, legs and chest. These wires each record electrical impulses, but from a different position in relation to the heart.

15-lead electrocardiogram (ECG/EKG) – An additional ECG to help identify a posterior STEMI.

Right-sided electrocardiogram (ECG/EKG) – An additional ECG if right ventricular involvement is suspected. Patient may need volume and avoid use of NTG.

Acute Coronary Syndrome (ACS) - Is usually one of three disease processes involving the coronary arteries: STEMI, NSTEMI or Unstable Angina.

Acute Myocardial Infarction (AMI) - The medical term for a heart attack, which occurs when the blood supply to part of the heart muscle itself - the myocardium — is severely reduced or stopped. An AMI should be documented as a STEMI or NSTEMI.

Angina / Unstable Angina- Generally termed "Chest Pain" Angina is chest pain or discomfort that occurs when an area of the heart is deprived of oxygen.

Angioplasty - A procedure used to treat patients with a partially or completely blocked artery that restricts blood flow through the heart. A type of percutaneous coronary intervention (PCI}, this procedure requires a slender balloon-tipped tube to be threaded from an artery to a trouble spot in the artery of the heart. The balloon is then inflated, which compresses the blockage and widens the narrowed artery to restore blood flow.

Balloon Inflation - Another name for angioplasty, which is a surgical procedure used to treat patients with a partially or completely blocked artery that restricts blood flow through the heart. A type of percutaneous coronary intervention (PCI}, this procedure requires a slender balloon-tipped tube to be threaded from an artery to a trouble spot in the artery of the heart. The balloon is then inflated, which compresses the blockage and widens the narrowed artery to restore blood flow.

Cath Lab - The department in a medical facility that specializes in cardiac catheterization, which is a procedure to examine blood flow to the heart and test how well the heart is pumping and performs PCI when indicated.

Door-to-Balloon Time (D2B) - The amount of time between a heart attack patient's arrival at the hospital to the time he/she receives percutaneous coronary intervention (PCI}, such as angioplasty.

Door-to-Needle Time (D2N) - The amount of time between a heart attack patient's arrival at the hospital to the time he/she receives clot-busting medications, referred to in medical terms as fibrinolytics or thrombolytics. D2N goal is ≤ 30 minutes.

Electrocardiogram (ECG/EKG) - A recorded tracing of the electrical activity of the heart.

Emergency Medical Service (EMS) - A system of health care professionals, facilities and equipment providing pre-hospital emergency care.

First Medical Contact to Balloon (FMC2B) – First documented contact by EMS to the time he/she receives percutaneous coronary intervention (PCI).

Fibrinolytic Therapy - The use of pharmaceuticals or injections of medication to break up a blood clot inside an artery or cavity of the heart so that blood flow can be improved or restored. Also called thrombolytics, this type of treatment is widely available at hospitals across the United States.

Helicopter Emergency Medical Service (HEMS) - A system of health care professionals, facilities and equipment providing pre-hospital emergency care by air.

Non-PCI hospital - A type of hospital that does not have the means to deliver percutaneous coronary intervention (PCI} 24/7, the preferred means of treating a STEMI heart attack patient if done within the critical 90-minute window. Non-PCI hospitals can: administer clot-busting medicines that meet the health care needs of STEMI patients; refer STEMI patients to PCI hospitals, thus the name PCI-referral hospital; and treat STEMI patients with medications when it is not feasible for them to get to a PCI- capable hospital for treatment in ≤ 120 minutes from arrival at PCI-Referral hospital to PCI at receiving hospital.

Non- ST-elevation myocardial infarction (NSTEMI) - A myocardial infarction without 1 mm of ST elevation (or more} in 2 or more contiguous leads. A NSTEMI is usually treated as unstable angina until it is identified through lab reports.

Percutaneous Coronary Intervention (PCI) - The family of medical procedures that uses a "mechanical" means to treat patients with partially or completely restricted blood flow through an artery of the heart. Examples include balloon angioplasty and stents.

PCI-Capable Hospital - A hospital that has the equipment, expertise and facilities to administer percutaneous coronary intervention (PCI}, a mechanical means of treating heart attack patients. These PCI-capable hospitals are called STEMI-receiving hospitals because they are well equipped to receive and treat STEMI patients.

Point of Entry (POE) - The part of the healthcare community where treatment of a patient begins, such as when emergency medical services arrive on the scene or the patient walks into the emergency department at a hospital.

Reperfusion Therapy - One or more techniques to restore blood flow to part of the heart muscle damaged during a heart attack. It may include clot-dissolving drugs (thrombolysis}, balloon angioplasty, stents or surgery.

ST-elevation myocardial infarction (STEMI) - A severe heart attack caused by a prolonged period of blocked blood supply that affects a large area of the heart. These attacks carry a substantial risk of death and disability and call for a quick response by many individuals and systems. It will be easily identified by 1 mm ST elevation (or more} in 2 or more contiguous leads.

ST-elevation myocardial infarction (STEMI) equivalents – Includes:

- New onset Left Bundle Branch Block (LBBB) OR
- Posterior STEMI with ST depression (15-lead ECG needed.) OR
- Multi-lead ST depression with coexistent ST elevation in lead aVR

STEMI System - An integrated group of separate entities focused on reperfusion therapy for STEMI within a region that typically includes emergency medical services (EMS} providers, at least one community (non-PCI or STEMI-referral} hospital and at least one tertiary (PCI-capable or STEMI receiving} hospital. The system may include one or more of the following components: leadership teams of EMS, emergency medicine, cardiology, nursing and administration; standardized communication (i.e., STEMI alert system}; standardized transportation; and data collection and feedback. Please note: In some systems, there may be a single hospital with PCI capabilities that has established protocols with EMS providers and contains at least one of the components stated above.

Thrombolytics - The use of pharmaceuticals or injections of medication to break up a blood clot inside an artery or cavity of the heart so that blood flow can be improved or restored. Also called fibrinolytic therapy, this type of treatment is widely available at hospitals across the United States with a goal of arrival at hospital to thrombolytic administration ≤ 30 minutes when FMC2B is not achievable ≤ 90 minutes.

Role of the Hospitals

Summary

Active participation on the part of the Hospital emergency departments, catheterization labs, intensive care units and all personnel therein will eventually define the success or failure of this program. Several key activities must be undertaken for the system to be proficient:

1} Collect and report STEMI performance data
2} Assign a STEMI contact

Definition of a PCI Facility

The goal of this effort is to move patients experiencing STEMI to PCI capable hospitals that are capable of performing the procedure rapidly and immediately after the patient presents with STEMI. The definition of a PCI facility, for the purposes of this plan, is any facility that is willing and capable of accepting EMS transported patients for emergent PCI on a 24/7 basis.

Primary PCI is available 24/7 at the following facilities in TSA-D:

1} Hendrick Medical Center North, 1900 Pine St, Abilene, Texas

Primary PCI is not available 24/7 at the following facilities in TSA-D:

1} Hendrick Medical Center Brownwood – diversion is communicated through EMResource & group text

Primary PCI is not available at the following facilities:

1} Anson General Hospital
2} Coleman County Medical Center
3} Comanche County Medical Center
4} Eastland Memorial Hospital
5} Fisher County Hospital
6) Haskell Memorial Hospital
7} Knox County Hospital
8} Mitchell County Hospital
9} Rolling Plains Memorial Hospital
10} Stephens Memorial Hospital
11} Stonewall Memorial Hospital
12} Throckmorton County Hospital

Data Reporting By Facilities

EMS agencies must have accurate knowledge of a specific facility's ability to perform emergent PCI. It is recommended that hospitals be held to the same standard as required by the American College of Cardiology (ACC} and the American Heart Association (AHA). The ACC and AHA have established a minimum standard for performance as door to balloon time of 90 minutes or less 85% of the time. Additional performance measures are (1) FMC2B ≤ 90 minutes or ≤ 120

minutes with transport drive > 45 minutes and D2B ≤ 30 minutes and STEMI Alert prior to arrival and (2) D2D2B ≤ 120 minutes or if unachievable, consider thrombolytics with D2N ≤ 30 minutes.

Additionally, inpatient mortality rates will be tracked.

For the first year, the facility performance data will be sent to BCRAC on a biannual basis. In the first year of this process the only information that will be reported out, in a blinded fashion, to BCRAC members is whether the facility has met the minimum ACC/AHA standards.

Facility Representation

Each PCI capable facility should designate a BCRAC contact person.

Facility Diversion

Designated STEMI receiving facilities do not divert STEMI patients. If a regional facility has some PPCI coverage, they must communicate when PPCI is not available. TSA-D facilities will communicate "facility diversion" status promptly and clearly to the regional EMS and other facilities through the EMResource in order to ensure that STEMI patients are transported to the closest appropriate facility.

Facility Triage Criteria

The goal of establishing and implementing facility triage criteria in TSA-D is to ensure that all regional hospitals use standard definitions to classify STEMI patients in order to ensure uniform patient reporting and facilitate inter-hospital transfer decisions.

A confirmed 12-lead should activate a facility's STEMI protocol. After confirming a STEMI, the patient should be transferred immediately to the closest PCI capable hospital if FMC2B can be achieved in ≤ 90 minutes or ≤ 120 minutes if > 45 minute drive AND/OR reperfusion checklist shows contraindication to thrombolytics. Consider administering a thrombolytic with D2N ≤ 30 minutes before transfer when these times are not achievable.

Inter-Facility Hospital Transfers

STEMI patients require specialized care and treatment beyond a non-PCI hospital's capability. STEMI patients require rapid identification and transfer to a PCI capable hospital as soon as possible.

The level of cardiac care resources required for STEMI patients is outlined in the TSA-D Field STEMI Triage Decision Scheme algorithm (page 12). When a suspected STEMI patient is identified, activation of a STEMI ALERT should be initiated as soon as identified. A transferring facility should state that the patient is a "STEMI ALERT" when calling EMS and the accepting PCI capable hospitals.

EMS should be called for transport as soon as identification of STEMI EKG (with goal of 5 minutes or less) These criterions (see attached Regional STEMI Form) are monitored through the regional PI program.

Identification of STEMI Patients & STEMI Transfers - STEMI patients and their treatment requirements for optimal care are identified in the TSA-D facility triage criteria and pre-hospital triage criteria.

STEMI Patient Transport - STEMI patients in TSA-D are transported according to patient need, availability of resources, and environmental conditions. EMS transport may include BLS, ALS, MICU or SCT ground ambulance but due to potential life-threatening complications and need for advanced treatment, ALS or higher is recommended. HEMS transport is also available in this Region.

Hendrick Health
Transfer STEMI Algorithm
December 2023

Regional Facility WITHOUT PCI Capability (STEMI)

Goal:
First Medical Contact to PCI ≤120 min

ALL PATIENTS

Medications prior to transfer
- aspirin 324 mg po chewable
- Heparin 60 units/kg IV bolus (max 4000 units), then 12 units/kg/hr infusion (max 1000 units/hr)
- High-dose statin (rosuvastatin ≥20 mg)

Able to meet first medical contact to PCI <120 min OR Lytic exclusion criteria met

YES → **Transfer for Primary PCI**

NO → **Thrombolytic Therapy Prior to Transfer**

Administer IV thrombolytic (tenecteplase)
Door to Needle goal <30 min

Additional medications prior to transfer
Clopidogrel 300 mg po for age ≤75 or
Clopidogrel 75 mg po for age >75

Transfer to PCI Capable Hospital

TENECTEPLASE (Use Inclusion/Exclusion Criteria)

<60 kg =	30 mg IV Push over 5 seconds
60-69 kg =	35 mg IV Push over 5 seconds
70-79 kg =	40 mg IV Push over 5 seconds
80-89 kg =	45 mg IV Push over 5 seconds
>90 kg =	50 mg IV Push over 5 seconds

If pt is >75 years of age, give ONLY ½ dose lytic

Role of the EMS

Develop Acute Coronary Syndrome (ACS) Protocols

It is important to develop a standardized ACS protocol for all EMS agencies. There are several treatments and medications considered standards of care that should be instituted on all ACS cases.

- Aspirin-Administer non-enteric coated Aspirin 324 mg PO, chewed, to patients with no history of aspirin allergy and without signs of active or recent bleeding.
- Oxygen-Maintain oxygen saturation >90% with the lowest concentration of supplemental oxygen possible.
- Nitroglycerin-(After 12-lead ECG obtained)-Administer 3 nitroglycerin (tablets or spray) at intervals of 3 to 5 minutes, if the patient is still symptomatic. Monitor for hypotension.
- Nitrates in all forms are contraindicated in the following patients:
    - SBP < 90 mmHg
    - Extreme caution advised in patients with known inferior wall STEMI and suspected right ventricular (RV) involvement. These patients require adequate RV preload. A right-sided ECG should be performed to evaluate the RV infarction.
    - Patients taking phosphodiesterase-5 (PDE-5), Sildenafil (Viagra, Revatio) or Vardenafil (Levitra) in past 24 hours or Tadalafil (Cialis) in the past 36 hours due to potential severe hypotension.
- Narcotics-Morphine or Fentanyl IV PRN for chest pain unrelieved by NTG.
- IV Fluids-Per protocol. Two IV's if possible, avoid wrists/hands. Do NOT delay transport for a second IV.
- Vital Signs-Monitor for hypotension and respiratory depression after administration of NTG, narcotics and anti-hypertensive agent.

The purpose of an ACS protocol is to rapidly recognize STEMI and other cardiac emergencies, treat with appropriate medications, notify the receiving facility as soon as possible, and provide rapid transportation to a PCI facility when indicated.

Acquire 12 Lead ECG Analysis

The ability to rapidly treat a STEMI is predicated on an accurate prehospital assessment to include a 12-lead ECG analysis by EMS providers in the field. The early recognition of a STEMI in the field, allows early activation of the PCI facility. All EMS agencies should acquire 12-lead technology and training.

Report Performance Data

Performance measures and STEMI feedback will be reported by the PCI-Receiving hospitals with assistance from EMS and NPCI-Referral hospitals providing needed information. An EMS report and copy of the 12-lead ECG will follow the patient during their care.

Adopt the STEMI Bypass Guideline

All EMS agencies that do not have a STEMI Bypass Guideline should introduce the BCRAC STEMI Bypass Guideline to their medical directors and administration. The Bypass Guideline has been developed with the thought that most EMS agencies have an ACS protocol currently in place. The recommended guideline (shown below} assumes the care of the patient is still governed by the local medical director; however, this guideline will serve as a regional standard of care. This guideline serves as a template to be used by EMS agencies when formulating their individual plans.

ECG Transmission

Early hospital notification by EMS significantly reduces the door-to- balloon time. PCI-Receiving hospitals will collaborate with EMS to receive 12-lead ECG transmission 24 hours per day/7 days a week.

EMS should transmit 12-lead ECGs if technically feasible, reliable and if a system exists for immediate ECG interpretation by a physician. This is helpful for ECGs that have an uncertain EMS interpretation.

Pre-hospital Triage

To ensure the best possible patient care and utilization of resources, every patient suspected of ACS will be assessed for abnormal vital signs; concurrent disease/predisposing factors; and abnormal 12-lead EKG.

1} If a provider is unable to complete a 12-lead ECG, suspected cardiac patients should be taken to the nearest hospital.

2} If a provider suspects a STEMI (confirm by 12-lead}, the patient should be taken directly to a PCI capable hospital if FMC2B can be achieved in ≤ 90 minutes or ≤ 120 minutes if > 45 minute drive AND/OR reperfusion checklist shows contraindication to thrombolytics.

3} If a provider is unable to provide MICU care to the suspected cardiac patient, paramedic intercept should be considered. Paramedic intercept may be by ground or air.

4} If transport by ground to the nearest appropriate facility is more than 30 minutes, consider activating the closest HEMS.

Facility Bypass

Regional transport treatment guidelines ensure that patients who meet the triage criteria for activation of the TSA-D Regional STEMI Plan will be transported directly to the closest appropriate PCI capable hospital rather than to the nearest hospital except under the following circumstances:

1} If unable to establish and/or maintain an adequate airway, the patient should be taken to the closest non-PCI hospital for stabilization.

2} Medical Control may wish to order bypass in any of the above situations as appropriate, such as when a facility is unable to meet hospital resource criteria or when there are patients in need of specialty care.

3} If expected transport time to the nearest appropriate PCI capable hospital is excessive (> 30 minutes} and if FMC2B cannot be achieved in ≤ 90 minutes or ≤ 120 minutes if > 45 minute drive AND/OR reperfusion checklist shows contraindication to thrombolytics, the EMS crew on scene should consider activating HEMS or transport to the closest non- PCI capable facility for fibrinolytic therapy. Should there be any question regarding whether or not to bypass a facility consult with your Base Station Physician (BSP}.

TSA D – EMS Services

Abilene Fire Department-EMS
Air Evac Lifeteam 63-Abilene
Air Evac Lifeteam Eastland
Citizens EMS
Coleman County EMS – Sacred Cross
Comanche County EMS
Cross Plains EMS
Dublin EMS
Eastland Memorial Hospital EMS
Eula VFD
Fisher County Hospital District EMS
Hamlin EMS
Haskell County Ambulance Service
Heart of Texas EMS-Coleman
Jim Ned VFD
Knox County EMS
Lifeguard Ambulance Service-Brownwood
MetroCare Services Abilene-L.P.
Mitchell County EMS
Native Air of Tex
North Runnels Hospital EMS
Potosi VFD
Ranger Fire Department-EMS
Scurry County EMS
Shackelford County EMS
Stamford EMS
Stephens County EMS - Sacred Cross
Stonewall Memorial Hospital EMS
Sweetwater Fire Department
Taylor County EMS
Throckmorton County EMS

Contact information can be found on page 42

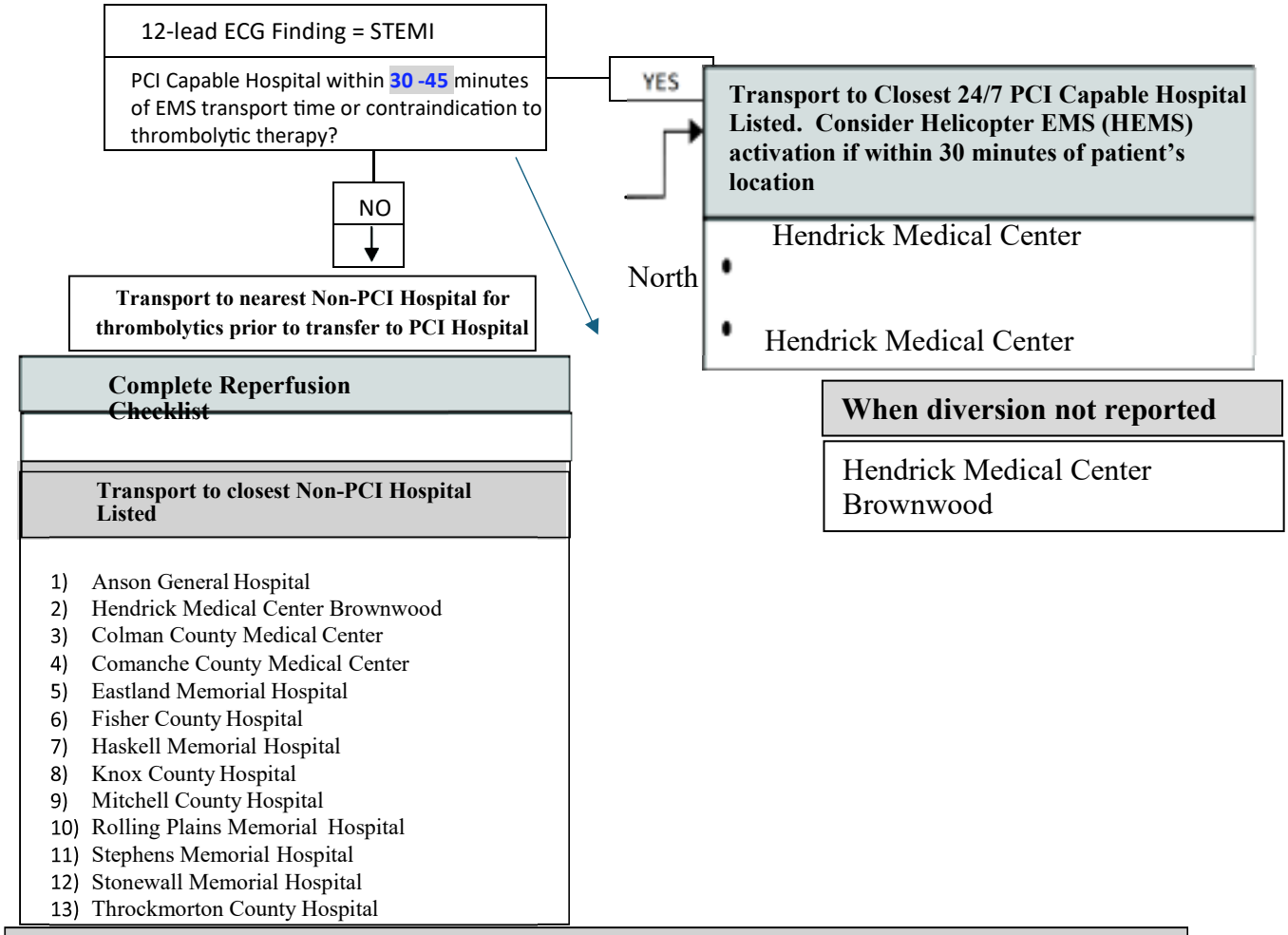
Field STEMI Triage Decision Scheme

The Purpose of this Decision Scheme is to:

1) Rapidly identify STEMI patients who call 911 or present to EMS
2) Minimize the time from onset of STEMI symptoms to coronary reperfusion
3) Quickly recognize a potential STEMI by 12-lead ECG
4) Complete a reperfusion checklist (unless being transported directly to a PCI hospital) to determine thrombolytic eligibility
5) Rapidly identify the best hospital destination based on symptom onset time, reperfusion checklist, and predicted transport time
6) Call STEMI Alert to the hospital as soon as STEMI is identified.
7) Minimize scene time to 15 minutes or less (including a 12-lead ECG)

STEMI Patient (ST Elevation Myocardial Infarction)

1) Cardiac symptoms **AND**
   a) 12-lead ECG criteria of 1 mm ST elevation (or more) in 2 or more contiguous leads OR
   b) 12-lead ECG interpretation with an "ACUTE MI" statement OR
   c) Left Bundle Branch Block NOT KNOWN to be present in the past OR
   d) Posterior STEMI with ST depression (15-lead ECG needed.) OR
   e) Multi-lead ST depression with coexistent ST elevation in lead aVR



Any patient with a compromised airway or impending circulatory collapse must be transported to the closest hospital Emergency Department.

ECG/EKG Screening Guide

Patients > 18 years old **experiencing any of the following:**

1) Chest pain (any pain between the navel and jaw)
2) Chest pressure, discomfort, or tightness
3) "Heartburn" or epigastric pain
4) Complaints of "*heart racing*" or "*heart too slow*"
5) Syncope
6) Severe weakness
7) New onset stroke symptoms
8) Difficulty breathing (with no obvious non-cardiac cause)
9) Nausea/vomiting (with no obvious non-cardiac cause)

Above patients require ECG in 10 minutes!

Patients (regardless of age) **with any of the above symptoms** and history of:

1) Prior cardiac disease such as heart attack
2) A family history of early heart disease
3) Diabetes mellitus
4) Severe obesity
5) Recent illicit drug use (cocaine, methamphetamines)

These patients also require an ECG within 10 minutes!

Present ECG for *immediate* interpretation!

Remember:

1) Women and diabetic patients are more likely to present with atypical symptoms
2) Elderly patients may have symptoms such as generalized weakness, altered mental status, nausea/vomiting, shortness of breath, diaphoresis, or syncope as their only sign of acute heart attack
3) Atypical pain can be in jaw, neck, arm, or upper back.

When in doubt, do the ECG

Big County Regional
Advisory Council
Regional STEMI Plan

STEMI: THROMBOLYTIC CHECKLIST

Photocopy This Form and Leave A Copy With Emergency Department Physician At Bedside

INCIDENT

Date _____ Agency_____ Unit #_____ Patient Name _____Age_____ DOB _____

INDICATIONS FOR USE OF CHECKLIST

For Patient's experiencing chest discomfort for greater than 15 minutes and less than 12 hours, AND

12-lead ECG shows STEMI or presumable new LBBB.

ABSOLUTE CONTRAINDICATIONS	**YES**	**NO**
Any prior intracranial hemorrhage		
Known structural cerebral vascular lesion (eg: arteriovenous malformation)		
Known malignant intracranial neoplasm (primary or metastatic)		
Ischemic stroke < 3 months, except acute ischemic stroke within 4.5 hours		
Suspected aortic dissection		
Active bleeding or bleeding diathesis (excluding menses)		
Significant closed-head or facial trauma within 3 months		
Intracranial or intraspinal surgery within 2 months		
Severe uncontrolled hypertension (unresponsive to emergency therapy)		
For streptokinase, prior treatment within the previous 6 months		

RELATIVE CONTRAINDICATIONS	**YES**	**NO**
History of chronic, severe, poorly controlled hypertension		
Significant hypertension on presentation (SBP> 180mmHg or DBP > 110mmHg)		
History of prior ischemic stroke > 3 months		
Dementia		
Known intracranial pathology not covered in absolute contraindications		
Traumatic or prolonged (>10 minutes) CPR		
Major surgery < 3 weeks		
Recent internal bleeding (within 2- 4 weeks)		
Noncompressible vascular punctures		
Pregnancy		
Active peptic ulcer		
Oral anticoagulant therapy		

Is patient at high risk?	**YES**	**NO**
Heart rate ≥ 100 bpm AND systolic BP < 100 mmHg		
Pulmonary edema (rales)		
Signs of shock (cool, clammy)		
Contraindications to fibrinolytic therapy		

Comments_____

_____

_____

Reference: 2013 ACCF/AHA Guideline for the management of ST-elevation myocardial infarction

BCRAC Regional STEMI Checklist Form

EMS Checklist **Provider Name:**_____

Step

_____ Obtain 12 lead ECG (Goal ≤5 min from initial contact)
_____ Activate STEMI Alert (Goal ≤5 min)
_____ Aspirin 324 mg (4 chewable baby aspirin) p.o.
_____ Oxygen therapy to maintain saturation >90%
_____ IV access (two large bore- avoid wrist)
_____ Nitroglycerin sl every 5 min x 3 doses
_____ (Hold if SBP <90, hx of erectile dysfunction meds within 36 hours of arrival, STE in leads II, III, and aVF- consider right ventricular involvement)
_____ Other treatment:_____

Referring Hospital Checklist **Hospital Name:**_____

Step

_____ Door to 12-lead ECG performed and shown to provider (Goal <10 min)
_____ Activate STEMI Alert
_____ Request for transfer to Primary PCI Hospital
_____ PCI Hospital Acceptance
_____ EMS Called for transport
_____ 12 lead ECG faxed to Primary PCI Facility
_____ Oxygen therapy to maintain saturation >90%
_____ Aspirin 324 mg (4 chewable baby aspirin) p.o.
_____ IV access (two large bore- avoid wrist)
_____ STAT lab:CBC, CMP, PT/PTT, Troponin I
_____ Nitroglycerin sl every 5 min x 3 doses
_____ (Hold if SBP <90, hx of erectile dysfunction meds within 36 hours of arrival, STE in leads II, III, and aVF- consider right ventricular involvement)
_____ Heparin Bolus and Drip
_____ Consider thrombolytic using inclusion/exclusion criteria if unable to achieve FMC2B <120 min (Goal Door to thrombolytic <30 min)
_____ Clopidogrel p.o. if thrombolytic given(300 mg for age ≤75 or 75 mg for age >75)
_____ High-dose statin (rosuvastatin ≥ 20 mg)
_____ Notify Primary PCI Hospital when patient departs with ETA. Primary Nurse should call report to ED Charge Nurse or designee at Primary PCI Hospital

Transfer EMS Checklist **Provider Name:**_____

_____ Arrival at PCI Hospital
_____ Notes

HandOff Report for PCI

_____ Allergies (Contrast or other)
_____ Symptoms with time of onset
_____ Pertinent Hx - Coronary artery disease/high blood pressure/heart failure/cardiac stents/atrial fibrillation/CABG/Diabetes/Dialysis/Bleeding
_____ Medications given/IV access/Emergency Treatment PTA
_____ Home Medications
_____ Anticoagulants (Coumadin, Lovenox, Xarelto, Pradaxa, Elquis)
_____ Last set of vital signs
_____ Family/primary contact information

Utilize this STEMI checklist to guide documentation and handoff report

BCRAC Regional STEMI Checklist Form Instructions

BCRAC will maintain the STEMI Checklist form under the STEMI link on the BCRAC web page for each EMS agency and referring facility to print for their agency/site.

The BCRAC Regional STEMI Checklist Form will be used on any patient with a suspected STEMI or STEMI equivalent.

For the purposes of this program the 'STEMI patient' shall be defined as any patient presenting with symptoms of an acute myocardial infarction and a 12-lead ECG showing STEMI or STEMI equivalent changes as described on the Field STEMI Triage Decision Scheme.

The BCRAC Regional STEMI Checklist Form is intended to assist documentation of required information by EMS and referring facilities for the regional STEMI facilities as well as serve as the tool for the regional STEMI quality improvement process.

Initial EMS Provider

1) The EMS provider will initiate a STEMI Checklist form and complete the top portion of the form titled "EMS Checklist".
2) The EMS provider shall attach a copy of the initial 12 lead. The 12 lead shall be noted with the patient's name and date of birth.
3) If additional documentation is required, a copy of the run sheet may be attached to the EMS copy and forwarded to the Chest Pain Coordinator at the STEMI receiving facility.
4) A copy can be made by the EMS provider and maintained by the provider as part of their records for QI purposes.
5) Once the EMS copy is made, the form shall be given to the facility and follow the patient.

BCRAC STEMI referral Facility

1) When the patient arrives at a non-PCI BCRAC facility, the facility shall complete the section titled "Referring Hospital Checklist".
2) If the patient presents directly at the facility by his/her own means, the facility shall initiate the BCRAC STEMI Checklist and mark "N/A" across the EMS Section.
3) A copy shall be made by the facility and maintained by the facility according to their policy.
4) Once the facility has made a copy, the form shall follow the patient to the STEMI receiving facility.

Transferring EMS Provider

1) When the patient is transferred from a non-PCI facility to a regional STEMI receiving Facility, the transferring EMS provider (ground or air medical) shall complete the section titled "Transfer EMS Checklist".
2) If additional documentation is required, a copy of the run sheet shall be attached to the EMS copy and forwarded to the Chest Pain Coordinator at the STEMI receiving facility.
3) A copy can be made by the EMS provider and maintained by the provider as part of their records for QI purposes.
4) Once the EMS copy is made, the form shall be given to the STEMI receiving facility and forwarded to the AMI Coordinator.

BCRAC STEMI Receiving Facility

1) When the patient arrives at a PCI - capable Facility, the STEMI ALERT form will be forwarded to the AMI Coordinator.

The STEMI receiving Facility shall maintain the original sheet as part of the facility's record. The contact information for each STEMI receiving facilities AMI Coordinator will be maintained on the BCRAC website.

System Performance Improvement

Goal

The goals for system performance improvement in TSA-D are to establish a method for monitoring and evaluating system performance over time and to assess the impact of STEMI system development.

Objectives

1) To provide a multidisciplinary forum for STEMI care providers to evaluate STEMI patient outcomes from a system perspective and to assure the optimal delivery of cardiac care.
2) To facilitate the sharing of data, feedback, metrics and goals.
3) To provide a process for medical oversight of regional STEMI and EMS operations.

Discussion

In order to assess the impact of regional STEMI development, system performance must be monitored and evaluated from an outcomes perspective. A plan for the evaluation of operations is needed to determine if system development is meeting its stated goals.

Authority - The authority and responsibility for regional quality improvement rests with the Regional Advisory Council. This will be accomplished in a comprehensive, integrated manner through the work of the STEMI and Pre-hospital committees.

Scope & Process - The STEMI Committee will determine the type of data and manner of collection, set the agenda for the PI process within the regularly-scheduled meetings of the committee, and identify the events and indicators to be evaluated and monitored. Indicator identification will be based on high risk, high volume, and problem prone parameters. Indicators will be objective, measurable markers that reflect STEMI resources, procedural/patient care techniques, and or systems/process outcomes. Indicator identification may be deferred to Primary PCI hospitals.

Occurrences will be evaluated from a system, outcomes prospective and sentinel events will be evaluated on a case by case basis. Activities and educational offerings will be presented to address knowledge deficits and case presentations or other appropriate mediums will be designed to address systems and behavioral problems. All actions will focus on the opportunity to improve patient care and systems operation. The results from committee activities will be summarized and communicated to the RAC membership. Problems identified that require further action will be shared with the persons and entities involved, for follow-up and loop closure. Committee follow-up and outcome reports will be communicated on a standard format (please see attached).

The functions and effectiveness of BCRAC performance improvement process will be evaluated on an annual basis in conjunction with the annual evaluation of the BCRAC bylaws. All PI activities and committee proceedings are strictly confidential. Individuals involved in performance management activities will not be asked to review cases in which they are professionally involved, but will be given the opportunity to participate in the review process.

Data Collection - PI data will be collected by the PCI capable hospitals. Non-PCI capable hospitals and EMS will not be responsible for reporting directly to the BCRAC, but will be responsible for providing the PCI capable hospitals with information that they are in need of or that is lacking from patient charts. Sentinel events will be used to focus attention on specific situations/occurrences of major significance to patient care outcomes.

Confidentiality - All information and materials provided and/or presented during PI meetings are strictly confidential. See attached form.

BCRAC facility and EMS provider data related to the following PI indicators are reviewed during the quarterly ST EMI Committee meetings. The STEMI Alert Form is reviewed and will be updated as needed annually.

STEMI Plan Maintenance--The medical field is ever changing for a multitude of reasons. Due to this, there may be need for both minor and major changes. The STEMI Committee will conduct ongoing and annual reviews of the STEMI Plan. The STEMI Committee will make minor corrections and revisions as needed and agreed upon by the STEMI Committee. Major changes will be brought before the general assembly. The General Assembly will be advised of minor changes or corrections and the website will be updated with the most up-to-date plan.

Reporting Quarters
BCRAC regional PI data-reporting will be done biannually and in accordance with the Primary PCI hospitals quarters to ensure that all information is up-to-date and accurate.

Statement of Confidentiality

Medical Performance Improvement provides an objective mechanism to evaluate trauma and emergency care, facilitates the sharing of information, knowledge, and scientific data, and provides a forum for medical directors and other physicians to review the performance of the regional systems to assure the optimal delivery of trauma and emergency care. The direction of the committee comes from the Texas EMS Rules: Section 157.124 Regional EMS Trauma Systems: (3) (k) of the EMS Rules (effective 2/17/92) requires the development of a "performance management program that evaluates outcome from a system perspective"

Committee members engaged in medical care review have protection from disclosure of proceedings, under Section 773.095 RECORDS OF PROCEEDINGS CONFIDENTIAL of the Texas Health and Safety Code as follows:

1) The proceedings and records of organized committees of hospitals, medical societies, emergency medical service providers, or first responder organizations relating to the review, evaluation, or improvement of an emergency medical services provider, a first responder organization, or emergency medical services personnel are confidential and not subject to disclosure by court subpoena or otherwise.
2) The records and proceedings may be used by the committee only in exercise of proper committee functions.
3) This section does not apply to records made or maintained in the regular course of business by an emergency medical services provider, a first responder organization, or emergency medical services personnel.

Section 773.096 IMMUNITY FOR COMMITTEE MEMBERS

"A member of an organized committee under Section 773.095 is not liable for damages to a person for an action taken or recommendation made within the scope of the functions of the committee if the committee member acts without malice and in the reasonable belief that the action or recommendation is warranted by the facts known to the committee member."

TRAUMA PLAN

PURPOSE: The purpose of BCRAC shall be to facilitate the development, implementation, and operation of a comprehensive trauma care system based on accepted standards of care to decrease morbidity and mortality resulting from trauma. BCRAC will solicit participation from health care facilities, organizations, entities and professional societies involved in health care, and community representatives within Trauma Service
Area D (TSA-D) established by the Texas Department of State Health Services (DSHS). BCRAC will encourage multi-community participation in providing trauma care, work to promote the improvement of facilities and services, and cooperate with all member entities agencies and organizations in the establishment of an efficient system of care for all injured patients. BCRAC shall develop the plan for a regional comprehensive trauma system that meets as a minimum the requirements of the DSHS, and which shall address:

A. Prevention
B. Access to the system
C. Communications
D. Medical advisory activity
E. Pre-hospital triage
F. Bypass protocols
G. Diversion policies
H. Facility triage
I. Inter-hospital transfers
J. Rehabilitation access
K. Assistance in the planning and process of designation for trauma facilities, including the identification of lead facilities
L. Performance improvement program that evaluates outcome from a system perspective
M. Professional education
N. Disaster planning
O. System development status and ongoing evaluation
P. Budget/Finance
Q Strategic planning
T. Public education

BIG COUNTRY REGIONAL ADVISORY COUNCIL
TSA – D

EXECUTIVE COMMITTEE MEMBERS

OFFICERS:

Russel Thomas	Chair	Scurry County EMS
Jason Gruben	Vice-Chair	Mitchell County EMS
Tammy Hamilton	Secretary	Hendrick Medical
Marta Pagura	Treasurer	Abilene Air EVAC

HOSPITAL REPRESENTATIVES:

Lexie Feist	Comanche County Hospital
Sheila Kuelher	Knox County Hospital
Tammy Hamilton	Fisher County Hospital
Deni Davis	Rolling Plains Hospital
Kinsi Voss	Throckmorton Co Hos
Stephanie Cantu	Hendrick Medical North

EMS REPRESENTATIVES:

Kelby Hodges	Throckmorton Co EMS
Aaron Maxwell	Abilene Fire Department
David Allman	Taylor County EMS
Jimmy Bryant	MetroCare

FIRST RESPONDER REPRESENTATIVE:

Jonathan Galinak	Eula VFD

TSA D - EMS SERVICES

Abilene Fire Dept

Counties Served: Taylor
250 Grape St, Abilene, Tx 79601
EMS Director: Candelario Flores
Email: cande.flores@abilenetx.gov
Phn # 3256766099 Fax #
RAC Rep: Aaron Maxwell

Abilene Fire Dept-FRO

Counties Served: Taylor
250 Grape St, Abilene, Tx 79601
EMS Director: Candelario Flores
Email: cande.flores@abilenetx.gov
Phn # 3256766099 Fax #
RAC Rep: Justin Ray

Air Evac Lifeteam 63

Counties Serviced:
1900 Pine Street, Abilene, Tx 79601
EMS Director: Marta Pagura
Email: marta.pagura@gmr.net
Phone # 325-670-3200 Fax #325-670-2996
RAC Rep: Marta Pagura

Air Evac Lifeteam 115

Counties Serviced:
9614 IH 20W, Eastland, Tx 76448
EMS Director: Stephanie Wood
Email: stephanie.wood@gmr.net
Phone # 254-433-1711 Fax #254-629-8532
RAC Rep: Stephanie Wood

Citizens EMS

Counties Serviced: Callahan
911 S 1st St W, Blg A, Clyde, Tx 795010
EMS Director: Kellie Batangan
Email: administrator@citizensems.net
Phone # 325-939-47317 Fax #3258934127
RAC Rep: Kellie Batangan

Cross Plains Emergency Medical Service

Counties Serviced: Callahan, Brown, Eastland, Coleman
116 NW 2nd Street, Cross Plains, 76443
EMS Director: Susan Schaefer
Email: susan.schaefer49@gmail.com
Phone # 3256653553 Fax #2547254080
RAC Rep: Delany Golson

City of Ranger FD-EMS

Counties Serviced: Eastland
500 Loop 254 East, Ranger, 76470
EMS Director: Darrell Fox
Email: firechief@rangertx.gov
Phone # 254-210-3026 Fax #254-647-3398
RAC Rep: Darrell Fox

Comanche County EMS

Counties Serviced: Comanche
210 SA. Houston St., Comanche, 76442
EMS Director: Joshua Chapman
Email: jchapman@comanchecmc.com
Phone # 325-330-0499 Fax #325-356-3919
RAC Rep: Joshua Chapman

Eastland EMS

Counties Serviced: Eastland
304 S. Daugherty, Eastland, 76448
EMS Director: Gene Wright
Email: gene.wright@emhd.org
Phone # 254-631-5261
Fax #254-629-3212
RAC Rep: Gene Wright

Fisher County Hospital District EMS

Counties Serviced: Fisher
774 St Hwy 70 N, Rotan, 79546
E M S Director: Chase Jarvis
Email: cjarvis@fishercountyhospital.com
Phone # 325-735-2256 ext 281
Fax #325-735-3070
RAC Rep: Chase Jarvis

Hamlin EMS

Counties Serviced: Hamlin
632 NW 2nd, Hamlin, Tx 79520
EMS Director: Gary Morgansen
Email: ems@hamlinhealth.org
Phone # 325-576-3646 Fax # 325-576-3797
RAC Rep: Allen B

Haskell County Ambulance Service, Inc.

Counties Serviced: Haskell
1300 S 1st, Haskell, 79521
EMS Director: Melissa Strawbridge
Email: haskellems@gmail.com
Phone # 940-550-5636 Fax #940-864-2575
RAC Rep: Melissa Strawbridge

Knox EMS

Counties Serviced: Knox, Baylor, Haskell, King, Foard
701 SE 5th, Knox City, 79529
EMS Director: Stephen Keuhler
Email: knoxhospital@srccacess.net
Phone # 940-657-3535 Fax #940-657-1313
RAC Rep: Logan Morrow

LifeGuard Ambulance Service

Counties Served: Brown, Coleman
1611 Cogin Ave, Brownwood, Tx 76801
EMS Director: Kenny Dennis
Email: kenny.dennis@gmr.net
Phone # 325-268-7897 Fax #
RAC Red: Kenny Dennis

MetroCare Services Abilene LP

Counties Serviced: Taylor, Callahan, Jones, Shackelford
4550 S. 3rd, Abilene, 79605
EMS Director: Janet Schuessler
Email: janet.schuessler@gmr.net
Phone # 325-691-8906 Fax #325-690-0625
RAC Rep: James Bryant

Mitchell County EMS

Counties Serviced: MITCHELL
1602 Chestnut, Colorado City, 79512
EMS Director: Jason Gruben
Email: jgruben@mitchellcountyhospital.com
Phone # 325-728-3483
Fax #325-728-9153
RAC Rep: Jason Gruben

Native Air of Texas

Counties Serviced: Scurry, Nolan, Kent, Stonewall, Fisher, Mitchell, Howard, Bordan
5305 Etgen Blvd, Snyder, 79549
EMS Director: Eric Connor
Email: eric.conner@airmethods.com
Phone # 325-573-2333 Fax #325-573-2365
RAC Rep: Steven Hobbs

Sacred Cross EMS

Scurry County EMS

Counties Serviced: Scurry
3902 College Ave., Snyder, 79549
EMS Director: Jason Tyler
Email: jason.tyler@co.scurry.tx.us
Phone # 325-573-1912 Fax #325-573-0533
RAC Rep: Russel Thomas

Shackelford County EMS

Counties Serviced: Shackelford
840 Gregg St., Albany, 76430 EMS
Director: Mateo Millan
Email: mmillan@schdtx.com
Phone # 3257623313 Fax #3257622342
RAC Rep: Ashton McDonald

Stamford EMS, Inc.

Counties Serviced: Jones, Haskell, Shackelford, Throckmorton, Stonewall
301 E. Hamilton, Stamford, 79553
EMS Director: Christopher McDonald
Email: emsstamford@gmail.com
Phone # 325-338-3871 Fax #325-773-2970
RAC Rep: Christopher McDonald

Stonewall Mem Hos EMS

Counties Serviced: Jones, Kent, King
821 N Broadway, Aspermont, Tx 79502
EMS Director: Mylinda Olson
Email: mylinda.olson@stonewallhospital.org
Phone # 940-200-0152
Fax #
RAC Rep: Mylinda Olson

Sweetwater Fire Department

Counties Serviced: Nolan
900 E. Broadway, Sweetwater, 79556
EMS Director: Tad Baird
Email: tbaird@coswtr.org
Phone # 325-235-4304 Fax #325-933-6578
RAC Rep: Bryan Buckley

Taylor County EMS

Counties Serviced: Taylor County
1458 County Road 314, Abilene, 79606
EMS Director: David Allman
Email: david.allman@taylorcountyems.com
Phone # 325-733-7098 Fax #888-317-8101
RAC Rep: David Allman

Throckmorton County EMS

Counties Serviced: Throckmorton
802 North Minter, Throckmorton, 76483
EMS Director: Tina Hantz
Email: hantztina@windstream.net
Phone # 940-849-2151 Fax #940-849-7141
RAC Rep: Kelby Hodges

TRAUMA SERVICE AREA-D
REGIONAL TRAUMA PLAN

TRAUMA SERVICE AREA-D PARTICIPATION REQUIREMENTS AND HISTORY

The first meeting of Trauma Service Area-D was held in 1992 between Abilene Regional Medical Center and Hendrick Health Systems. All entities throughout the region were contacted including EMS agencies, hospitals and physicians. Representatives from Abilene Regional Medical Center and Hendrick Health Systems visited each facility within the TSA-D region. At this time administration and medical staff were encouraged to seek Trauma designation and to participate in their designated Regional Advisory Council.

Based upon the decision of the Texas Department of State Health Services, Trauma Service Area-D includes the following counties:

- Brown
- Callahan
- Coleman
- Eastland
- Fisher
- Hamlin
- Haskell
- Jones
- Knox
- Nolan
- Mitchell
- Shackelford
- Stephens
- Stonewall
- Taylor
- Throckmorton

The Big County Regional Advisory Council encourages each involved entity to be accountable for participation in order to remain in compliance with the standards set forth by the Texas Department of State Health Services. Active participation is required to have an effective and efficient region-wide trauma system.

Regional Advisory Council meeting notices are emailed and posted on the RAC webpage (www.bigcountryrac.org) 7 to 10 days prior to scheduled meetings.

By-laws have been incorporated and a membership list made. Most of the hospitals and EMS services have been and continue to be active participants in the Big Country Regional Advisory Council. The current requirements to be considered active and in good standing with Big Country Regional Advisory Council are as follows:

- Attendance at seventy-five (75%) percent of the regularly scheduled General Assembly meetings each fiscal year.

• Participation at the committee level in at least fifty (50%) percent of the regularly scheduled committee meetings of at least one (1) standing committee per fiscal year.
• Completion of the annual protocol affidavit to include bypass and diversion protocols.
• Completion of annual needs assessment form whether or not needs are contemplated for the fiscal year. E. Participation, as requested, in the BCRAC SQIC process.
• Submit all receipts and paperwork associated with funding to the Treasurer by the date set by the Treasurer in each funding cycle.
• Payment of all assessed dues by December 1st of each year.
• Participation in the Texas EMS Trauma Registry System, inclusive of hospitals and EMS providers, as defined by Texas Department of State Health Services.
• BCRAC participation will be recorded and kept by the Secretary and will be based upon the State of Texas' fiscal year September 1 through August 31.
• Participation on EMSystem which is to be updated daily by the lead facilities, Hendrick Medical Center and Abilene Regional Medical Center. All other First Responders, EMS Services, and hospitals will update at least weekly, or as requested by RAC-D or EMSystem requirements.

Meeting rosters are kept. These rosters serve as the identifiable means of tracking each entities compliance with the Regional Advisory Council guidelines. Attendance records are maintained by the secretary. These sign-in rosters are mailed to the State.

Hospitals and EMS agencies within Trauma Service Area-D are encouraged and invited to participate with the Big Country Regional Advisory Council. Executive members are available to assist with designation and the re-designation process of trauma facilities as needed.

TRAUMA SERVICE AREA – D
REGIONAL ADVISORY COUNCIL

PRE-HOSPITAL TRIAGE AND TRANSPORT

INTRODUCTION

A trauma patient can be identified as a patient experiencing a severe injury which involves a single or multiple organ system. A trauma patient is an individual who experiences external blunt or a penetrating force that damages any anatomical structure causing and immediate threat to life or limb.

GOAL

Trauma patients who are medically unstable or have multiple and/or severe injuries will be quickly identified and transported to a trauma designated hospital. Triage, transfer, bypass and diversion protocols are basic guidelines and standards for Trauma Service Area-D members. Big Country Regional Advisory Council members are encouraged to adopt these protocols and utilize them both for the regional plan and individualized entity protocols.

Triage, transfer, by-pass and diversion are terms that refer to the movement of patients according to their medical need.

Triage: Identify the trauma patients and determine their immediate need to preserve life and/or limb.

Transfer: Movement of a patient from one hospital to another based on the patients medical need.

Bypass: Movement of a trauma patient from the scene to a specific hospital not necessarily the nearest hospital based on the patient's medical need.

Diversion: Movement of a trauma patient from the scene to an alternative hospital capable of providing the most appropriate care due to the inability of the nearest hospital to provide such care.

A Trauma patient may be defined as a patient who presents with the following criteria:

1. Glasgow Coma Score less than or equal to 13.
2. Revised Trauma Score less than or equal to 11.
3. Clinical presentation of:
    a. Laryngeal or tracheal deviation
    b. Pneumothorax
    c. Hemothorax
    d. Flail chest

    e. Open chest wound
    f. Cardiac injury
    g. Pelvic fracture
    h. Long bone fracture
4. Suspected spinal cord injury.
5. Penetrating injury to head, neck, chest abdomen of groin.
6. Evidence of blunt trauma
    a. Fall from 20 feet or more
    b. MVC with victim ejected
    c. Pedestrian hit by motor vehicle
7. Injury to extremity with compromised circulation.
8. Total or partial amputation of extremity above the digits.
9. Crush injury with numbness or severe pain.
10. Paresthesia or total loss of movement.
11. Potential for disruption of organ systems.

Decision Criteria:

In the event of trauma, accurate and expedient patient assessment by the first EMS providers to the scene is the key to appropriate trauma patient care. A Triage Decision Scheme has been developed to assist EMS with appropriate patient transport and destination. After patient assessment and vital signs EMS medical control is consulted in regards to remaining questions of patient disposition and treatment. Major trauma patients are then classified as either “critical” or “urgent”. The Triage algorithm is then followed to transport the patient to the most appropriate facility.

Critical patients are hemodynamic or neurologically unstable, as well as anatomical injury patterns that place them at significant risk. Urgent patients are those that are evaluated for mechanisms of injury, high energy impact, and age or disease specific history.

FACILITY TRIAGE CRITERIA

Purpose

The purposes of the Regional Triage/Transfer Decision Scheme are:

1. to categorize patients for determination of facility transport and/or transfer
2. to specify facility action plans for transfer of patients
3. to include pediatric and bun criteria for patient transport and/or transfer

Description of Triage/Transfer Decision Scheme

The Triage/Transfer Decision Scheme was developed by the Bypass/Diversion Committee. This scheme is to serve as a model for BCRAC to incorporate trauma designated hospitals Levels I-IV. The Triage Decision Scheme is an algorithm approach to differentiating patient categories as well as a mechanism for activation of facility Trauma Team Alerts.

Patient Categories – The Triage/Transfer Decision Scheme defines patient categories as critical and urgent.

Critical patients meeting criteria of instability hemodynamicly and neurological functions, as well as specific anatomical injuries that places the patient at a high suspicion for significant risk.

Urgent categorized patients are those who are evaluated for evidence of mechanism of injury, high energy impact, and/or age and disease specific history.

Facility Triage Action Plan

The facility triage action plan is included within the Triage/Transfer Decision Scheme to assist facilities in determining where a trauma patient should be transferred. It includes the facilities that should admit the trauma patients, the facilities that should stabilize and transfer the patients, and defines the level of destination needed for facilities to receive the transfer. Guidelines for aeromedical transport are included within this to assist facilities in assuring that "the right patient, gets the right facility, in the right amount of time."

FACILITY TRIAGE CRITERIA FOR TRANSFERS

1. The transfer of a patient may not be based on discrimination of race, religion, national origin, age, sex, physical condition of economic status.
2. Hospital administrators may negotiate and execute patient transfer agreements with other hospitals in order to facilitate the transfer of patients.
3. When a patient arrives at a hospital seeking medical treatment the patient must be evaluated by a Physician within 30 minutes of the patients' arrival.

4. The provider on call for the Emergency Department will determine and order life support measures that are medically appropriate to stabilize the patient prior to transfer and to sustain the patient during transfer.
5. The transferring physician shall secure a receiving physician and hospital that will meet the patients' medical needs.
6. The receiving hospital will accept the patient for medical treatment and hospital care.

The transfer of patients' may occur routinely or as part of a regionalized plan for obtaining optimal care of patients at a more appropriate or specialized facility.

1. Every patient will be evaluated and a level of care will be determined. If the receiving hospital is unable to provide the patient's medical needs, the patient will be transferred.
2. All efforts within Trauma Service Area-D will be made to see that patients are transferred to trauma designated facilities.
3. All patients will be transferred to a higher level of care.
4. The patient or responsible party has the right to request a physician or hospital of their choice.
5. In the case of a regional disaster, each area will assess their damage ability to provide care. Triage and transfer will be done according to the regional disaster plan.
6. If a patient's condition requires a transfer to a higher level of care, all efforts will be made to accomplish this within 2 hours of the patients arrival at the receiving hospital.

INTER-FACILITY TRANSFERS

Trauma patients requiring specialized treatment or specialized care are identified via the Triage/Transfer Decision Scheme. Transfer to an appropriate facility is based on this criterion.

Written transfer agreements are available to the major tertiary care facilities within the region. These agreements may be broad in nature or specific, i.e. burn or pediatric.

TRAUMA SERVICE AREA-D
REGIONAL TRAUM PLAN

FACILITY TRIAGE CRITERIA AND INTER-HOSPITAL TRANSFERS

PROTOCOL FOR TRANSFER

1. Obtain order from the physician for transfer.
2. Obtain hospital acceptance from receiving hospital.
3. Complete Memorandum of Transfer (MOT)
4. Complete the Patient Request/Refusal/Consent for transfer form, this form must be signed by the patient or responsible party.
5. The transferring physician must complete a Physician Assessment and Certification Form.
6. The carbon copy of the MOT, consent for transfer form and a copy of the Physician assessment and certification form is kept by the transferring hospital.
7. The original MOT, a copy of the consent to transfer form and Physician assessment and certification form along with copies of all lab work, x-ray's, medication administration records and any other pertinent patient information is sent to the receiving hospital.
8. If the transferring physician is not available at the time of transfer, and if the patient has been evaluated by the transferring physician, the RN in charge of the patient may sign the MOT as a verbal or telephone order.

TRAUMA SERVICE AREA-D
REGIONAL TRAUM PLAN

PREHOSPITAL TRIAGE CRITERIA

A Triage/Transfer Decision Scheme has been developed by the Big Country Regional Advisory Council to assist facilities in assuring the patient destination is appropriate. It is the common goal within the BCRAC that getting "the right patient, to the right facility, in the right amount of time/"

Major trauma patients are categorized as "Critical" or "Urgent" of the Triage/Transfer Decision Scheme. During the initial assessment of trauma patients the appropriate treatment and transfer plan is initiated. Pediatric and burn patients are specifically addressed in the scheme. Patient vital signs, Glasgow Coma Scale and Revised Trauma Scores are indicators in the Triage/Transfer Decision Scheme.

Trauma centers are identified by the resources available by the institution. Triage and transport protocols are based on the hospitals capabilities. Patients who sustain major injuries require care at a higher level of care trauma facility. If the injury occurs in a rural area of the trauma service area initial stabilization may be done at a Level III or Level IV trauma center. Their clinical needs may include rapid transfer/transport to a Level I or Level II facility.

Trauma Service Area-D utilizes Enhanced 9-1-1 capabilities for accessing the EMS system. Emergency Vehicles are dispatched to the patients' proximity. Trauma facilities are notified of incoming patients via radio or cellular phone communication from ambulances and aeromedical transportation. There are 46 ground EMS services and one air medical service providing emergency care and transport to trauma centers. Ground ambulances follow treatment and transportation guidelines found in the BCRAC protocol section.
Pre-hospital protocols are reviewed on an annual basis for updates and revisions. Classes are provided to pre-hospital care personnel with information and recommended changes in patient care.
Texas Department of State Health Services, Bureau of Emergency Management are among the regulatory agencies for the emergency vehicles, trauma facilities, equipment and personnel within our trauma service area.

Within the trauma regional plan you will find a list of Trauma designated hospitals and EMS services that serve within Trauma Service Area-D.

BYPASS PROTOCOLS

Guidelines for facility, bypass protocols:

Transport protocols must ensure that patients who meet triage criteria for activation of a regional trauma system (RTS) plan will be transported directly to an appropriate trauma facility rather than to the nearest hospital except under the following circumstances:

1. If unable to establish and/or maintain an adequate airway, or in the case of traumatic cardiac arrest, the patient should be taken to the nearest acute care facility for stabilization.
2. A general facility may be appropriate if the expected transport time to the lead facility is excessive (see #5 below).
3. A basic facility may be appropriate for immediate evaluation and stabilization if the expected transport time to a trauma facility is excessive (see #5 below).
4. Medical control may order bypass for any of the above situations, when a facility is unable to meet the hospital resource criteria or when the patient is in need of specialty care.
5. If expected transport time is excessive (25 minutes) or if a lengthy extrication time (15 minutes), consider activating air transportation resources.

NOTE: Questions regarding bypassing a facility should be directed to a medical control for a final decision.

EMS and Facility Triage Criteria for Facility Bypass should be considered. (Criteria guidelines enclosed.)

DIVERSION PROTOCOL

Guidelines for Diversion Protocol

Each facility will designate a person (ED Physician) to be responsible for decisions regarding diversion.

1. Each facility will develop a procedure on how to put their facility on diversion status. These procedures will be presented to the RAC Bypass and Diversion Committee.
   A facility may put on a diversion status if:
   - Trauma Surgeon is not available
   - Internal disaster
   - Specialty Surgeon (Neuro, Ortho) unavailable
   - Specialty equipment (CT scanner, MRI) unavailable

2. A record must be kept of why their facility was put on a diversion status.

3. Policies and procedures must be in place for plans to open up critical-care beds.

4. Each facility must have a local Mass Casualty protocol and knowledge of how to activate the region-wide mass casualty plan.

5. Level I and II facilities must notify Regional Trauma Communications Center of diversion status on a daily basis.

****Aside from the BCRAC approved diversion protocol each hospital is responsible for developing a diversion policy and procedure.

Criteria for the consideration of air medical transport of trauma patients:

1. The need to rapidly transport a patient to an appropriate facility for specialized care
2. Weather and /or road conditions that might delay ground transport
3. Extrication of a patient takes longer than 20 minutes
4. Utilization of ground ambulance leaves local community without adequate ambulance coverage
5. Multiple victims
6. Mechanism of injury
7. MVC with crash speed of 20 MPH or more without restraints
8. MVC with passenger compartment intrusion of 12 inches or more
9. MVC with rearward displacement of front axle
10. Gross deformity of patient's point of contact (steering wheel, dash or windshield)
11. Ejection from a moving vehicle
12. MVC with death of an occupant in same vehicle
13. Rollover MVC unrestrained occupant
14. MVC with victim ejected at 20 MPH or more
15. Pedestrian struck at 20 MPH or more
16. Patient under 12 years old struck by an automobile
17. Falls of 20 ft or more or greater than 3 time the patient height
18. Near drowning

PHYSIOLGIC AND ANATOMIC CRITERIA

1. Patients over 55y/o or under 5 y/o with multi system trauma
2. Cardiac, respiratory or any significant underlying disease process
3. Revised Trauma score of less than 12
4. Patients with a systolic B/P of less than 90
5. Heart rate of less than 60 or greater than 120
6. Respiratory rate of less than 10 or greater than 30
7. Glascow Coma Scale of less than 10
8. Potential air way compromise
9. Flail chest
10. Paralysis or suspected spinal injury
11. Loss of consciousness
12. Penetrating injury between the thigh and neck
13. Crushing injury to abdomen, chest, or head
14. Major amputation above the ankle or wrist
15. Scalping or degloving injury
16. Any impalement injury
17. 2 or more long bone fractures or a major pelvic fracture
18. OB trauma

INDICATIONS FOR BURN PATIENTS

1. Greater than 15% of body surface area burned or full thickness burn to greater than 5% body surface area
2. Major burns to face, hand, feet, or perineum
3. Major chemical burn
4. High voltage electrical burn
5. Burns associated with other trauma

TRAUMA SERVICE AREA – D
REGIONAL PLAN

CONFIDENTIAL PEER REVIEW

Big Country Regional Advisory Council CQI Data Collection

Date: _____Month(s):_____

Reporting Hospital: _____

Average Trauma Patient Age: _____

Sex: Male _____Female _____(# of each)

Race: Caucasian _____Hispanic _____Black _____Other _____(# of each) Mechanism of Injury: Blunt (MVA, Fall etc.) _____# Penetrating (GSW, Stab) _____# Other _____#

TOTAL NUMBER: Admitted Transferred Deaths

Audit Filters	% Compliance
1. Ambulance scene time > 20 minutes Total # of patients arriving by Ambulance _____ # > 20 min _____ # < 20 min _____ Extended scene time related to: a. extrication ___yes ___ no b. delayed patient access___yes ____no c. multiple victims ____yes ____no d. other _____	_____% compliance Average Ambulance Scene time _____
2. Trauma patients from admission until transfer, death or admit. a. serial vital signs (including temp) documented ___yes ____no b. serial GCS/RTS _____yes ____no	_____% compliance
3. Comatose trauma patient (GCS < / = 8) leaving ED before definitive airway is established. Total # of comatose trauma Patients _____	_____% compliance
4. Number ER patients _____morbidity Number ER patients _____mortality	_____% compliance

*** Please report the total number patients that met each criterion.

TRAUMA SERVICE AREA – D
REGIONAL PLAN

CONFIDENTIAL PEER REVIEW

Reporting Hospital: _____
Date: _____

Number of Physicians staffing the Emergency Department: _____
# of Mid-Levels with ATLS: _____
# of Mid-Levels without ATLS: _____

# of Mid-Levels with ACLS: _____
# of Mid-Levels without ACLS: _____

# of Mid-Levels with PALS/ENPC:
# of Mid-Levels without PALS/ENPC: # of
Mid-Levels with TNCC:
# of Mid-Levels without TNCC:

Threshold 100% %Compliance _____

Number of RN's staffing the Emergency Department _____
# of RN's with ACLS: _____
# of RN's without ACLS: _____

# of RN's with PALS/ENPC:
# of RN's without PALS/ENPC: # of
RN's with TNCC :
# of RN's without TNCC:

Threshold 100% % Compliance_____

TRAUMA SERIVE AREA – D
REGIONAL PLAN

BREAKDOWN OF IN-FACILITY TIME PRIOR TO TRANSFER

CONFIDENTIAL PEER REVIEW

Date: _____Month(s): _____
Reporting Hospital: _____

Review Sample: 100 % of Trauma patients transferred to another facility.

Trauma patient – arrival time at transferring hospital till departure time of transfer to another facility.

TRANSFERRED TO HIGHER LEVEL OF CARE

60 minutes or less _____
60 – 90 minutes _____
90 – 120 minutes _____
120 minutes or more _____

ARRIVAL TIME TILL TIME OF DECISION FOR TRANSFER HIGHER LEVEL OF CARE

60 minutes or less _____
60 – 90 minutes _____
90 – 120 minutes _____
120 minutes or more _____

RECEIVING HOSPITALS ACCEPTANCE TIME

60 minutes or less _____
60 – 90 minutes _____
90 – 120 minutes _____
120 minutes or more _____

CONTRBUTING FACTORS (enter total applicable patients in each category-patients maybe counted in more than once category)

TRAUMA SERVICE AREA – D REGIONAL PLAN

CONFIDENTIAL PEER REVIEW

Date: _____Month(s): _____

Review Sample: 100% of trauma patients arriving via EMS EMS records attached

to the Emergency Room Record.

# of Trauma patients arriving via ambulance _____
# of ER records with EMS records attached _____

%Compliance _____

Review Sample: 100% of trauma requiring trauma flow records Utilization of the Trauma

Flow Sheet

# of Trauma patients meeting criteria for trauma flow _____
# of Trauma flow utilized with pt.'s meeting criteria _____

%Compliance _____

Review Sample : 100% of trauma patients transferred Trauma patients

transferred to Trauma Designated facilities

# of Trauma patients transferred _____
# of Trauma patients transferred to Trauma Designated facilities