BRAC

Trauma Service Area B

Regional Advisory Council

Trauma Service Area-B
Regional Advisory Council (BRAC), Inc.

Regional Stroke Plan

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TSA-B serves the counties of Bailey, Borden, Castro, Cochran, Cottle, Crosby, Dawson, Dickens, Floyd, Gaines, Garza, Hale, Hockley, Kent, King, Lamb, Lubbock, Lynn, Motley, Scurry, Terry, Yoakum

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INTRODUCTION

Texas Trauma Service Area B (TSA-B) consists of 22 counties with a population of over 400,000 people. Lubbock is the largest of these counties and serves as the geographic "hub" for the area. Nineteen hospitals currently exist within TSA-B, and each hospital is represented in the Trauma Service Area-B Regional Advisory Council. With a bed capacity greater than 100, University Medical Center (UMC), Covenant Health System (CHS), and Grace Medical Center provide medical care within the city of Lubbock. The city of Lubbock also has one specialty hospital, Lubbock Heart Hospital. University Medical Center is the only designated Level 1 Trauma Center. Covenant Medical Center and Covenant Children's Hospital are designated as Level II trauma facilities in the TSA-B region. Fourteen other TSA-B hospitals have received Level IV trauma designation.

There are 53 Emergency Medical Service (EMS) providers within TSA-B, and each provider is also represented in TSA-B. The majority of the above stated providers function under protocols and standards developed and implemented by the South Plains Emergency Medical Services (SPEMS) organization, while others act as independent licensed services. The services provided by EMS range from first responders to paramedic and are a mixture of paid and volunteer services.

Referral patterns exist between the rural facilities and EMS providers to the tertiary care centers located in Lubbock. Patient flow is accomplished through ground or air medical services. The region has multiple air medical services. Patient referrals to tertiary care centers are through direct referrals and/or scene transports. The coordination of care and services is instrumental in the provision of safe and efficient trauma care. Rural facilities, EMS providers, tertiary care centers, SPEMS, and other interested agencies work in a coordinated effort to provide optimal care. Inter-state communication and care provisions are coordinated with New Mexico.

A network has been developed through the implementation of coordinated trauma care in TSA-B. The established network allows for beneficial idea sharing and improved patient care. The network enables tertiary care centers to provide assistance to regional facilities and trauma coordinators with issues regarding trauma care and the education and preparation necessary for seeking trauma designation. Additionally, resource assistance is provided to EMS services when needed. The Regional Advisory Council (RAC) executive director oversees daily operations, committees, documentation, financial aspects, and general duties for TSA-B. This director works with EMS services, the community, and hospitals in providing guidance and oversight.

MISSION

The mission of TSA-B is to ensure coordinated stroke care is provided in a fiscally responsible manner to improve the health of persons in the region and reduce stroke-related mortality and morbidity.

VISION

TSA-B will provide leadership within our region and state regarding the care of stroke patients to minimize mortality and morbidity associated with cardiovascular disease.

ORGANIZATION

TSA-B strives to provide the infrastructure and leadership necessary to sustain a stroke treatment and transfer system within the designated 22 county region and to improve the level of care

provided to persons living or traveling through the region. TSA-B member organizations (hospitals, first responder organizations, EMS providers, air medical providers, emergency management, public health, etc.) work cooperatively to ensure that quality care is provided to stroke patients by pre-hospital and hospital care professionals. TSA-B will provide stroke awareness education to the public and stroke education to health care providers for each of the 22 counties.

REGIONAL PLAN

The regional plan has been developed in accordance with nationally accepted stroke guidelines provided through the American Heart Association/American Stroke Association. TSA-B is a unique organization representing members from a vast 22 counties. With this unique representation, the expansive rural areas must be considered by the medical team when making health care decisions. Patient centered care and safety must be the priority.

OBJECTIVES

1. Provide pre-hospital and hospital providers within the region standardized procedures for the treatment of stroke patients.
2. Outline the regulatory agencies for stroke center designation.
3. Describe educational requirements for health providers associated in stroke care.
4. Provide stroke awareness education to the public.

NEEDS ANALYSIS

Stroke remains a major health care problem in the United States, and the human and economic toll is staggering. Approximately 700,000 strokes occur annually in the United States. Stroke is currently the third leading cause of death with approximately 160,000 deaths occurring each year. Four million eight hundred thousand stroke survivors are alive today. Stroke is noted to be a leading cause of functional impairments. Twenty percent of stroke survivors require institutional care after three months. Fifteen to 30% of stroke survivors become permanently disabled after the stroke event. More than 70% of strokes are first time events, therefore, risk reduction and effective stroke prevention remains the best treatment for reducing the burden of stroke. High-risk or stroke-prone individuals can now be identified and targeted for specific interventions.

GOALS

1. Identify and integrate resources to obtain commitment and cooperation.
2. Establish system coordination relating to access, protocols/procedures, and referrals.
3. Establish continuity and uniformity of care among the providers of stroke care.
4. Promote internal communication as the mechanism for system coordination which will include the pre-hospital and hospital members of the Acute Care Committee.

5. Develop and support continuous quality improvement programs which will aid in the identification of patient needs, outcome data, and uniform standards.
6. Recognize facility's capability to treat stroke patients within TSA-B guidelines in compliance with the regulatory designation process for stroke center certification.

REGULATORY AGENCIES AND GUIDELINE RESOURCES FOR STROKE CARE

1. Comprehensive Stroke Center (CSC)
    a. The Joint Commission (TJC)
2. Thrombectomy Capable Center (TCC)
    a. Accreditation bodies recognized by the State of Texas
3. Primary Stroke Center
    a. Accreditation bodies recognized by the state of Texas.
4. Support Stroke Center
    a. Texas EMS Trauma and Acute Care Foundation (TETAF)
    b. For more information go to: http://tetaf.org/
5. American Heart Association (www.americanheart.org)
6. American Stroke Association (www.strokeassociation.org)
7. Brain Attack Coalition (www.stroke-site.org)

*** See TSA-B website (www.b-rac.org) for a current list of EMS providers, facility capabilities, and designated centers**

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 the Cincinnati Stroke Scale, and concurrent disease/predisposing factors.

SYSTEM TRIAGE

GOAL: Patients with an onset of stroke symptoms ≤< 3 hours should be taken to the highest designated stroke facility for treatment and evaluation for interventional care. A non-stroke facility may be appropriate if the following standards of care can be provided:

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

Patients with an onset of stroke symptoms occurring ≥ >3 hours should be transported to the nearest acute care facility for initial diagnosis and treatment. Similarly, a non-stroke designated facility may be appropriate if the above standards of care can be provided.

In any situation unstable patients (ABC's, cardiac arrest, etc.) may be taken to the nearest facility for immediate intervention.

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

HELICOPTER ACTIVATION

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

DECISION CRITERIA TO ACTIVATE:

1. If expected transport time is excessive (>25 minutes), activation of air transport resources should be considered.
2. Capability of closest appropriate facility (See System Triage section).

HOSPITAL TRIAGE CRITERIA

GOAL: Facilities 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 actual or suspected onset of symptoms. The patient will be treated appropriately or transferred to the nearest acute care facility for appropriate intervention.
   (See page 10 for Stroke Triage/Transfer Decision Scheme - Hospital)
2. Ensure prompt availability of medical resources for optimal patient care.
3. Consider early air medical activation for inter-hospital transfers.

INTER-HOSPITAL TRANSFERS

GOAL: Inter-hospital transfer plans within TSA-B 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 Triage/Transfer Decision Scheme – Hospital (See page 10).
2. Identify standards of care for stroke treatment (See www.b-rac.org for facility's capabilities).
3. Ensure facilities follow established treatment and stabilization criteria and time guidelines for care of the stroke patient through the Performance Improvement Patient Safety (PIPS) Committee.

4. Consider early air medical activation for inter-hospital transfers.

TRANSFER DISCUSSION

1. Identification of Stroke Patients & Stroke Transfers – Treatment requirements for optimal stroke care are identified in the Hospital Triage Criteria and Pre-Hospital Triage Criteria sections. When resources beyond a hospital's capability are needed, transfer to a higher-level acute care facility should be expedited.
2. Stroke Patient Transport – Stroke patients in TSA-B are transported according to patient need, availability of air transport resources, and environmental conditions. Ground transport via BLS, ALS or MICU ground ambulance is available throughout the region. Air medical transport (fixed and rotor wing) is also available in the region.

PERFORMANCE IMPROVEMENT PATIENT SAFETY

Pre-hospital and hospital organizations must have a process in place to review stroke cases for performance improvement. Additionally, each organization must participate in the PIPS Committee.

GOAL: The goal for performance improvement in TSA-B is to establish a method for monitoring and evaluating system performance over time and to assess the impact of stroke system development.

OBJECTIVES:

1. Identify regional stroke data indicators which reflect the process and outcome of stroke care in TSA-B.
2. Provide a multidisciplinary forum for stroke care providers to evaluate stroke patient outcomes from a system perspective and to assure the optimal delivery of stroke care.
3. Facilitate the sharing of information, knowledge, and scientific data.
4. Provide a process for medical oversight of regional stroke operations.

DISCUSSION:

1. Stroke outcomes must be monitored and evaluated to determine the effectiveness of regional stroke system performance.
2. The authority and responsibility for regional performance improvement rests with the Regional Advisory Council (RAC). This will be accomplished in a comprehensive, integrated manner through the work of the Acute Care (AC) committee and Performance Improvement Patient Safety (PIPS) committee.
3. The AC committee and PIPS committee oversee regional stroke performance improvement. Follow-up and feedback ensure system-wide multidisciplinary performance improvement.
4. The AC committee will determine the type of stroke data indicators (See page 12) 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 reflecting stroke resources, patient care techniques, and system/process outcomes. The AC committee will submit performance improvement opportunity cases to the PIPS committee agenda to be discussed within the regularly scheduled meetings of the committee.

5. Data collected from individual hospitals will be presented at the AC committee. Stroke care will be evaluated from a system outcomes perspective. Case presentations or other appropriate mediums will be designed to address system and behavioral problems. Sentinel events will be evaluated, discussed at the AC committee, and forwarded to the PIPS committee as needed. The results from committee activities will be summarized for follow-up and loop closure. Activities and educational offerings will be presented to address knowledge deficits. All actions will focus on the opportunity to improve system wide patient care.

HEALTH CARE PROVIDER EDUCATION

Pre-hospital and hospital organizations must comply with the educational requirements set in place by the organization's designating agency. All health care providers will have basic stroke education. Pre-hospital and hospital organizations must participate in the PIPS committee to ensure high quality system-wide stroke care is delivered.

PUBLIC AWARENESS/EDUCATION

Pre-hospital and hospital organizations must participate in regional stroke awareness campaigns and other public education activities regarding stroke care.

STROKE TRIAGE/TRANSFER DECISION SCHEME
PRE-HOSPITAL

SUSPECTED STROKE

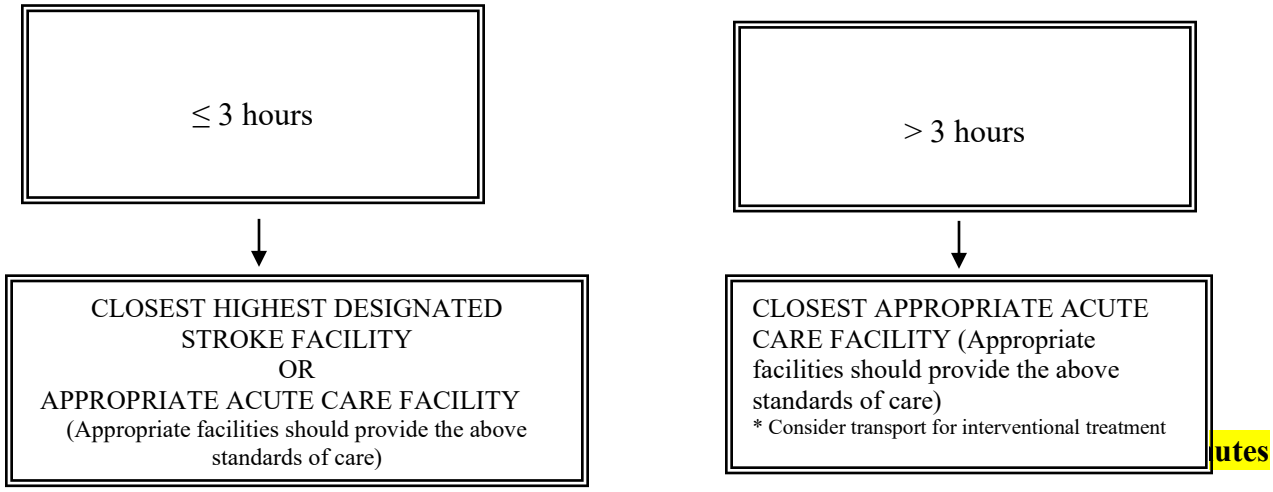
Assessment Guidelines:

- Cincinnati Stroke Scale
  - Facial Droop
  - Arm Drift
  - Abnormal Speech
- Complete Vital Signs
- Blood Glucose
- 12-Lead ECG

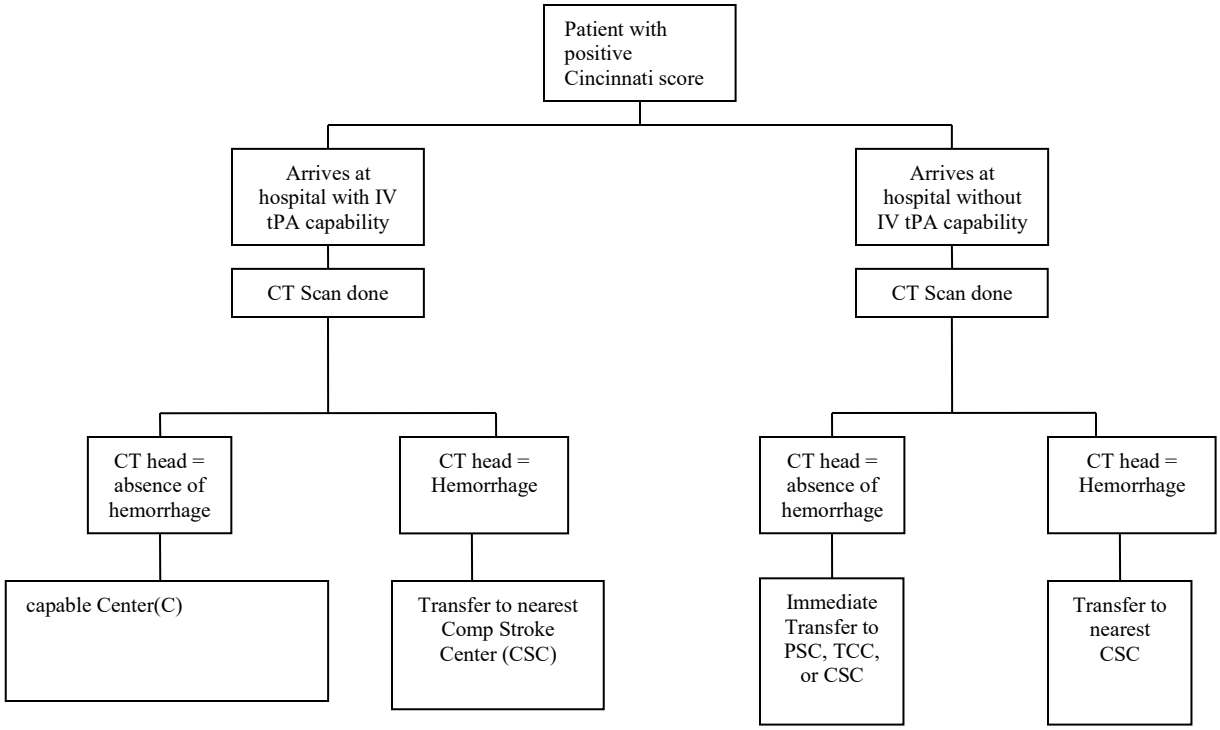
***Consider other etiologies such as hypoglycemia, seizure, impaired baseline neurological status, medications and orthopaedic factors**

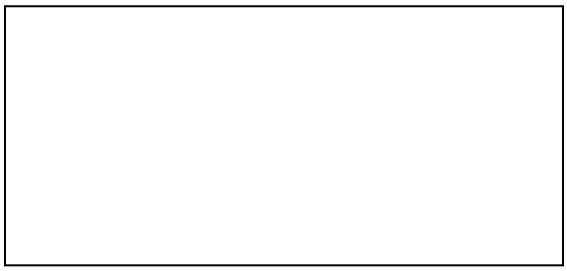
Treatment Guidelines:

- Follow "Decreased Level of Consciousness" Algorithm
- Notify receiving ED as soon as possible for possible stroke
- See TSA-B website at www.b-rac.org for a current list of facility capabilities



STROKE TRIAGE/TRANSFER DECISION SCHEME-
HOSPITAL





A non-stroke facility may be considered for immediate treatment if <u>ALL</u> the following standards of care can be provided:

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

Note: Following stabilization, consider transfer to a facility capable of providing the appropriate long-term rehabilitative services.

*** Consider early air medical activation for inter-hospital transfers**

STROKE DATA INDICATORS

1. EMS documentation of Emergency Department notification for a positive Cincinnati Stroke Scale.

2. Pre-hospital activation of air medical services when ground transport (to the nearest appropriate acute care facility) is > 25 minutes.
3. CT imaging performed within 25 minutes of arrival to facility.
4. Preliminary interpretation of CT within 45 minutes of arrival to facility.
5. Administration of thrombolytics within 60 minutes of arrival to facility, when patient is candidate for thrombolytic therapy.