



Central Texas Regional Advisory Council
Trauma Service Area - L

Central Texas Regional Advisory Council

Trauma Service Area-L

Emergency Healthcare System Plan

2009

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Introduction



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Introduction

The Central Texas Regional Advisory Council (CTRAC) was established in 1992 through a grant from the *Texas Department of Health's Regional Trauma System Development Grant Program. It is one of 22 Trauma Service Areas in Texas and consists of six counties known as Trauma Service Area – L. CTRAC is recognized by the IRS as a 501(c) 3 non-profit organization since 1998.

During the 71st legislative session (1989), House Bill 18 was passed directing the establishment of a statewide trauma system for Texas. Specific rules and regulations related to the development of the statewide system were identified and implemented.

The state was divided into 22 Trauma Service Areas that account for the 254 counties in Texas. A Regional Advisory Council for trauma serves each Trauma Service Area. The Regional Advisory Councils were charged with developing a system plan based on standard guidelines for implementing a comprehensive trauma care system. The development of a regional plan is the ultimate responsibility of the stakeholders and participants of the Regional Advisory Councils. Some elements of the plan are required, while others may be added to best reflect the needs of the community. While the Plan may have numerous components, its heart is the dedication of the professionals who transform these guidelines into reality.

Since its inception, CTRAC has been active in trauma prevention and education programs as well as development and implementation of trauma patient care standards. Maintaining public education and awareness activities to increase the understanding of the trauma care system, access to trauma care and prevention of injuries, and providing coordination of acute medical services in mass casualty and disaster settings is an integral part of the mission and goals of CTRAC.

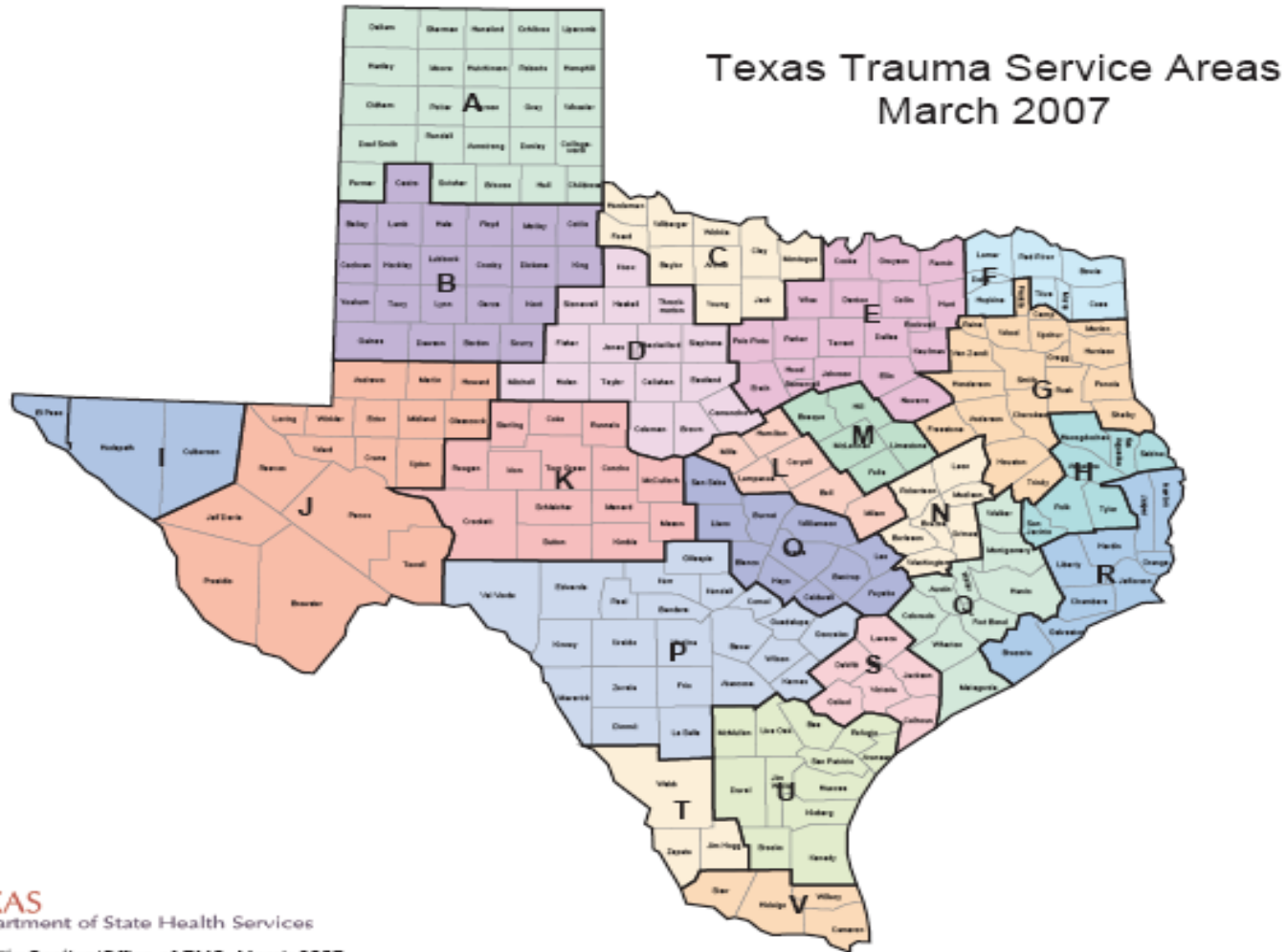
CTRAC covers over 6,192 square miles and has a population of 414,000. Sixty-two percent of the population lives outside of the largest cities of Killeen and Temple. TSA-L has a Level I Trauma Center, Scott & White Hospital, as its Lead Trauma Facility. Additionally, Fort Hood military base, located in Bell and Coryell Counties is the largest military installation in the free world with comprehensive training facilities for reserves and National Guard units from across the country. TSA-L consists of over 4,485 highway miles with Interstate Highway 35 dividing the region. Over 80% of TSA-L is rural, frontier rural and many areas are considered primitive-frontier.

Trauma care should be part of a seamless trauma system that provides patients with well-organized and high-quality care. Incorporation of an overall health care system requires cooperation and availability of each component of the system.

The essence of a trauma system is the ability to get the right patient to the right hospital at the right time to reduce death and disability. CTRAC members have made great strides toward this goal and continue to collaborate and strive to improve care of the trauma patient.

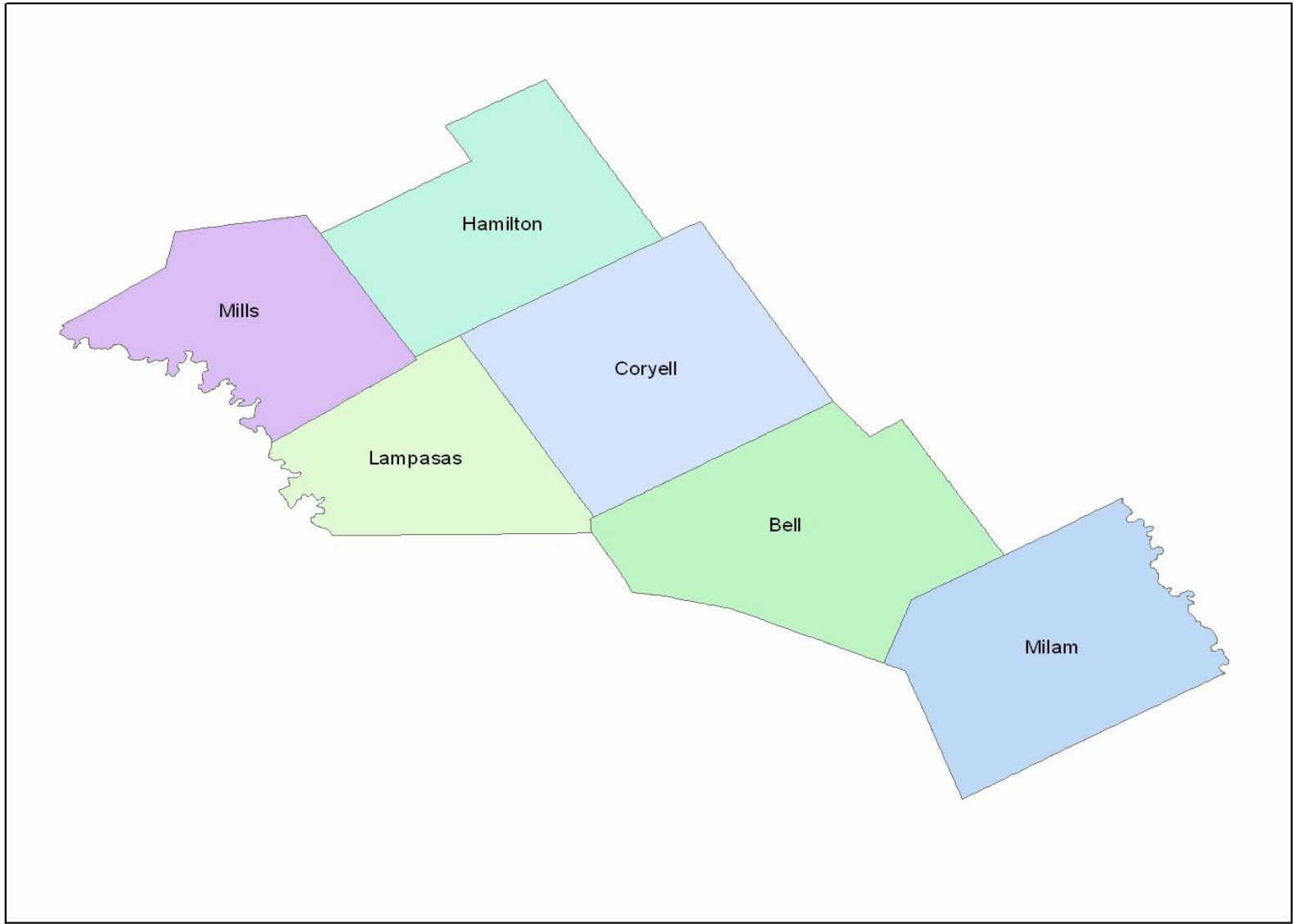
*(*Texas Department of Health became Texas Department of State Health Services in 2005)*

Central Texas Regional Advisory Council



Central Texas Regional Advisory Council

TRAUMA SERVICE AREA - L





Central Texas Regional Advisory Council

CTRAC 2009

Executive Board

Chair	Fred Gray, EMT-P Coryell Memorial Healthcare System EMS
Vice Chair	Terry Valentino, RN, EMT-P Scott & White Memorial Hospital
Treasurer	Brittney Misercola, RN, CEN, CFRN, NREMT-P PHI STAT Air
Secretary	Jeffrey Mincy, EMT-P Scott & White EMS

Board of Directors

Fred Gray, EMT-P	CTRAC Chair
Terry Valentino, RN, EMT-P	CTRAC Vice Chair, Hospital Care & Mgmt Committee Chair
Jeffrey Mincy, EMT-P	CTRAC Secretary
Brittney Misercola, RN, CEN, CFRN, NREMT-P	CTRAC Treasurer, EMSOC Committee Chair
Susan Burchfield	Injury Prevention/Public Education Committee Chair
Chad Berg, EMC	Emergency Preparedness & Response Committee Chair
Michael Craun, MD	Medical Advisory Board Committee Chair
Anita Paniagua, RN	Performance Improvement Committee Chair
Vacant	Immediate Past Chair
Vacant	Rural Member-at-Large
James Thompson, EMC	Emergency Management Member-at-Large
Stephen Beckwith, MD	Physician-at-Large
Alison B. Katus	Community Member-at-Large
Gerald Slaton	Trauma Program Rep. of Lead Trauma Facility
Eldon Tietje	Disaster Behavioral Health Planning Committee Chair
Robert Greenberg, MD	Acute Care Committee Chair

Central Texas Regional Advisory Council
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Subcommittee	Chair & Vice Chair	Subcommittee Mission	Subcommittee Goals
<u>EMS Operations Committee</u>	<u>Chair</u> Brittney Misercola, PHI STAT Air	To serve as a liaison for pre-hospital providers within this region, to include the monitoring of system development, coordination of activities, performance improvement, and pre-hospital training.	<ol style="list-style-type: none"> 1. To incorporate recruitment strategies in an attempt to promote active participation on the EMSOC Committee from all EMS/Hospital service within the TSA-L region. 2. The EMSOC Committee will assist the MAB with the development of regional Stroke guidelines and facilitate pre-hospital stroke education. 3. Assist the MAB in developing regional pediatric guidelines and assist agencies with pediatric equipment and training needs. 4. Assist the MAB with development of regional guidelines as needed and assist with pre-hospital educational needs.
<u>Hospital Care & Management</u>	<u>Chair</u> Terry Valentino, Scott & White Memorial Hospital	To serve as a liaison between healthcare facilities within this region to include the monitoring of system development, coordination of activities, performance improvement, facility designations and hospital training.	<ol style="list-style-type: none"> 1. Actively support trauma education for ED/Trauma nurses in our trauma service area. 2. Establish standard competency list for ED/Trauma nurses in our trauma service area. 3. Enhance communication and cooperation between health care facilities and EMS to facilitate transfer of trauma patients to appropriate levels of care.
<u>Emergency Preparedness & Response (EPR)</u>	<u>Chair</u> Chad Berg, City of Killeen Office of Emergency Management	To coordinate preparedness and responses to acute medical mass casualty and disaster situations.	<ol style="list-style-type: none"> 1. To coordinate preparedness activities between entities within our trauma service area. 2. Meet all required criteria outlined in the OASPR/DSHS grant guidelines for the Hospital Preparedness Program.

2009 Subcommittees

Central Texas Regional Advisory Council

<p><u>Medical Advisory Board</u></p>	<p><u>Chair</u> Mike Craun, MD Scott & White Memorial Hospital</p>	<p>To provide oversight and assistance related to patient care/system issues for the CTRAC region and assist the CTRAC PI Committee with PI issue resolutions.</p>	<ol style="list-style-type: none"> 1. To revise and review the CTRAC Emergency Healthcare System Plan on a yearly basis 2. To assist in loop closure with identified performance improvement issues brought forth by the CTRAC Performance Improvement Committee. 3. To monitor patient care/system issues that may arise warranting the need to develop specific guidelines in the CTRAC region.
<p><u>Performance Improvement</u></p>	<p><u>Chair</u> Anita Paniagua, Carl R. Darnall Army Medical Center</p>	<p>To provide ongoing performance assessment and improvement activities designed to objectively and systematically monitor and evaluate the quality of trauma patient care through system analysis in an effort to identify and pursue opportunities to improve patient care.</p>	<ol style="list-style-type: none"> 1. To facilitate performance improvement in trauma patient care and services by establishing mechanisms to identify opportunities to improve. 2. To provide a framework for a planned, systematic and ongoing approach for the objective monitoring and evaluation of the quality appropriateness and effectiveness of trauma patient services provided within TSA-L. 3. To create an organizational structure which will be accountable for the coordination and integration of performance improvement activities in accordance with established standards.

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<p><u>Disaster Behavioral Health Planning</u></p>	<p><u>Chair</u> Eldon Tietje, Central Counties Center MHMR</p>	<p>To increase the knowledge, skill, and capability levels of disaster behavioral health service providers in the CTRAC Region.</p>	<ol style="list-style-type: none"> 1. Use an “all-hazards” approach to developing disaster behavioral health services for the CTRAC region so all actions and outcomes will be compatible with all other CTRAC disaster services. 2. Identify the primary stakeholders and potential providers of disaster behavioral health services in the CTRAC region. 3. Develop a Regional Disaster Behavioral Health Plan for the CTRAC region 4. Identify areas and populations evaluated to be at high risk for the need of disaster behavioral health services within the CTRAC region. 5. Identify disaster behavioral health service needs of first responders and their families 6. Address disaster behavioral health services needs of victims of a local disaster and/or from a disaster occurring outside of the CTRAC region. 7. Develop a plan for long term disaster behavioral health services needs of disaster/trauma victims 8. Clarify legal liabilities/vulnerabilities of disaster behavioral health services providers/responders 9. Develop a training plan for the CTRAC region to steadily increase the knowledge and skill level of disaster behavioral health services providers. 10. Develop a plan and operating guidelines to effectively implement a Family Assistance Center locally, if needed
<p><u>Acute Care</u></p>	<p><u>Chair</u> Robert Greenberg, Scott & White Memorial Hospital</p>	<p>To serve as liaison for Prehospital and facility providers in the delivery of ST-Elevation Myocardial Infarction (STEMI) and Stroke care within TSA-L.</p>	<ol style="list-style-type: none"> 1. Assist with development of regional guidelines and educational needs 2. Enhance communication and cooperation to facilitate the transfer of stroke patients to appropriate levels of care 3. Actively support facilities in the state Stroke Center designation process 4. Establish System QI/PI for Stroke Care 5. Establish a Regional STEMI System of Care 6. Establish System QI/PI for STEMI Care 7. Include STEMI and Stroke speakers in CTRAC Symposia.



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<p><u>Injury Prevention/ Public Education</u></p>	<p><u>Chair</u> Susan Burchfield, Scott & White Memorial Hospital</p>	<p>To provide leadership and resources to facilitate educational programs that increase awareness by changing behaviors regarding prevention of injuries and promote community safety.</p>	<ol style="list-style-type: none"> 1. Increase awareness of value and role of injury prevention 2. Increase committee membership and participation 3. Determine priority prevention topics based on data review 4. Create structure which will provide support, leadership and resources for member entities to develop local educational activities 5. Increase visibility of CTRAC presence throughout area 6. Develop injury prevention page/links for CTRAC web site. 7. Develop injury prevention newsletter for distribution
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Central Texas Regional Advisory Council

CTRAC Bylaws
May 2009



Central Texas Regional Advisory Council

THE CENTRAL TEXAS REGIONAL ADVISORY COUNCIL Trauma Service Area (TSA) L BYLAWS

Article I – Name

This organization shall be known as the Central Texas Regional Advisory Council (CTRAC). The CTRAC Trauma Service Area includes the counties of Bell, Coryell, Hamilton, Lampasas, Milam, and Mills. The CTRAC Trauma Service Area is also referred to as TSA L.

Article II – Mission Statement

To provide the infrastructure and leadership necessary to sustain an inclusive trauma system within our Trauma Service Area by the following actions:

- A. Assist member organizations in achieving the highest level of trauma care they are capable of providing, which will result in a decrease in morbidity and mortality and ultimately improve the injured patient's outcome.
- B. Encourage activities designed to promote cooperation between member organizations and provide a forum to resolve conflicts regarding the care of the injured patient.
- C. Provide and facilitate educational programs for the public to increase awareness regarding an inclusive trauma system with a heavy emphasis on prevention activities.
- D. Develop, acquire and operate facilities to enhance the provision of trauma and emergency care in TSA L.

To provide coordination of acute medical services in the mass casualty and disaster settings.

- A. Serve as the acute medical services liaison in the CTRAC County Emergency Operations Centers within the Central Texas Council of Governments (CTCOG) Region.
- B. Coordinate emergency and disaster preparedness and response activities between area hospitals and public health.
- C. Provide resources to the Office of Emergency Management regarding acute medical services.
- D. Participate in the Regional Medical Operations Center, if established, and/or the CTCOG Multi-Agency Coordination Center to coordinate disaster activities between area hospitals and pre-hospital providers.

Article III – Purpose

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Section 1. The purpose of this organization is to:

- A. Advance and improve the state of healthcare for the injured patient within the counties of Trauma Service Area L (Central Texas Regional Area).
- B. Decrease morbidity and/or mortality which results from injury.
- C. Encourage activities designated to promote cooperation and resolve conflicts between member organizations.
- D. Improve funding of trauma care providers within the counties served by this council.
- E. Maintain an Emergency Healthcare System Plan for the RAC which is based on standard guidelines for comprehensive system development.
- F. Improve public awareness of the methods of accessing the trauma care system and preventing injury.
- G. Coordinate responses to mass casualty and disaster events.

Article IV – RAC Membership

Section 1.

RAC membership encompasses a wide range of professionals and citizens concerned about the health and well-being of the community as it relates to trauma, emergency services and disaster preparedness. Voting membership requires that the member represent a hospital or disaster service, an individual who is involved with trauma, emergency, or disaster care, an emergency medical service, an educational agency involved in training purposes for trauma or disaster preparedness, or a service which provides care to victims of trauma. Each member entity is allowed only one vote. A voting member must practice and/or reside within the boundaries of TSA L.

The CTRAC Board of Directors remains the right to deny membership to an entity as it sees fit.

Section 2. Condition of Membership

- A. A member entity must complete a Member Information Form.
- B. A member who resigns in good standing may reapply for membership. Resignations must be submitted in writing to the CTRAC Executive Board.
- C. A member failing to actively participate in CTRAC activities as defined by the CTRAC Executive Board may be removed from the membership by a majority vote of the CTRAC

Central Texas Regional Advisory Council

Executive Board. Said member may appeal this action for re-instatement to the General Assembly.

D. A member entity must pay annual CTRAC membership dues to CTRAC. Dues are assessed as follows:

- | | |
|---------------------------|-------|
| a. Hospitals | \$250 |
| b. EMS (Paid Departments) | \$150 |
| c. Other Members | \$25 |

Failure to pay annual dues will result in Inactive Membership of that member entity. Dues must be paid by January 1st of each year. New member entities that join during the middle of the year may receive a prorated rate at the discretion of the CTRAC Executive Board.

E. Prior to removal from the membership by the CTRAC Executive Board, the Executive Director will notify said member by phone that they are not compliant with RAC bylaws and participation requirements. If participation does not increase, a certified letter will be sent to said member at the last known mailing address. If the issue continues, the Executive Director will bring said member to the CTRAC Executive Board for removal.

Section 3.

Member entities will have one representative designated to vote on their behalf at the General Assembly & Committee meetings. An alternate representative may be designated to attend the General Assembly & Committee meetings by the member. This representative may cast that entity's vote. A representative or alternate (proxy) of a member entity must be affiliated with the member entity it is representing. An alternate (proxy) may not represent a member entity is not affiliated with.

Section 4.

Members are listed in Appendix A.

Section 5. Active Participation in the RAC is defined as the following:

A. EMS Provider Agencies

1. Will have representation at 75% of regularly scheduled General Assembly meetings held.
2. Will be electronically downloading information into the Trauma Registry and will have representation at 75% of EMS Operations Committee meetings and/or Emergency Preparedness & Response Committee meetings.

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3. Will demonstrate participation in at least one RAC sanctioned prevention activity annually and submit documentation of such.
 4. Will submit data and reports as requested by the appropriate committee and attend any EMS Operations and/or Emergency Preparedness & Response Committee meetings when agency has a referral on the agenda.
 5. Will participate in one disaster preparedness drill per year.
 6. Will have Medical Director or designated physician participation at 75% of Medical Advisory Board Committee Meetings.
 7. Will pay annual CTRAC membership dues.
- B. Hospital Members
1. Will have representation at 75% of regularly scheduled General Assembly meetings held.
 2. Will have representation at 75% of Hospital Care & Management and/or Emergency Preparedness & Response Committee meetings.
 3. Will have Medical Director or designated physician participation at 75% of Medical Advisory Board Committee Meetings.
 4. Will demonstrate participation in at least one RAC sanctioned prevention activity annually and submit documentation of such.
 5. Will be electronically downloading information into the Trauma Registry and attend any Hospital Care & Management and/or Emergency Preparedness & Response Committee meeting when the agency has a referral on the agenda.
 6. Will submit data and reports as requested by the appropriate committee.
 7. Will participate in 75% of scheduled preparedness activities.
 8. In the event of emergency healthcare activations, will participate as required by the Health & Medical Annex of the County Emergency Operations Plans and/or the Health & Medical Appendix of the Regional Response Plan.
 9. Will pay annual CTRAC membership dues.
- C. Non-EMS/Hospital Entities
1. Will have representation at 75% of General Assembly Meetings.
 2. Will participate in a minimum of one (1) standing committee and will have representation at 75% of the committee meetings.
 3. Will pay annual CTRAC membership dues.
- D. Each member entity will participate in an annual Regional Needs Assessment each year. This may be accomplished through committee Needs Assessments.
- E. Each member entity that does not pay their annual dues to CTRAC may become ineligible to vote and ineligible to receive funds and/or resources from the CTRAC.
- F. Exceptions to the above requirements may be considered by the Board on an individual basis. An entity seeking such an exception must submit, in writing, a request for the exception and provide documentation to support the request.



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Article V – The Board of Directors

Section 1. The Board of Directors shall consist of the following:

CTRAC Executive Board

1. Chair
2. Vice Chair
3. Secretary
4. Treasurer

Committee Chairs

1. Chair of the EMS Operations Committee
2. Chair of the Hospital Care & Management Committee
3. Chair of the Medical Advisory Board Committee
4. Chair of the Injury Prevention/Public Education Committee
5. Chair of the Emergency Preparedness & Response Committee
6. Chair of the Performance Improvement Committee
7. Chair of the Disaster Behavioral Health Planning Committee
8. Chair of the Acute Care Committee

Other Members

1. Immediate Past Chair
2. Rural Member-at-Large
3. Emergency Management Member-at-Large
4. Physician-at-Large
5. Community Member-at-Large
6. Trauma Program Representative of Lead Trauma Facility

Nominations for the position of Rural Member-at-Large, Emergency Management Member-at-Large, Physician-at-Large, and Community-at-Large will be obtained by the General Assembly and appointed by the Board.

Section 2. Quorum:

At least one (1) CTRAC Executive Board member must be present as well as two-thirds (2/3) of the filled Committee Chairs positions, excluding the CTRAC Executive Board, shall constitute a quorum for the purpose of transacting any business of CTRAC.

Section 3. Meetings:

The Board of Directors shall hold at least ten (10) meetings per year. Additional meetings will

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be scheduled as needed. Board of Directors' meetings will be held in January, February, March, April, May, June, July, August, September, October, November and December.

The Chair may call a special meeting at any time with a one (1) week advance notice to the Board of Directors. This notice may be sent by the Chair or the Executive Director electronically. A quorum is required for a special called meeting.

Section 4. Attendance:

Board Members must attend at least 75% of the Board meetings per year. An alternate representative may be designated to attend a Board meeting by the member. This representative may cast that entity's vote. An alternate may attend no more than 25% of the *scheduled* board meetings.

Exceptions to the above requirements may be considered by the Board on an individual basis. An entity seeking such an exception must submit, in writing, a request for the exception and provide documentation to support the request.

Section 5. Resignation/Succession

In the event that the Chairperson resigns or is removed from office prior to the term expiration, the Vice Chair will immediately succeed the resigned/removed Chair.

A Board Member who does not comply with assigned responsibilities may be relieved of office by a majority vote of the Board. Appointment of a replacement shall be made by the Chair with a majority vote of the Board present at the meeting.

Any vacancies shall be filled for the balance of the unexpired term by the Chair with a majority vote of the Board. The Board Member who serves the unexpired term will be eligible for reappointment twice.

Section 6. Elections:

Elections shall be held in November of each calendar year. Terms shall begin the following January.

In order to provide continuity of representation on the CTRAC Board of Directors:

- A. The Chair is elected to a 2-year term in even numbered years and serves a 2 year term. The Chair serves on the Board as the Immediate Past Chair for a two year term.
- B. The Vice Chair is elected to a 2-year term in odd numbered years and serves a 2 year term.
- C. The Secretary and Treasurer shall serve two year terms. The Secretary will be elected on the even years and the Treasurer will be elected on the odd years.

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- D. Other Member terms shall be limited to two (2) consecutive terms. In the event that there is not other person available or willing to serve, an additional term(s) may be approved by a simple majority roll-call vote of the General Assembly members present at the meeting.

Section 7.

The Board Members shall serve a 2-year term. Board Members terms shall be limited to two (2) consecutive terms. In the event that there is no other person available or willing to serve, an additional term(s) may be approved by a simple majority roll-call vote of the General Assembly present at the meeting.

Section 8.

The Board of Directors shall be empowered to employ personnel and lease or acquire facilities to conduct the business of the RAC.

Section 9.

The Board shall operate in the place of a Finance/Audit Committee.

Section 10.

The Board of Directors shall develop and maintain policy statements that guide the functioning of the RAC. A policy shall receive final approval of the Board with a majority vote of those members present. Copies of such policy statements shall be provided to the General Assembly upon final approval of the Board of Directors at the following General Assembly meeting.

Article VI- Election of Officers and Board of Directors

Section 1.

At the August meeting of each year, nominations shall be requested from floor of the General Assembly.

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Section 2.

Nominations shall be provided to the General Assembly two (2) weeks prior to the November meeting each year. The election of expired term Officers and Board of Directors shall be by open ballot during the November meeting each year.

Section 3.

To qualify for the positions of Chair and Vice-Chair, a member must have actively participated at least two years in the CTRAC General Assembly.

Article VII- Duties of Board Members

Section 1. The Chair shall:

- A. Preside at all meetings of the General Assembly, Board of Directors, and any special meetings.
- B. Facilitate development and achievement of organizational goals.
- C. Make interim appointments as needed with the approval of the Board of Directors.
- D. Sign all contracts with the Executive Director after approval of the Board of Directors.
- E. Represent this organization at the Texas Department of State Health Services RAC Chair's Meeting or identify a designee.

Section 2. The Vice Chair shall:

- A. Preside over RAC activities in the absence of the Chair.
- B. Perform duties as assigned by the Chair.
- E. Coordinate the annual election process.
- F. Assist in preparing any necessary reports or documentation required.

Section 3. The Secretary shall:

- A. Record and present the minutes of all proceedings of the Board and General Assembly meetings.
- B. Handle all correspondence of the organization in the absence of the Executive Director.

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- C. Assist in preparing any necessary reports or documentation required.

Section 4. The Treasurer shall:

- A. Review all financial business conducted by the RAC.
- B. Perform financial duties in the absence of the Executive Director.
- C. Assist in preparing any necessary reports or documentation required.

Section 5. The Executive Director shall:

- A. Maintain a record of all financial business conducted by the RAC in accordance with RAC polices/procedures and common accounting practice.
- B. Prepare and submit financial statements to the Board and General Assembly on a quarterly basis.
- C. Ensure that Board of Directors & General Assembly meeting minutes are made available to all RAC membership and the Department of State Health Services EMS & Trauma Systems Coordination as requested.
- D. Will make available copies of bylaws and the Emergency Healthcare System Plan annually as requested.
- E. Actively assist in seeking funding sources for the activities of the organization.
- F. Prepare necessary reports or documentation required by government agencies or grant sponsors.
- G. Gather information from Committee Chairs, prepare and submit annual budget projections to the Board and General Assembly.
- H. Sign all contracts with the Chair.
- I. Preside over meetings in which the Chair and Vice Chair are not available when a quorum is present.

Section 6. The Committee Chairs shall:

- A. Organize and conduct meetings as defined in the bylaws.
- B. Facilitate the development and achievement of goals for their committee.
- C. Provide written agendas and minutes to committee members. Provides these and sign-

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in sheets to the Executive Director for maintenance and provides verbal reports to the Board and General Assembly during RAC meetings.

- D. Assist in preparing any necessary reports or documentation required.

Article VIII – Standing and Ad Hoc Committees/Task Forces

Section 1. The Standing Committees and their missions are as follows:

- A. EMS Operations Committee
- To serve as a liaison for pre-hospital providers within this Region to include the monitoring of system development, coordination of activities, performance improvement, and pre-hospital training.
- B. Hospital Care & Management Committee
- To serve as a liaison between health care facilities within this region to include the monitoring of system development, coordination of activities, performance improvement, facility designations and hospital training.
- C. Medical Advisory Board Committee
- To monitor the performance of identified performance improvement indicators as it relates to the quality of patient care.
 - Make recommendations regarding system enhancement and/or improvements.
 - Inter-local liaison committees may be formed to provide comprehensive review of issues with greater local participation. Information/inquiries may be originated at either the Medical Advisory Board Committee or the other committees. In either case, the summary of discussions will be reflected in the minutes of the Medical Advisory Board Committee.
- D. Injury Prevention/Public Education Committee
- To provide leadership and resources to facilitate educational programs that increase awareness regarding prevention of injuries and promote community safety.
- E. Emergency Preparedness & Response Committee
- To coordinate preparedness and responses to acute medical mass casualty and disaster situations.
- G. Performance Improvement Committee
- To provide ongoing performance assessment and improvement activities designed objectively and systematically monitor and evaluate the quality of trauma patient care through system analysis in an effort to identify and pursue opportunities to improve patient care.
 - To provide oversight and guidance for the Region regarding the performance improvement objectives issued by the State of Texas.
- H. Disaster Behavioral Health Planning Committee
- To increase the knowledge, skill, and capability levels of disaster behavioral health service providers in the CTRAC Region.

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- I. Acute Care Committee
 - To serve as a liaison for prehospital and facility providers in the delivery of ST-Elevation Myocardial Infarction (STEMI) and Stroke care within TSA-L.

Section 2.

Each standing committee shall have an identified chair which will be selected by the membership of that committee each year. This process will occur in November of each year in conjunction with the election of Officers and Board of Directors.

Section 3.

Each standing committee shall have at least 4 meetings per year and keep minutes of each meeting. Meeting minutes may be obtained by any RAC member from the Executive Director. The minutes may be provided either in hard copy or electronically.

Section 4.

Trauma, Pediatrics, Stroke, and Cardiac related issues will be placed as agenda items on the appropriate committee(s) under the CTRAC. Discussion of these items improves care across the emergency healthcare system.

Section 5.

Ad Hoc Committees/Task Forces may be established and/or dissolved at the discretion of the Board. Ad Hoc Committees/Task Forces are utilized to address issues that are limited in duration or cyclic in nature.

Article IX – General Assembly Meetings

Section 1. Quorum

At least six (6) hospitals and six (6) EMS providers must be represented in addition to the one (1) CTRAC Executive Board member and three (3) Board of Directors not including the CTRAC Executive Board, shall constitute a quorum for a General Assembly meeting.

Section 2. Meetings

The General Assembly shall meet at least four (4) times per year on the last Wednesday of the month, with the exception of observed holidays. The General Assembly will determine the proper meeting date at the meeting prior to the month where the last Wednesday falls on an observed holiday.

Any member of the CTRAC Executive Board or the Executive Director may call a special

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meeting with a majority vote of the Board of Directors. A minimum of a two (2) week notice will be provided electronically to all members on the General Assembly email list serve.

Section 3. Attendance

See Article IV, Section 5 for the attendance requirements.

Article X – Funding

Section 1.

State mandated funds shall be allocated according to contract received by CTRAC from the Department of State Health Services. Any entity eligible according to State guidance must be classified as an active participant as stated in Article IV, Section 5, in order to receive any funding.

Section 2.

Any grant funds and/or resources received by the CTRAC will be made available to those only member entities that are active participants in CTRAC as stated in Article IV, Section 5, in order to receive any funding.

Section 3.

Any member entity receiving funds and/or resources through and/or from CTRAC must provide required reports, support documents, etc. as stated at the time the funds are received by the member entity. Failure to comply will result in ineligibility of funding through and/or from CTRAC for a period of not less than one (1) fiscal year funding cycle.

Section 4.

Failure to comply with Article IV, Section 5 shall cause a member entity to become ineligible for funding through and/or from CTRAC for a period of not less than six (6) months and not more than twelve (12) months.

Section 5.

All grant funds shall be considered "restricted". "Restricted funds" are defined as those funds that must be utilized as provided in a full executed contract, grant application and/or award notice, or directed donation.

Any funds received that have not been "restricted" shall be considered "unrestricted" and may be utilized for any type of expenditure. "Unrestricted funds" shall include but not limited to dues, donations, etc.

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Article XI - Finance and Fiscal Responsibility Standards

Section 1.

The Central Texas Regional Advisory Council's fiscal year shall follow each active contract's fiscal year, and operational years shall follow the calendar year.

Section 2.

Budget preparation is achieved through needs assessments provided by the RAC committees as well as strategic direction provided by the Board. The Budget will be completed by the Executive Director and Treasurer then presented for ratification at the November General Assembly meeting.

Section 3.

All Checks must have two signatures. These signatures may be any combination of the CTRAC Executive Board and the Executive Director. The RAC will maintain a minimum of two (2) checking accounts ("restricted" & "unrestricted") and may establish additional accounts as needed with approval of the CTRAC Executive Board.

Section 4.

Approval of expenditures must conform to the following schedule:

	<u>Amount</u>	<u>Approval Required</u>
A.	\$ 0 - \$ 2000.00	Chair only
B.	\$ 2000.01 - \$ 50,000.00	Board only
C.	\$ 50,000.01 or more	General Assembly

In the absence of the Chair, expenditures from \$0 - \$2000.00 may be approved with the agreement of the remaining CTRAC Executive Board.

Section 5.

The Executive Director shall have the authority to establish charge accounts with advance approval of the Chair or the CTRAC Executive Board in the absence of the Chair.

The Executive Director shall have authority to maintain and utilize RAC's secured credit card with a limit not to exceed \$500 (five hundred dollars), if one is established, unless otherwise approved by the Chair. A report must be provided upon request of the Chair. A report shall be

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provided to the Board and General Assembly as a part of the financial statements as requested.

Section 6.

The Chair may authorize expenditures associated with a specific grant if a budget was submitted as part of the grant application process and the grant application was approved by the Board of Directors upon completion or at notice of award.

Section 7.

Distribution of funds will be in accordance with State and Federal regulations.

Section 8.

Annually an external audit shall be completed in accordance with State and Federal regulations.

Article XII – Alternative Dispute Resolution (ADR) Process

Section 1.

- A. Any provider or individual representing a provider, service, or hospital that has a dispute in connection with another provider or the RAC itself (e.g., bylaws, Emergency Healthcare System Plan, guidelines and protocols, etc.) may formally voice its disapproval in writing. The written document will be addressed by the Chair of the RAC and/or the Executive Director.
- B. A formal protest must contain the following information: a specific statement of the situation that contains the description of each issue and a proposed solution to resolve the matter(s).
- C. A neutral or impartial group with no vested interest in the outcome of the dispute will be assembled to review the issue. This group may solicit written responses to the dispute from interested parties. If the dispute is not resolved by mutual agreement, the group will issue a written determination, within thirty (30) days of receipt of all pertinent data.
- D. Party or parties may appeal the determination by the group and ask that the issue be brought before the General Assembly for a final determination. The party or parties have no later than ten (10) working days after the determination to submit the request for secondary review. The secondary review will be limited to the original determination. The appeal must be mailed or hand-delivered in a timely manner. In the event the appeal is not timely in delivery, it will not be considered. If not considered, the party or parties will be notified in writing. The request must be submitted in writing to the following address:

CTRAC
2180 N. Main St., Suite D14



Central Texas Regional Advisory Council

Belton, TX 76513

Article XIII - Amendments

Section 1. Bylaws

The bylaws may be adopted, amended, or revised by an affirmative vote of two-thirds of the General Assembly present at the meeting. Proposed amendments and revisions must be submitted to a CTRAC Executive Board member or the Executive Director. All proposed bylaw revisions and/or changes will be submitted to the General Assembly Membership via United States Postal Service, through the CTRAC email list-serve, or available on the CTRAC website (30) days prior to action.

A roll-call vote shall be taken for approval of the bylaws. The bylaws shall be reviewed/amended/revised at least once per calendar year.

Section 2. Emergency Healthcare System Plan

The RAC will maintain an Emergency Healthcare System Plan Workgroup that will annually update the CTRAC Regional Emergency Healthcare System Plan. This Workgroup shall have membership from hospitals and pre-hospital providers and will be presided over by the Vice Chair or designee.

The Emergency Healthcare System Plan shall be provided to the Department of State Health Services (DSHS) EMS & Trauma Systems Coordination by November 1st of each year. The Plan shall be approved by the Board of Directors and General Assembly prior to submission to the DSHS.

A majority vote of the Board of Directors present shall constitute approval of the Emergency Healthcare System Plan. A roll-call vote of the General Assembly shall be taken for approval of the Emergency Healthcare System Plan.

Article XIII – Administrative Operations

Section 1.

Robert's Rules of Order shall be used as a guide for all meetings administered by the RAC.

Section 2.

All meetings administered by the CTRAC are open unless otherwise stated. The CTRAC will use the Texas Open Meetings Act as a guide for all meetings administered by the CTRAC. The CTRAC reserves the right to hold closed meetings, and conduct meetings by alternate methods



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such as conference call, web-based, teleconference, etc. Meetings will be posted at the office of the Executive Director.

Section 3.

CTRAC members may obtain copies of financial records, 990s, audit findings, etc. from the Executive Director or Chair. A request must be submitted in writing. The request must include what items wish to be reviewed and when the member would like to schedule a time to review requested documents. Original documents may not be removed from the RAC offices without written approval of the Chair. Some documents may not be available for copying.

<<signed>>
RAC Chairperson

10.24.07
Date



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APPENDIX A

Members

Members (those completing a Member Information Sheet) include but are not limited to:

American Medical Response	Scott & White Hospital
Bell County Public Health District	Scott & White EMS, Inc.
Belton Fire Department/EMS	Temple Fire & Rescue
Capital Ambulance	Thorndale Volunteer EMS
Carl R. Darnall Army Medical Center	
Cedar Crest Hospital	
Central Texas Hospital	
Central Texas Regional EMS	
Copperas Cove Fire Department/EMS	
Coryell Memorial Healthcare System EMS	
Fort Hood EMS	
Fort Hood Fire Department	
Hamilton EMS	
Hamilton General Hospital	
Harker Heights Fire Department/EMS	
Killeen Fire Department/EMS	
King's Daughters Hospital	
Metroplex Adventist Hospital	
Metroplex Pavilion	
Milam County Homeland Security-Emergency Management	
Mills County EMS	
PHI-STAT Air	
Richards Memorial Hospital	
Rollins Brook Community Hospital	



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APPENDIX B

CTRAC TRAINING REIMBURSEMENT

Goal

To provide CTRAC members, staff, and contractors (as needed) with an outline on how to receive reimbursement for training received through the CTRAC.

Training Requirements

1. The CTRAC will only pay for tuition associated with an approved training course related to the goals and purpose of the CTRAC.
2. The person(s) or entities seeking training reimbursement must be a member, staff, or contractor of the CTRAC.
3. Due to constricted funding availability and the nature of grant funding, it is the responsibility of each CTRAC member or entity to make your own up-front payment for training. (Example: Payment for TNCC, PALS, etc., must be paid up-front by the entity sending person(s) to the course.)
4. The CTRAC will not make advance payment of training for individuals due to loss of funds from prior experience of individuals not attending training courses which CTRAC has paid for, with the exception of the Board or staff attending training on the behalf of the CTRAC.
5. Exceptions to the above requirements may be considered by the Board on an individual basis. An entity seeking such an exception must submit, in writing, a request for the exception and provide documentation to support the request.

Authorization for payment

1. Training reimbursement payment will be made once an entity seeking reimbursement submits eligible proof that their person(s) attended the training course.
2. Eligible proof of attendance includes:
 - a. Invoice
 - b. Sign-in Sheet
 - c. Receipt of payment
3. Once received, the CTRAC will make payment to entity seeking reimbursement no later than thirty (30) days of receipt of receiving eligible proof of attendance for an approved training course.



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APPENDIX C

CTRAC TRAVEL REPORT & REIMBURSEMENT

Goal

To provide CTRAC members, staff, and contractors (as needed) with a clear picture on how to receive reimbursement for travel from the CTRAC.

Travel Requirements

6. The person(s) or entities seeking travel reimbursement must be a member, staff, or contractor of the CTRAC.
7. Due to constricted funding availability, it is the responsibility of each CTRAC member or entity to make your own travel payment and arrangements.
8. Travel payment will be allowed only on a limited basis for members of the CTRAC Board of Directors, or CTRAC staff who are traveling on the behalf of the CTRAC. (Example: CTRAC Chairperson is required to attend quarterly GETAC meetings per grant requirements).
9. Exceptions to the above requirements may be considered by the Board on an individual basis. An entity seeking such an exception must submit, in writing, a request for the exception and provide documentation to support the request.

Authorization for payment

4. Travel payment will be made once an entity submits a Travel Expense Reimbursement Report.
5. The State of Texas standard Travel Reimbursement (Lodging, Meals, and Mileage) rates will be utilized to the most extent possible. In some circumstances it may be necessary to exceed these rates due to general price elevations in certain parts of the State and Country. In those cases, rates shall not exceed the Federal Domestic Maximum Per Diem Rates. Those rates can be found at the below website.
http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentId=17943&contentType=GSA_BASIC
6. The Travel Expense Reimbursement Report must be fully completed, if not the reimbursement will not be approved.
7. Once received, the CTRAC will make payment to entity seeking reimbursement no later than thirty (30) days of receipt of the completed Travel Expense Reimbursement Report.



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CTRAC Travel Expense Reimbursement Report

<u>Name of Traveler</u>	Dates of Travel		Purpose	Starting Address	Destination Address	Total Miles Traveled (with Odometer Readings)	
EXPENSES	Day 1 (date)	Day 2 (date)	Day 3 (date)	Day 4 (date)	Day 5 (date)	Day 6 (date)	Day 7 (date)
	_____	_____	_____	_____	_____	_____	_____
Lodging – Amount Receipt must indicate dates of stay							
<u>TOTAL LODGING</u> _____							
<u>Travel Auto Mileage</u> _____ miles @ .545/mile (or current State rate) \$ _____			TOTAL AMOUNT TO BE REIMBURSED: \$ _____ (Check will be mailed to the address below)				

I certify that the above information is correct and includes only expenses associated with the TSA-L Central Texas Regional Advisory Council for Trauma.

Signature

Date

Reimbursement Address: _____

SS #

CTRAC Approval by:

Printed Name & Title

Signature



Central Texas Regional Advisory Council
Trauma Service Area - L

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Prehospital Services

Central Texas Regional Advisory Council

EMS Providers

County Services	EMS Provider	Contact	Level	RAC Member
<u>Bell</u>	Belton Fire Department EMS	PO Box 120 Belton 76513 254 933-5881	BLS- MICU	Yes
	Harker Heights Fire Department EMS	401 Indian Trail Harker Heights 76548 254 699-2688	MICU- Ground	Yes
	Scott & White EMS, Inc.	2401 S 31 St Temple 76508 254 724-5630	BLS- MICU, Specialty	Yes
	Killeen Fire Department EMS	201 N. 28 th Killeen 76543 254 501-7884	MICU- Ground	Yes
	Fort Hood EMS	36000 Darnall Loop Ft. Hood 76544 254 288-8302	BLS- MICU	Yes
	Copperas Cove Fire Department EMS	415 S. Main Street Copperas Cove, TX 76522 254-547-2514	BLS- MICU	Yes
	Central Texas Regional EMS	442 Champions Drive Georgetown, TX 78628	ACLS	Yes
<u>Coryell</u>	Coryell Memorial Hospital EMS	1507 W Main Gatesville 76528 254 865-1210	BLS- MICU	Yes
	Copperas Cove Fire Department EMS	415 S Main Copperas Cove 76522 254 547-2514	BLS- MICU	Yes
<u>Hamilton</u>	Hamilton EMS	400 N. Brown Hamilton 76531 254-386-5442	BLS- MICU	Yes
<u>Lampasas</u>	Copperas Cove Fire Department EMS	415 S Main Copperas Cove 76522 254 547-2514	BLS- MICU	Yes
	Capital Ambulance	PO Box 506 Lampasas 76550 512-556-0064	MICU- Ground	Yes
<u>Milam</u>	American Medical Response	3601 Bluestein Blvd Austin 78721 254 697-4391 512 926-5652	MICU- Ground, Specialty	Yes



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	Thorndale EMS	PO Box 308 Thorndale 76557 512 898-2523	BLS	Yes
<u>Mills</u>	Mills County EMS	PO Box 687 Goldthwaite 76844 325-648-6422	BLS	Yes

Air Medical Providers

- AirEvac (DBA LifeStar Air Medical)
Location – Metroplex Hospital
1-877-633-3544 Dispatch
254 628-1275 Crew quarters
2407 Clear Creek Rd
Killeen, TX 76549
- PHI Air Medical STAT Air I
Location: Killeen
1-800-456-7477 Dispatch
254 680-3644 Base
1515 Airport Dr.
Killeen, TX 76543
- PHI Air Medical STAT Air II
Location: Georgetown
1-800-456-7477 Dispatch
512 763-1486 Base
1515 Airport Dr.
Killeen, TX 76543

Central Texas Regional Advisory Council

EMS-First Responder Organizations

County Services	EMS-First Responder Organization	Contact	RAC Member
<u>Bell</u>	Bartlett Volunteer Fire Dept.	PO Drawer H Bartlett, TX 76511 254-527-3219	No
	Fort Hood Fire Dept.	Bldg. 23025 Fort Hood, TX 76544 254-553-0640	Yes
	Harker Heights Volunteer Fire Dept.	401 Indian Trail Harker Heights, TX 76548 254 699-2688	Yes
	Holland First Responders	PO Box 326 Holland, TX 76534 254-857-2365	No
	Little River Academy Volunteer Fire Dept./EMS	PO Box 351 Little River, TX 76554 254-982-4251	No
	Moffat Volunteer Fire Dept.	5660 LAKEAIRE Blvd. Temple, TX 76502 254-986-8388	No
	Morgan's Point First Responders	8 Morgan's Point Blvd. Belton, TX 76513 254-780-2022	Yes
	Rogers Volunteer Fire Dept./First Responders	PO Box 309 Rogers, TX 76569 817-642-3312	No
	Salado Volunteer Fire Dept.	PO Box 503 Salado, TX 76571 254-947-8961	Yes
	Southwest Bell County Volunteer Fire Dept.	PO Box 10792 Killeen, TX 76547 254-526-4500	No
	Stillhouse Volunteer Fire Dept.	PO Box 457 Belton, TX 76513 254-933-2302	Yes
	Temple Fire & Rescue	505 N. 3 rd Street Temple, TX 76501 254-298-5682	Yes
	Troy Volunteer Fire Dept.	PO Box 1 Troy, TX 76579 254-938-2188	No
<u>Coryell</u>	Coryell City/Osage Volunteer Fire Dept.	301 CR 255 Oglesby, TX 76561 254-230-8758	No

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	Flat First Responder Organization	PO Box 60 Flat, TX 76526 254-487-2936	No
	Gatesville Volunteer Fire Dept.	109 S. 23 rd Gatesville, TX 76528 254-865-8416	No
	Jonesboro Volunteer Fire Dept.	PO Box 6 Jonesboro, TX 76538 254-463-2200	No
	Mound First Responder Organization	PO Box 110 Mound, TX 76558 254-865-7666	No
	Oglesby VFD First Responder Org.	PO Box 185 Oglesby, TX 76561 817-470-2204	No
	Turnersville Volunteer Fire Dept.	1205 CR 226 Gatesville, TX 76528 254-494-6585	No
<u>Hamilton</u>	Hico Volunteer Fire Dept.	PO Box 383 Hico, TX 76457 254-485-1933	No
	Jonesborough Volunteer Fire Dept.	PO Box 6 Jonesborough, TX 76538	No
<u>Lampasas</u>	Lampasas Fire Dept.	408 S. Main Lampasas, TX 76550 512-556-3446	No
	Lometa Volunteer Fire Dept.	PO Box 246 Lometa, TX 76853 512-752-3333	No
	Oakalla Volunteer Fire Dept.	29111 FM 963 Oakalla, TX 78608 512-556-0540	No
<u>Milam</u>	No Registered EMS-First Responders	N/A	N/A
<u>Mills</u>	No Registered EMS-First Responders	N/A	N/A



Central Texas Regional Advisory Council
Trauma Service Area - L

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Hospitals

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Hospitals

County	Hospital	City	Trauma Designation Level
Bell	Carl R. Darnall Army Medical Center 36000 Darnall Loop Fort Hood, TX 76544 254-288-8150	Ft. Hood	Level III
	Cedar Crest Hospital 3500 S. Interstate 35 Belton, TX 76513 254-939-2100	Belton	Not Applicable
	Central Texas Veterans Health System 1901 Veterans Memorial Drive Temple, TX 76504 254-778-4811	Temple	Not Applicable
	King's Daughters Hospital 1901 SW HK Dodgen Loop Temple, TX 76502 254-771-8600	Temple	Undesignated
	Metroplex Hospital 2201 S. Clear Creek Rd. Killeen, TX 76549 254-526-7523	Killeen	In active pursuit of Level IV
	Metroplex Pavilion 2201 S. Clear Creek Rd. Killeen, TX 76549 254-628-1000	Killeen	Not Applicable
	Scott & White Memorial Hospital 2401 S. 31 st Street Temple, TX 76504 254-724-2111	Temple	Level I
	Scott & White-Santa Fe Center 600 S. 25 th Street Temple, TX 254-773-1792	Temple	Not Applicable
	Scott & White Pavilion 2401 S. 31 st Street Temple, TX 76504 254-724-2111	Temple	Not Applicable
	Scott & White Continuing Care Hospital 546 N. Kegley Road Temple, TX 76502 254-215-0900	Temple	Not Applicable



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<u>Coryell</u>	Coryell Memorial Hospital 1507 W. Main Street Gatesville, TX 76528 254 248-6300	Gatesville	Level IV
<u>Hamilton</u>	Hamilton General Hospital 400 N. Brown Street Hamilton, TX 76531 254-386-1600	Hamilton	Level IV
<u>Lampasas</u>	Rollins Brook Community Hospital 608 N. Key Avenue Lampasas, TX 76550 254 556-3682	Lampasas	In pursuit of Level IV
<u>Milam</u>	Richards Memorial Hospital 1700 Brazos Avenue Rockdale, TX 76567 512-446-2513	Rockdale	Undesignated
	Central Texas Hospital 806 N. Crockett Avenue Cameron, TX 76520 254-697-6591	Cameron	Level IV
<u>Mills</u>	No Facility	NA	NA

Texas Department of State Health Services (DSHS) trauma designation levels:

- Level I: Comprehensive trauma facility which meets or exceeds the American College of Surgeons (ACS) and Texas DSHS essential criteria for ACS verification and DSHS designation as a Level I Trauma Center
- Level II: Major trauma facility which meets or exceeds the American College of Surgeons (ACS) and Texas DSHS essential criteria for ACS verification and DSHS designation as a Level II Trauma Center
- Level III: General trauma facility which meets or exceeds the Texas DSHS criteria for designation as a Level III Trauma Center.
- Level IV: Basic trauma facility which meets or exceeds the Texas DSHS criteria for designation as a Level IV Trauma Center.



Central Texas Regional Advisory Council

Guidelines

Central Texas Regional Advisory Council

SYSTEM ACCESS

Goal

The Goal for System Access within TSA-L is two-fold. First, rapid access to notification of the need for emergency and trauma care at any location within TSA-L must be available to all persons in the Region. Second, Emergency Medical Services (EMS) must be rapidly available to provide quality health care to injured or ill persons in each CTRAC Community. In portions of this Region, First Responder Organizations (FRO) may provide initial treatment pending EMS arrival.

Objectives

1. To ensure that all persons located in Trauma Service Area L will have the availability to access Emergency Dispatch for EMS services.
2. To ensure emergency healthcare providers have communication equipment available.
3. To strive to maintain an adequate number of First Responders and EMS providers that have the knowledge, skills, and equipment needed to provide emergency care to persons requesting assistance within the Region.

Discussion

Basic '911' is a regional system providing dedicated trunk lines, which allow direct routing of emergency calls. Routing is based on the telephone exchange area, not municipal boundaries. Automatic Number Identification (ANI) and Automatic Location Identification (ALI) are not provided with Basic '911'. All of the '911' systems within TSA-L are enhanced '911', with the exception of the military installation known as Fort Hood which utilizes Basic '911'.

Enhanced '911' is a system, which automatically routes emergency calls to a pre-selected answering point based on geographical location from which the call originated. All '911' systems in TSA-L are enhanced with different levels of service.

This system engages when a telephone caller dials '911'. The call is routed to the local telephone company or CO where the ANI is attached to the voice and sent to the Public Safety Answering Point (PSAP). With ALI and selective routing, the call is set to the CO and is assigned an address to the phone number electronically and routes the call to the designated PSAP. Calls are routed to Dallas or Houston, and then based upon a pre-assigned ESN number, routed to the appropriate agency.

ANI is a system capability that enables an automatic display of the seven-digit number of the telephone used to place a '911' call. ALI is a system that enables the automatic display of the calling party's name, address and other information.

Alternate Routing is a selective routing feature which allows '911' calls to be routed to a designated alternative location if all incoming '911' lines are busy, or the central system (PSAP) closes down for a period of time.

Selective Routing (SR) is a telephone system that enables '911' calls from a defined geographic area to be answered at a pre-designated PSAP.

Emergency Care providers for accessing emergency communications use a variety of methods, such as 800 MHz, VHF, and UHF frequencies. CTRAC strives to ensure interoperable communications at all times.



Central Texas Regional Advisory Council

COMMUNICATIONS

Goal

The Goal for Communications within TSA-L is to ensure communication capability between EMS providers, medical control, receiving facilities; and other First Responders entities. Rapid dispatch and notification of the need for emergency and trauma care at any location within TSA-L must be available to all persons in the region. Each agency is responsible for monitoring their own response time(s) using national established guidelines for their geographical area.

Objectives

1. To facilitate regional communications, and to work cooperatively with the Central Texas Council of Governments (CTCOG) to ensure that all EMS & First Responder Units as well as hospital emergency personnel will have a list of the communication devices & operating frequencies of the EMS and emergency care providers operating in the CTRAC region and to encourage all participating agencies to enter into a Memorandum of Understanding with the State of Texas for adherence to established permissions and guidelines for use of interoperability or mutual aid radio channels.
2. To ensure that all EMS providers, First Responders, and hospital facilities in the CTRAC region have functional communications equipment in order to communicate information related to the patient's condition, the need for medical, EMS, or helicopter back-up, and to receive and communicate information related to patient care and disposition.
3. To ensure that emergency dispatch within the CTRAC region is accomplished by persons who have the knowledge, skills, and equipment necessary to rapidly mobilize the appropriate level of emergency care to persons requesting assistance throughout the region. It is recommended that dispatchers attend Emergency Medical Dispatch training or other appropriate training for consistent knowledge among dispatchers within the CTRAC region.
4. To ensure agencies are utilizing the National Incident Management System (NIMS)/Incident Command System (ICS) Communications for Multi-agency scenes.
5. To establish communications protocol for interagency responses that serve the best interest of all agencies involved in remediating the emergency situation they are currently working on and to do this in a manner that is consistent with the utilization of the Texas Interoperability Channel Plan when possible.

Discussion

There are numerous communication systems currently in use in the TSA-L. In time of disaster it is essential that all agencies have the ability to communicate seamlessly and that all agencies and their employees are extremely familiar with all communication capabilities that are available to their agency. Regardless of the method that may be used on a regular basis to communicate with other emergency service agencies and hospitals, in a time of disaster these normal communication mediums may be overwhelmed and or may fail. The use of multiple communications systems ensures regional communications are maintained between public and private EMS agencies, police, fire, and hospital entities however, all personnel that may be called upon to use wireless and wired communications must be proficient in the use of those systems in worst case scenarios.

Dispatch - Emergency dispatch in each of the six (6) CTRAC counties is accomplished through various methods (i.e., sheriff's office, local police department, or county 911 services). All 911 PSAP's in the CTRAC are equipped with a Director IP radio system or its equivalent. These Director IP or equivalent radio systems have communication capability for day to day operations on frequencies (channels) designated by each agency as well as designated VHF and 800MHz Interoperability channels. Each of these systems also have the ability to cross link (patch) multiple radios to provide users operating on different frequencies the ability to communicate with other users regardless of the frequency band that they have access to.

Pre-hospital Care Providers – EMS Providers throughout TSA-L use various frequencies and communication



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devices to handle day to day radio traffic, those frequencies are most typically VHF, UHF and 800 MHz. Traditional UHF MED CHANNELS are still in use in many areas to contact area hospitals; however, this is not all inclusive to all hospitals as a result other communications methods are being used on a day to day basis. It is the intent of the TSA-L to support a more streamlined method for agencies communications capabilities and needs in the area and to work toward the simplest method possible that meets all of the needs of each agency.

Hospital Care Providers - All CTRAC hospital facilities maintain communications capability with pre-hospital care providers through the use of various communications means to include VHF, UHF, 800, cellular phones, or standard phone lines. CTRAC purchased each facility a HAM radio that is programmed as follows:

CTRAC is an active participant in the interoperability planning efforts being address by the Central Texas Council of Governments. CTRAC strives to remain at Level 4 interoperability will support all efforts to reach and maintain an interoperability Level 6.

The Central Texas Council of Governments (CTCOG) administer the '911' communications system in Texas Trauma Service Area-L (TSA-L). All of the '911' systems within Trauma Service Area – L are enhanced '911'. Enhanced '911' is a system, which automatically routes emergency calls to a pre-selected answering point based upon geographical location from which the call originated. All '911' systems in TSA-L are enhanced with different levels of service.

Interagency Air Medical Operations – Due to the number of air medical responses that occur in the TSA-L each year, and in effort to enhance safety measures associated with air medical operations in the TSA-L region, it ESSENTIAL that units on the ground have a reliable means of communicating with responding air medical units. Air medical personnel should have the capability of tuning the aircraft radio to various departmental frequencies, but in order to avoid confusion and reduce the risks involved with helicopters landings all agencies should utilize VHF Texas MED 1, Copperas Cove Helicopter channel (talk group 1559) or Bell County Helicopter channel to communicate with air medical units whenever possible. Backup channels will be Texas Fire 1 and Bell County VFD main. If more than one helicopter will be responding to the same incident, the incident commander shall notify each air medical agency dispatch with the ETA of the other aircraft and the appropriate radio frequency for all to communicate. Crews are encouraged to utilize common aviation frequency 123.025 to communicate air to air during multi-ac scene responses if unable to establish communication via above listed frequencies.

Interagency Operations- When two or more agencies will be working together on an emergency scene those agencies under the direction of the established IC should communicate on frequencies (channels) that are designated under the Texas Interoperability Channel Plan as a first Priority. Users on 800 MHz radio communications systems primarily in Copperas Cove and Bell County will use designated MUTUAL channels as established by the Bell County Communications Center. And in situations where VHF and 800 MHz users will be working jointly, a patch between designated Texas Interoperability Channel Plan channels can be established with 800 MHz talk groups at the discretion of the IC.



Central Texas Regional Advisory Council

The communication system includes the following counties:

CTRAC: Bell, Coryell, Hamilton, Lampasas, Milam, Mills

BELL COUNTY:

Bell County has three communications Centers:

- An 800 MHz system for the civilian population
- A 400 MHz system for the military emergency responders including mutual aid within civilian communities.
- A 400 MHz system for Scott and White Hospital Med Comm.

The Bell County Communications Center provides communications for the following departments:

Law Enforcement	Fire Departments	EMS	Hospital
<ul style="list-style-type: none"> • Bell County Sheriff's Dept. • Belton Police Department • Temple Police Department • Killeen Police Department • Morgan's Point Police Dept • Bartlett Police Department • Holland Police Department • Little River/Academy PD • Nolanville Police Department • Troy Police Department • Rogers Police Department • Salado Police Department 	<ul style="list-style-type: none"> • Belton Fire Department • Harker Heights Fire Dept. • Temple Fire Department • Killeen Fire Department • Morgan's Point VFD • Bartlett VFD • Holland VFD • Little River/Academy VFD • Troy VFD • Rogers VFD • Salado VFD • Moffat VFD • Stillhouse VFD • Southwest Bell VFD 	<ul style="list-style-type: none"> • Belton EMS • Harker Heights EMS • Scott & White EMS • Killeen EMS 	<ul style="list-style-type: none"> • Scott & White Memorial Hospital • Scott & White-Santa Fe • Scott & White Continuing Care Hospital • Scott & White Pavilion • King's Daughters Hospital • Metroplex Hospital • Metroplex Pavilion • Cedar Crest Hospital • Carl R. Darnall Army Medical Center

Bell County Communications Center also provides support for the following local offices of:

- | | | |
|----------------------------------|-----------------------|---------------------------|
| • TX Department of Public Safety | • TX Parks & Wildlife | • Army Corps of Engineers |
| • CTC Police Department | • KISD | • UMHB |
| • DTF & Constables | • Justices of Peace | • District Attorneys |
| • City Public Works Departments | | |

CORYELL COUNTY:

Coryell County has two enhanced '911' communication centers:

- Copperas Cove Police Department dispatches for the City of Copperas Cove and transfers Coryell County Calls to Coryell County Sheriff's Department.
- Copperas Cove Fire Department and EMS respond to calls in South Coryell County.
- The City of Gatesville Dispatch Center Dispatches EMS calls within their city on 154.540 (VHF).
- The City of Copperas has an 800 MHz EDACS radio system.



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the City of Copperas Cove include:

- Texas Fire 1
- Texas Med 1
- Texas Law 1
- Texas Law 2
- 8CALL90
- 8TAC92

Law Enforcement	Fire Departments	EMS	Hospital
<ul style="list-style-type: none"> • Copperas Cove PD • Gatesville PD • Coryell County Sheriff's Dept 	<ul style="list-style-type: none"> • Copperas Cove FD • Gatesville FD 	<ul style="list-style-type: none"> • Copperas Cove EMS • Coryell Memorial EMS 	<ul style="list-style-type: none"> • Coryell Memorial Healthcare System

HAMILTON COUNTY:

Law Enforcement	Fire Departments	EMS	Hospital
<ul style="list-style-type: none"> • Hamilton County Sheriff's Dept 	<ul style="list-style-type: none"> • Hamilton VFD • Hico/219 VFD • Shive/Evant VFD • Carrollton/Jonesborough VFD • Pottsville VFD 	<ul style="list-style-type: none"> • Hamilton EMS 	<ul style="list-style-type: none"> • Hamilton General Hospital

LAMPASAS COUNTY:

Lampasas County has two enhanced '911' dispatch centers

- Lampasas Police Department dispatches EMS and fire department to areas of the City of Lampasas and portions of Burnet County.
- Lampasas County Sherriff's Dept dispatches EMS and fire department to Lampasas County

Law Enforcement	Fire Departments	EMS	Hospital
<ul style="list-style-type: none"> • Lampasas Police Department • Lampasas County Sherriff's Dept 	<ul style="list-style-type: none"> • Lampasas Fire Dept. • Kempner Fire Dept. • Adamsville Fire Dept. • Lometa Fire Dept. 	<ul style="list-style-type: none"> • Capital Ambulance 	<ul style="list-style-type: none"> • Rollins-Brook Community Hospital

MILAM COUNTY:

Law Enforcement	Fire Departments	EMS	Hospital
<ul style="list-style-type: none"> • Rockdale Police Dept • Cameron Police Dept TSA-L Emergency Healthcare System Plan 	<ul style="list-style-type: none"> • Rockdale FD • Cameron FD 	<ul style="list-style-type: none"> • American Medical Response • Thorndale EMS 	<ul style="list-style-type: none"> • Central Texas Hospital • Richards Memorial Hospital



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MILLS COUNTY:

Law Enforcement	Fire Departments	EMS	Hospital
• Mills County Sheriff's Dept	• Goldthwaite FD	• Mills County EMS	• No Facility

* See Attachment 1 for a list of Regional Communications Frequencies.



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REGIONAL MEDICAL CONTROL & OVERSIGHT

Goal

The goal for Regional Medical Control and Oversight in TSA-L is multifaceted:

1. To ensure strong physician leadership and supervision for pre-hospital care providers in both on-line and off-line functions.
2. To secure medical involvement in regional planning and educational program development.
3. Provide for the development and implementation of regional protocols and system plan components, as well as in systems evaluation.

Objectives

1. To evaluate regional trauma care from a systems perspective, under the direction of representatives of CTRAC medical staff throughout the region.
2. To involve CTRAC medical staff in all phases and at all levels of the leadership and planning activities of regional development.
3. To ensure appropriate medical oversight of all pre-hospital care providers through a Performance Improvement (PI) process and other administrative processes.
4. To identify and educate regional medical control resources, standardize treatment protocols, and analyze accessibility of medical control resources.
5. To identify and educate CTRAC EMS providers and sources of on-line and off-line medical control.
6. To have each EMS agency track and maintain scene times, which will be periodically monitored by the CTRAC Performance Improvement Committee for quality improvement.
7. To identify common practices for Field Command when multiple providers respond, utilizing a NIMS/ICS System.
8. To standardize pre-hospital report forms based on the minimal State reporting requirements to ensure each agency has included these into their own document(s).
9. Medical Directors are required and responsible for ensuring their personnel are proficiently trained. The CTRAC may assist with providing adequate training when funds are available and a need for training has been adequately documented.

Discussion

The CTRAC region includes both rural and urban hospital and emergency care providers with varying levels of medical capability. There is no single EMS medical director for all the TSA-L EMS providers; however there is one EMS medical director per provider or for multiple EMS providers within each county. All EMS medical directors are members of the CTRAC Medical Advisory Board, which meets on a quarterly basis.

Physician Involvement in Regional Plan Development - The Medical Advisory Board Committee meets on a quarterly basis to conduct its usual business and to review and approve regional planning components, policies, and protocols related to medical care. Each EMS medical director, trauma surgeon, and physician from each CTRAC hospital has representation on this standing committee. Any interested CTRAC physician is invited to attend committee meetings.

Medical Direction of Pre-hospital Care Providers - In accordance with DSHS guidelines, all CTRAC pre-hospital care providers function under medical control. Regional EMS protocols are printed and distributed to all EMS providers for incorporation into local protocols. Periodic reviews and updates are completed and upon approval are distributed as necessary. These protocols serve as a baseline and individual Medical Directors may adapt for their local community.



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A tiered system of patient care based on severity of injury utilizes First Responder Organizations and EMS providers with varying level of capability to ensure the rapid assessment and initial care of the trauma patient and transport to the appropriate level of care. Off-line medical control protocols direct EMS provider interventions. On-line medical control from the receiving CTRAC facility is also utilized when the patient's condition or scene conditions cannot be addressed by off-line protocols.

The Central Texas Regional Advisory Council (CTRAC) Trauma Service Area-L encompasses six counties with fourteen different physician medical directors.

Prehospital Provider- EMS	On-line Medical Control Provider
American Medical Response	Larry Miller, MD
Belton Fire Department EMS	Scott & White Hospital
Capital Ambulance	Rollins Brook Hospital
Carl R. Darnall Army Medical Center EMS	Carl R. Darnall Army Medical Center
Central Texas Regional EMS	Steven Elehrby, MD
Copperas Cove Fire Department EMS	Scott & White Hospital
Coryell Memorial Hospital EMS	Coryell Memorial Hospital
Hamilton EMS	Hamilton General Hospital
Harker Heights Fire Department EMS	Scott & White Hospital
Killeen Fire Department EMS	Joseph Piper, MD
Mills County EMS	Brownwood Regional Hospital
Scott & White EMS	Scott & White Hospital
Thorndale EMS	Joseph Jones, MD
Prehospital Provider- Air Medical	On-line Medical Control Provider
Air Evac-West	David Hardesty, MD
Air Evac-Marble Falls	James Kempema, MD
LifeStar Air Medical	Robert Genzel, MD
PHI STAT Air Medical	Scott & White Hospital
Fixed Wing Provider- Air Medical	On-line Medical Control Provider
United MedEvac Solutions (DBA-Angel Air)	Stephen Ellison, MD

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PRE-HOSPITAL TRIAGE CRITERIA

Goal

Patients will be identified, rapidly and accurately assessed, and based on identification of their actual or potential for serious injury, will be transported to the nearest appropriate TSA-L trauma facility.

Objectives

In order to ensure the prompt availability of medical resources needed for optimal patient care, each patient will be assessed for the presence of abnormal vital signs, obvious anatomic injury, mechanism of injury, and concurrent disease/predisposing factors.

Definition

Trauma Patient—the patient is a victim of an external cause of injury that results in major or minor tissue damage or destruction caused by intentional or unintentional exposure to thermal, mechanical, electrical, or chemical energy, or by asphyxia, submersion, or hypothermia.

System Triage

1. Unless immediate stabilization (ABC's, cardiac arrest, etc.) is required, patients in TSA-L with the following injuries, with significant mechanism of injury, should be taken directly to the closest Level 1 Trauma Facility if ground transport time is ≤ 30 minutes. Also refer to the **CTRAC Pre-Hospital Trauma Triage Criteria Algorithm** for additional high-risk considerations for transporting the patient directly to Scott and White Memorial Hospital:
 - Penetrating injuries to head, neck, and torso
 - Respiratory compromise, obstruction, and/or intubation
 - GCS less than or equal to 12
 - Unstable Vital Signs-Any **ONE** below:
 - SBP <90 (SBP <100 if patient >60 y.o.)
 - RR <10 or >29 with distress
 - O2 Sat $<90\%$
 - Traumatic Paralysis (**NOT** numbness/tingling)
 - Amputation proximal to the wrist or ankle
 - Two or more proximal long bone fractures (Femur, Humerus)
 - Pelvic fractures
 - Burns $\geq 20\%$ BSA or $\geq 10\%$ if under 6 years old (**2nd & 3rd degree only**) – **Transport to Burn Center if Possible**
 - **Pediatrics**-Unstable Vital Signs-Any **ONE** below:
 - Tachycardia for age **PLUS** poor perfusion
 - BP not appropriate for age ($70 + 2x$ age)
 - RR not appropriate for age
2. If ground transport time to closest Level 1 Trauma Center greater than 30 minutes or if lifesaving interventions (e. g. airway stabilization, chest tube insertion, etc.) are required for safe transport, take the patient to the nearest designated trauma facility and/or **call for helicopter transport to meet you at the closest agreed upon landing zone.**
3. When on-scene EMS personnel are unable to establish on-line contact with medical control at the



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receiving TSA-L facility, off-line medical trauma triage criteria will be followed.

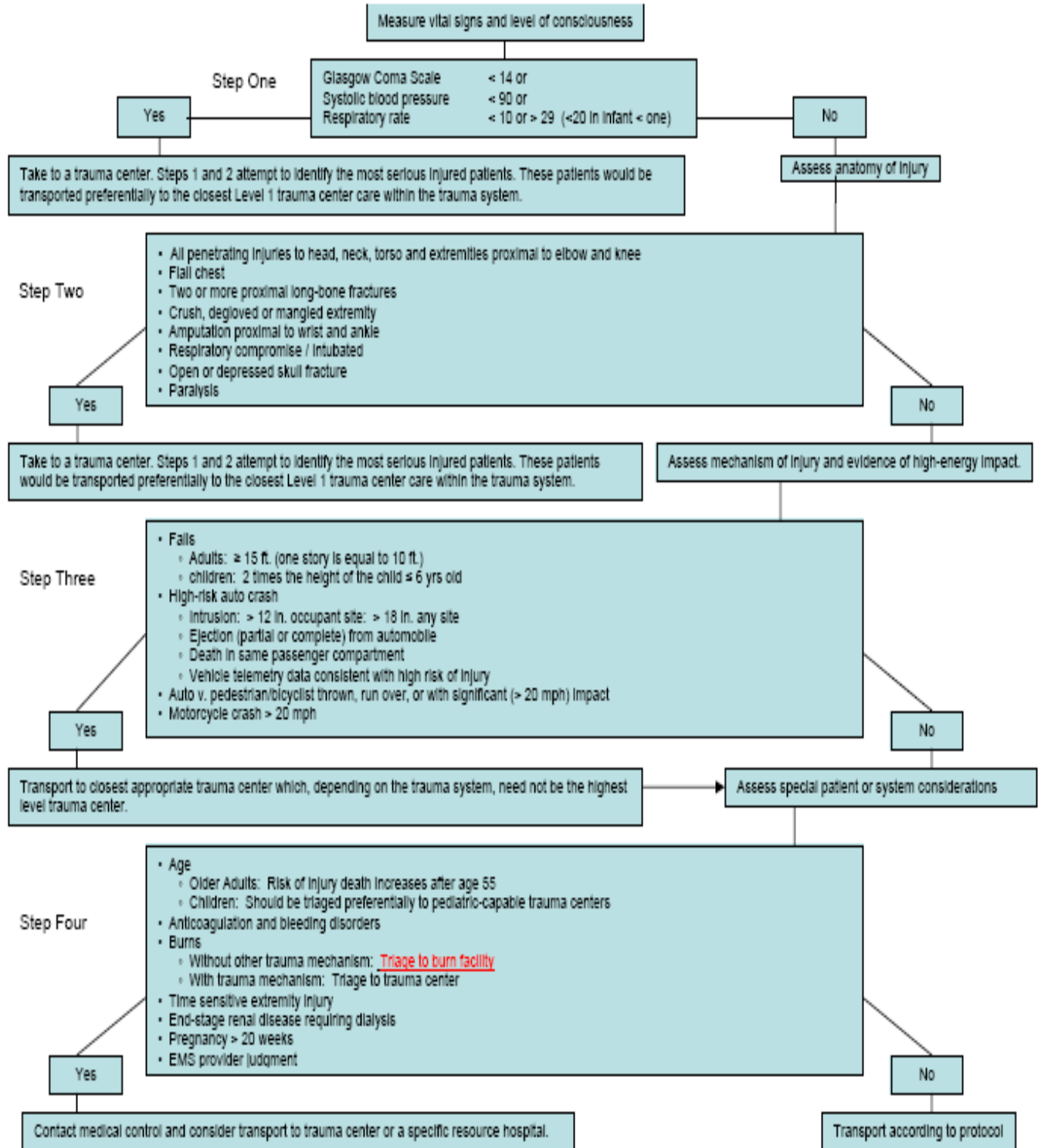
4. Patients with the below **Mechanism of Injury** should be transported directly to the nearest appropriate TSA-L designated trauma facility for evaluation:

Mechanism of Injury:

- Motor Vehicle Collision
 - With ejection
 - High speed ≥ 40 mph
 - Unrestrained ≥ 20 mph
 - Death in same car
 - Extrication ≥ 20 minutes
 - Auto-Pedestrian
- MCC/ATV/Bike/Large animal
 - Separation of rider
 - Crash speed ≥ 20 mph
- Falls
 - \geq to 15 feet
 - 2x height if child ≤ 6 yrs old
- Assault/child abuse
- Burns (partial or full thickness)
- Crush injury (not hands or feet)

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CTRAC FIELD TRIAGE DECISION SCHEME





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PRE-HOSPITAL PATIENT CARE GUIDELINES

Goal

The attached guidelines for the Central Texas Regional Advisory Council should be used as a minimum standard of care to treat patients with traumatic injuries. The guidelines should be used in conjunction with your agency's established protocols and not in place of.

Introduction

- A quick and accurate initial assessment of the traumatically injured patient is essential.
- Evaluate and manage any airway and breathing problems first, followed by assessment of circulation. Then perform a brief neurological examination with complete exposure of the patient.
- Always remember to protect the cervical spine with in-line stabilization.
- With major trauma, one of the most important goals of prehospital management is a brief scene time- "**LOAD AND GO**". Spend as little time as possible to evaluate the patient, to perform life-saving maneuvers, and prepare the patient for transport to the hospital. Optimally, all scene times for the critically injured trauma patient should be less than 10 minutes (20 minutes maximum) unless extenuating circumstances (extrication, multiple patients, etc.). Do **not** delay scene times on non-lifesaving procedures!
- Often major trauma is a surgical disease and rapid transport to the closest appropriate hospital is vital in all unstable patients.
- If indicated, request aeromedical helicopter transport.
- Request additional resources (additional ambulances, rescue equipment, helicopter, etc.) early in the scene assessment.

Basic Life Support

1. Scene safety.
2. Airway, breathing, circulation. Assess adequacy of perfusion (mental status), character of pulses, and capillary refill.
3. Stabilize the cervical spine with manual in-line stabilization.
4. Apply oxygen (high-flow via non-rebreather if altered mental status, shortness of breath, or severe multisystem trauma). Assist with bag-valve-mask as needed.
5. Control gross external bleeding with direct pressure. Remember to also hold pressure over penetrating trauma sites (gunshot wounds, stab wounds) to stop any internal bleeding into the tissues.
6. Perform a brief neurological exam (level of consciousness (**AVPU**), pupil reactivity, and gross motor function).
7. Immobilize the cervical spine as needed with long backboard, head blocks, cervical collar, straps, etc.
8. Immobilize and splint obviously fractured extremities.
9. Obtain vital signs and monitor pulse oximetry if available.
10. Expose patient and perform a secondary survey (head-to-toe). Preserve body heat when possible.
11. Obtain history (**SAMPLE**): **S**igns and **S**ymptoms, **A**llergies, **M**edications, **P**ast medical / **P**ast surgical history, **L**ast oral intake / **L**ast menstrual period, **E**vents of accident (mechanism of injury).

Advanced Life Support

1. Advanced airway control (intubation, surgical cricothyrotomy) as needed.
2. If patient has a suspected tension pneumothorax (shortness of breath, hypotension, decreased breath sounds, hyperresonance to percussion) perform a needle thoracostomy (pleural decompression).
3. Establish IV access (large bore antecubital or external jugular IV). Establish a second IV line if patient is hemodynamically unstable and time allows.
4. Administer IV fluid normal saline bolus 250cc - 1000cc (*20cc/kg child*) IV if the patient is hypotensive or tachycardic, titrate the IV fluids to keep systolic BP >90mmHg.

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5. Monitor ECG rhythm.
6. Administer pain medication if indicated
7. Assess the Glasgow Coma Score (GCS), and Revised Trauma Score (RTS) enroute.
8. **Contact medical control** with patient report early so that the trauma team can be assembled.
9. Reassess the vital signs frequently.

The following are general patient care guidelines for ALL patients and are not specifically listed in each protocol.

ECA	EMT	Intermediate	Paramedic
Assure scene safety	Assure scene safety	Assure scene safety	Assure scene safety
Assess CABG's	Assess CABG's	Assess CABG's	Assess CABG's
Perform Secondary Assessment	Perform Secondary Assessment	Perform Secondary Assessment	Perform Secondary Assessment
Place patient in position of comfort unless contraindicated	Place patient in position of comfort unless contraindicated	Place patient in position of comfort unless contraindicated	Place patient in position of comfort unless contraindicated
O2 (if indicated)	O2 (if indicated)	IV, O2, Airway control (if indicated)	IV, O2, Cardiac monitor, Airway control (if indicated)

BURNS:

Exposure to heat, chemicals, electrical or inhalation believed to have caused damage to body tissues.

STOP THE BURNING PROCESS!

ECA	EMT	Intermediate	Paramedic
High flow O2	High flow O2	High flow O2	High flow O2
Cool and dress burns , Flush chemicals	Cool and dress burns , Flush chemicals	Intubation if indicated	Intubation if indicated
Moist sterile bandage if <10% SBA	Moist sterile bandage if <10% SBA	Cool and dress burns , Flush chemicals	Cool and dress burns , Flush chemicals
Dry sterile bandage if > 10% SBA	Dry sterile bandage if > 10% SBA	Moist sterile bandage if <10% SBA	Moist sterile bandage if <10% SBA
Assess % & depth of burn. Remove constricting jewelry and clothes	Assess % & depth of burn. Remove constricting jewelry and clothes	Dry sterile bandage if > 10% SBA	Dry sterile bandage if > 10% SBA
<i>Transport</i>	<i>Transport</i>	Assess % & depth of burn. Remove constricting jewelry and clothes	Assess % & depth of burn. Remove constricting jewelry and clothes
		Start IV in unburned area if possible. % of burn area x patient weight in KG x 4 ml = total amount to infuse over 24 hours with ½ being infused in first 8 hours.	Start IV in unburned area if possible. % of burn area x patient weight in KG x 4 ml = total amount to infuse over 24 hours with ½ being infused in first 8 hours.
		<i>Transport</i>	Monitor ECG

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			<i>Transport</i>
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EYE INJURIES:

Do not remove foreign body from the eye. Cover, patch, and transport.

ECA	EMT	Intermediate	Paramedic
Chemical to eyes, continuous flush with NS	Chemical to eyes, continuous flush with NS	Chemical to eyes, continuous flush with NS	Chemical to eyes, continuous flush with NS
Open eye injury, bandage both eyes closed	Open eye injury, bandage both eyes closed	Open eye injury, bandage both eyes closed	Open eye injury, bandage both eyes closed
Abrasion and/or foreign objects—cover effected eye	Abrasion and/or foreign objects—cover effected eye	Abrasion and/or foreign objects—cover effected eye	Abrasion and/or foreign objects—cover effected eye
Impaled objects, stabilize in place, cover both eyes	Impaled objects, stabilize in place, cover both eyes	Impaled objects, stabilize in place, cover both eyes	Impaled objects, stabilize in place, cover both eyes
<i>Transport</i>	<i>Transport</i>	<i>Transport</i>	<i>Transport</i>

HEAD INJURIES

Treatment goals are high-flow oxygen (intubate early if needed), spinal immobilization, and rapid transport.

ECA	EMT	Intermediate	Paramedic
Determine responsiveness (AVPU)	Determine responsiveness (AVPU)	Determine responsiveness (AVPU)	Determine responsiveness (AVPU)
High flow O2	High flow O2	High flow O2	High flow O2
LOAD & GO	LOAD & GO	LOAD AND GO	LOAD AND GO
Elevate backboard 30% at head	Elevate backboard 30% at head	Obtain IV if necessary	Obtain IV if necessary
<i>Transport</i>	<i>Transport</i>	Secure airway with ET intubation (if indicated)	Monitor ECG
		Elevate backboard 30% at head	Secure airway with ET intubation (if indicated)
		<i>Transport</i>	Elevate backboard 30% at head
			<i>Transport</i>
Refer to TBI Guideline for additional information on treatment	Refer to TBI Guideline for additional information on treatment	Refer to TBI Guideline for additional information on treatment	Refer to TBI Guideline for additional information on treatment

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MULTI-SYSTEMS TRAUMA:

Trauma to one or more of the following: **Head Neck Chest Abdomen Pelvis**

OR multiple trauma to extremities or soft tissue with evidence of shock.

ECA	EMT	Intermediate	Paramedic
High flow O2	High flow O2	High flow O2	High flow O2
Correct immediate threat to life if possible: Tension pneumothorax, sucking chest wound, aspirations, uncontrolled bleeding	Correct immediate threat to life if possible: Tension pneumothorax, sucking chest wound, aspirations, uncontrolled bleeding	Correct immediate threat to life if possible: Tension pneumothorax, sucking chest wound, aspirations, uncontrolled bleeding	Correct immediate threat to life if possible: Tension pneumothorax, sucking chest wound, aspirations, uncontrolled bleeding
<i>Transport</i>	<i>Transport</i>	<i>Transport</i>	<i>Transport</i>
Continue to re-assess vital signs enroute	Continue to re-assess vital signs enroute	Bilateral large bore IV's with isotonic solution	Bilateral large bore IV's with isotonic solution
		Treat minor injuries and fractures as time allows	Monitor ECG
		Continue to re-assess vital signs enroute	Treat minor injuries and fractures as time allows
			Continue to re-assess vital signs enroute

MUSCULO-SKELETAL:

Goal is to stabilize injury and/or control bleeding and continuously re-asses patient for change in condition/vital signs/neurological function.

ECA	EMT	Intermediate	Paramedic
O2	O2	O2	O2
Control bleeding/Splinting as indicated	Control bleeding/Splinting as indicated. Assess PMS	Control bleeding/Splinting as indicated. Assess PMS	Control bleeding/Splinting as indicated. Assess PMS
<i>Transport</i>	<i>Transport</i>	IV if long bone fractures are suspected, patient is hypotensive, and/or possible analgesia administration is imminent.	IV if long bone fractures are suspected, patient is hypotensive, and/or possible analgesia administration is imminent.
		<i>Transport</i>	Monitor ECG if pain medication is to be administered
			<i>Transport</i>

TRAUMATIC ARREST:

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*Pulseless and apnic **WITH** evidence of traumatic cause(s) of cardiac arrest. **Goal is to correct underlying cause of the arrest.***

ECA	EMT	Intermediate	Paramedic
CPR	CPR	CPR	CPR
Correct immediate life threatening emergencies if possible: Tension pneumothorax, sucking chest wound, uncontrolled bleeding, hypovolemia, hypoxia, etc.	Correct immediate life threatening emergencies if possible: Tension pneumothorax, sucking chest wound, uncontrolled bleeding, hypovolemia, hypoxia, etc.	Correct immediate life threatening emergencies if possible: Tension pneumothorax, sucking chest wound, uncontrolled bleeding, hypovolemia, hypoxia, etc.	Correct immediate life threatening emergencies if possible: Tension pneumothorax, sucking chest wound, uncontrolled bleeding, hypovolemia, hypoxia, etc.
<i>If obvious signs of death on arrival (decapitation, crushed head, asystole on monitor) do not attempt resuscitation</i>	<i>If obvious signs of death on arrival (decapitation, crushed head, asystole on monitor) do not attempt resuscitation</i>	<i>If obvious signs of death on arrival (decapitation, crushed head, asystole on monitor) do not attempt resuscitation</i>	<i>If obvious signs of death on arrival (decapitation, crushed head, asystole on monitor) do not attempt resuscitation</i>
<i><u>Transport (contact medical control for possible pronouncement in the field)</u></i>	<i><u>Transport (contact medical control for possible pronouncement in the field)</u></i>	<i><u>Transport (contact medical control for possible pronouncement in the field)</u></i>	<i><u>Transport (contact medical control for possible pronouncement in the field)</u></i>
		Secure airway with ET intubation	Secure airway with ET intubation
		Bilateral large bore IV's with isotonic solution	Monitor ECG
		Follow appropriate protocol(s) as time allows	Bilateral large bore IV's with isotonic solution
			Follow appropriate protocol(s) as time allows

Notes:

- Remember **not** to overlook potential chest and abdominal injuries which are often more life-threatening than the obviously deformed limb. Anyone can recognize a severely displaced limb, but it takes an astute prehospital provider to recognize a potentially more severe injury in the abdomen or chest.
- All lacerations should have direct pressure held on them. The first responder should hold pressure on the wound and **not** place a formal bandage until the ALS crew has visually assessed the wound. The paramedic is ultimately responsible for the wound and needs to visualize them. Remember that penetrating lacerations (i.e. gunshot wounds, stab wounds) may still be bleeding internally even if external bleeding is absent. Always hold direct pressure on these wounds.
- In a single car MVC, always consider the “**5 S’s**” as a possible cause for the wreck: **Syncope** (arrhythmia, MI), **Seizure**, **Sugar** (hypoglycemia), **Suicide**, **Slush** (intoxication).

Remember:

- Never remove any penetrating object to the body unless the object is impaled into the face and blocks effective airway management.
- Try to perform D-stick for any alterations in LOC if possible and time permits

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TRAUMATIC BRAIN INJURY GUIDELINE

History:	Signs and Symptoms:	Differential:
<ul style="list-style-type: none"> • Time of injury • Mechanism: blunt/penetrating • Loss of consciousness • Bleeding • Medical History • Medications • Evidence of multi-trauma • Helmet use or damage to helmet 	<ul style="list-style-type: none"> • Pain, swelling, bleeding • Altered mental status • Unconscious • Respiratory distress/failure • Vomiting • Significant mechanism of injury 	<ul style="list-style-type: none"> • Skull fracture • Brain injury (concussion, contusion, hemorrhage, or laceration) • Epidural hematoma • Subarachnoid hemorrhage • Spinal injury • Abuse

Universal Precautions C-Spine, A, B, C's Spinal Immobilization

Assessment Practice:

1. Blood Pressure, Pulse, and Respiratory Rate
2. Oxygen saturation measurement, using pulse oximetry
3. Glasgow Coma Scale (GCS) score measurement
4. Eye examination for pupillary asymmetry, fixation, and dilation

Treatment Practices:

- A. Airway, Ventilation, and Oxygenation:
 1. Administration of supplemental oxygen
 2. Airway securement with endotracheal intubation (Advanced Level)
- B. Fluid Resuscitation:
 1. Fluid resuscitation with isotonic crystalloid solution
 2. Avoid hypotension (systolic <90)
- C. Brain-Targeted Therapy:
 1. Hyperventilation in patients with suspected or impending cerebral herniation: **See Pearl at bottom**
 2. Sedation, analgesia, and neuromuscular blockade to optimize transport of the head-injured patient with an unsecured airway
 3. Rapid glucose determination in patients with AMS
- D. Hospital Transport Decisions:
 1. Direct transport of severe traumatic brain injured patients to the highest-level trauma center available
 2. **Follow local emergency service transport protocols**

Pearls:

- **EXAM:** Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Back.
- The airway should be secured via **endotracheal intubation** (if able) in patients who have a TBI with a GCS <9, the inability to maintain an adequate airway, or hypoxemia not corrected by supplemental oxygen.
- **Hyperventilate ONLY** if cerebral herniation is suspected. (Signs: pupillary abnormalities, bradycardia, posturing). Increased intracranial pressure (ICP) may cause hypertension and bradycardia (**Cushing's Response**).
- Fluid resuscitation should be administered to avoid hypotension (<90 systolic) and / or limit hypotension to the shortest duration possible. **Hypotension = Decreased Cerebral Perfusion Pressure.**
- **Document** - any change in the patient's level of consciousness and GCS prior to and after administration of sedation, analgesic, and / or neuromuscular blockade medications.

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AIR MEDICAL TRANSPORT GUIDELINES

Goal

To establish guidelines for access and dispatch of Helicopter Ambulance Services (HAS) to achieve effective, efficient and coordinated responses to emergencies involving trauma victims. The goal of these guidelines is to reduce delays in providing optimal care for severely injured patients, and to decrease morbidity and mortality.

Decision Criteria

Helicopter activation /scene response should be considered when it could reduce transportation time for trauma patients meeting dispatch guidelines.

Time Intervals

When considering time intervals as they relate to HAS, it is important to consider all aspects of the response and transport. For the purposes of this guideline and for performance improvement criteria, the following time intervals and definitions will be used. All of the following intervals should be considered when evaluating time issues.

- Response Time: Includes the time interval for notification of the Helicopter Communication Center + Time to Launch + Flight Time + Scene Time
- Scene Time: Includes the time spent by the Flight Crews on Scene
- Transport Time: Includes the time for the HAS to fly to receiving Facility, land and deliver the patient.

I. Guidelines for Activation /HAS Dispatch:

The ground emergency medical services (EMS) provider may request a scene response from a HAS when one or more of the activation or triage criteria exist:

- Once an air ambulance has been activated to a scene only the transporting agencies highest level of certification should make the determination to cancel the air response.
- Ground EMS providers should not remain on scene awaiting arrival of HAS if an appropriate Trauma facility is nearby and the trauma patient can be transported faster by ground.
- Ground EMS providers should activate the HAS as early as possible, including Prior to arrival to scene if the mechanism of injury meets activation guidelines.
- The ground EMS provider may activate HAS if the patient has an emergent need for a procedure or intervention not available from ground provider and the HAS can deliver this intervention faster than transport time to trauma facility.
- HAS that participate in the TSA-L RAC should be utilized in the TSA- L service area.
- In all instances the available HAS that best meet the needs of the patient will be utilized.
- Other factors to consider: Location of Incident, Number of Patients, Age of patients, Weight of Patients, Response time of HAS.
- The EMS provider should utilize the Triage guidelines for HAS Activation.
- Appropriate utilization and activation of HAS will be reviewed by the CTRAC Performance Improvement Committee.
- Trauma Patients are to be taken to the nearest Level I, II trauma center unless on diversion for specialty services. Then the patient is to be taken to the next closest Trauma center.

II. Guidelines for Air Activation

General guidelines for use of HAS

Speed - If ground transport time is >20 min. to closest Trauma Center or lifesaving interventions are required for safe transport. Examples include difficult Airway needing immediate stabilization or severe



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blood loss.

Accessibility – Severely injured or ill patients located in remote or off road area not readily accessible to ground ambulance.

MCI- Multiple Patients that will exhaust region or resources or exceed response times to that region.

Anatomic Considerations

Penetrating Trauma to Head, Chest or Abdomen

Amputations (except Digits)

2 or more long bone fractures or pelvis Fracture

Spinal cord injury

Major Burns > 20 % or burns to the Airway, hands, feet or genitalia

Depressed or open skull Fracture

Trauma patients requiring endotracheal intubation or having difficulty maintaining an airway

VS/ Physiologic Considerations

GCS <10 or deterioration of Mental Status

Significant Hypotension- B/P = or <90 with signs of shock

RR <10 or >29

HR <60 or >120

Mechanism of Injury

Falls > 3 X the Pt. Height or >20 feet

Autoped > 20 MPH

Ejection from MVC

Rollover MVC

Prolonged extrication >20 min.

Death of other occupant in same vehicle

Multiple patients on scene

III. Medical Guidelines

The RAC recognizes that HAS may be useful and appropriate for Non-Trauma cases as well.

Suggested Medical Considerations for Scene Activation for HAS

-Near Drowning with or without Hypothermia

-Acute MI

-Suspected CVA

-Cardiogenic Shock

-Severe uncontrolled HTN

IV. Air Medical Dispatch and Safety Guidelines

HAS may be dispatched via direct dial or via each EMS providers local dispatch center. When activating a HAS to a scene please give the following information if available:

- City and Location of Incident (2 cross streets or intersection)
- Location of pre-designated LZ site available
- Nature of incident
- Adult or Pediatric Patient
- Requesting Unit and Unit Number to contact
- Radio Frequency

HAS may be placed on Standby or pre-launched (Delta Launch) based on dispatch, fire, EMS, or Police personnel when the situation meets or exceeds activation criteria. The standby mechanism alerts the HAS to prepare for a potential flight. By alerting HAS early, it allows the pilot to check weather, GPS coordinates and maps as well as allows the crews to prepare the a/c for flight. This action will decrease the response time if he HAS is needed. The agency requesting a HAS Stand-by should give the following information:

- City and accident location (please list major cross streets if known)
- Ground Contact unit and unit number to contact via radio
- Radio Frequency to contact
- Nature of incident

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V. Air Medical Landing Zone and General Safety Considerations

- The Landing Zone (LZ) should be on a firm level ground, free from loose debris, vehicles, signs or wires.
- The LZ should be approximately 100 X 100 Feet
- An LZ officer should be designated to land the HAS at the LZ site
- A trained tail rotor guard should be available to prohibit bystanders from entering the LZ area.
- Never approach the aircraft (a/c) until signaled by a flight crew member
- Always approach from the front
- No smoking or running around the a/c
- No one is permitted by the Tail rotor.
- Crowds must be kept away from the a/c
- HAS will direct the loading of the a/c and secure the doors

VI. Dispatch and Operational standards for HAS in TSA-L

- An estimated time of arrival (ETA) provided to the requesting agency shall be within 5 minutes of the actual arrival time. The HAS dispatch center shall in a timely and effective manner, update the requesting agency on any changes in ETA or response time. The HAS shall also report any delays or factors that might affect the helicopter's response.
- Helicopter Ambulance Services must maintain effective and direct communication with field providers and receiving hospitals.
- HAS must interface effectively and safely with the field providers. The responding HAS should report to the Incident Command or Triage officer for assignment.
- HAS will transport Trauma Patients to the Nearest Level I, or Level II facility or closest appropriate designated facility.
- HAS shall demonstrate safe operations at all times when operating within the RAC. Standards of "Safe Operations" shall include those applicable standards endorsed by the National EMS pilots Association, National Association of Air Medical Services, and the Committee on Accreditation of the Air Medical Transportation Services.

VII. Indications for HAS use: Interfacility Transports

HAS is generally indicated for the transfer of a trauma patient between hospitals when:

- The patient requires specialty or critical care services during transport not available by ground operators or
- The patient's out of hospital time must be minimized.

VIII. Selection of Responding HAS

Only those Helicopter Ambulance Services which participate in the RAC and are in compliance with RAC guidelines should be utilized for transports within the RAC.

For Interfacility Transfers it is recognized that the selection of the HAS to be utilized for Transport is driven by interfacility arrangements, insurance requirements and physician or patient choice.

The RAC also recognizes that clinical and operational capabilities may vary among HAS each agency in the RAC must study HAS options in its area and develop individual guidelines for their departments taking into consideration:

- Response Time
- Clinical Capabilities and QI processes
- Operational Interface and Safety Practices

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FACILITY DIVERSION

Goal

TSA-L trauma facilities will communicate “facility diversion” status promptly and clearly to regional EMS and trauma facilities through EMSsystem in order to ensure that trauma patients are transported to the nearest appropriate alternate trauma system hospital.

Acknowledgements

TSA-L trauma facilities, both designated and undesignated, should request diversion activation only when the resources or capabilities of that facility have been exhausted to the point that further EMS traffic would jeopardize the care and treatment of patients at that facility as well as any subsequent patient transported to that facility by EMS. It is recognized in advance that no diversion strategy can guarantee total compliance with these guidelines and it is likely that EMS will deliver patients to hospitals that have requested diversion activation. It is further understood that a request for diversion activation is honored as a courtesy by EMS. Patient’s informed wishes will be honored. Each facility is responsible for defining facility-specific policies and procedures for implementation of these guidelines.

Definitions

- Transfer:** Movement of a patient from one hospital to another based upon the patient’s need (inter-hospital transport) or request.
- Bypass:** Intentional movement of a patient from the scene to the most appropriate hospital, not necessarily the nearest hospital, based upon the patient’s medical need.
- Diversion:** Intentional movement of a patient from the scene to an alternate hospital capable of providing appropriate care at the request of the diverting hospital due to lack of available resource or capability. Appropriate Facility: A hospital, not necessarily the nearest hospital, with the resources and capability to care for a patient based upon the patient’s medical needs.

Authorization for diversion status implementation and deactivation:

- **Hospital administrator or designee**

Communication of diversion status:

- A hospital shall communicate “facility diversion” status promptly and clearly to regional EMS and trauma facilities through EMSsystem.

TIME PERIOD FOR DIVERSION STATUS:

- Diversion status will be in allotments up to four (4) hours. A hospital may deactivate a diversion status at any time.
- Failure of a hospital to update EMSsystem at the end of the requested four (4) hour allotment will result in automatic deactivation of that hospital’s diversion status.

AUTHORIZATION FOR OVER-RIDE OF DIVERSION STATUS:

EMS may over-ride a diversion status after consideration of the following:



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- The patient's clinical presentation
- Distance and estimated time to an alternate appropriate facility
- Inclement weather conditions
- Resource availability and capability of the transporting pre-hospital provider
- An Informed Patient Preference



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FACILITY BYPASS

Goal

Patients who have been assessed and determined to be medically unstable, unconscious, or at high risk of multiple and/or severe injuries will be safely and rapidly transported to the TSA-L Lead Level I Trauma Center. All other trauma patients will be safely and rapidly transported to the nearest appropriate trauma facility or nearest appropriate acute care facility within TSA L.

Decision Criteria

Regional transport protocols ensure that patients who meet the triage criteria for activation of the TSA-L Regional Emergency Healthcare System Plan will be transported directly to the nearest 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 Level III or Level IV trauma facility may be appropriate if the expected scene to Level I Trauma Center transport time is excessive (> 30 minutes) and there is a qualified physician available at the facility's Emergency Department capable of delivering stabilizing care.
3. 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 (burns).
4. If expected ground transport time to the nearest appropriate Trauma Center is excessive (> 30 minutes) or if a lengthy extrication time (> 20 minutes) is expected, medical control or the EMS crew on scene should consider activating air transportation resources.

Note: Should there be any question regarding whether or not to bypass a facility, on-line medical control should be consulted for the final decision from the receiving facility.

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FACILITY TRIAGE CRITERIA

Goal

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

Objectives

1. To ensure that each trauma patient is identified, rapidly and accurately assessed, and based on identification and classification of their actual or potential for serious injury, transferred to the nearest appropriate TSA-L trauma facility.
2. To ensure the prompt availability of medical resources needed for optimal patient care at the receiving trauma facility.

Discussion

1. The Trauma Patient - The definition of the trauma patient in TSA-L is derived from the American College of Trauma Surgeon's definition of trauma. In TSA-L, the trauma patient is defined as one who is a victim of an external cause of injury that results in major or minor tissue damage or destruction caused by intentional or unintentional exposure to thermal, mechanical, electrical, or chemical energy, or by asphyxia, drowning, or hypothermia.
2. Facility Triage Criteria - Trauma patients are assessed in the pre-hospital setting and transferred to the nearest appropriate trauma facility in accordance with the TSA-L Pre-hospital Trauma Triage Criteria. Upon admission to the hospital emergency department, trauma patients receive initial treatment and re-assessment of their condition. The severity of injury of the trauma patient in the initial treating emergency department determines the optimal level of trauma care needed. Inter-hospital transfer is initiated as appropriate according to TSA-L facility triage decision criteria.

Trauma Facility Triage Criteria

Trauma patients meeting the below criteria should be considered high-risk and immediate transfer arrangements to closest Level 1 Trauma Facility should be initiated. Also refer to the **CTRAC Facility Trauma Triage Criteria Algorithm** for additional high-risk considerations for initiating early transfer:

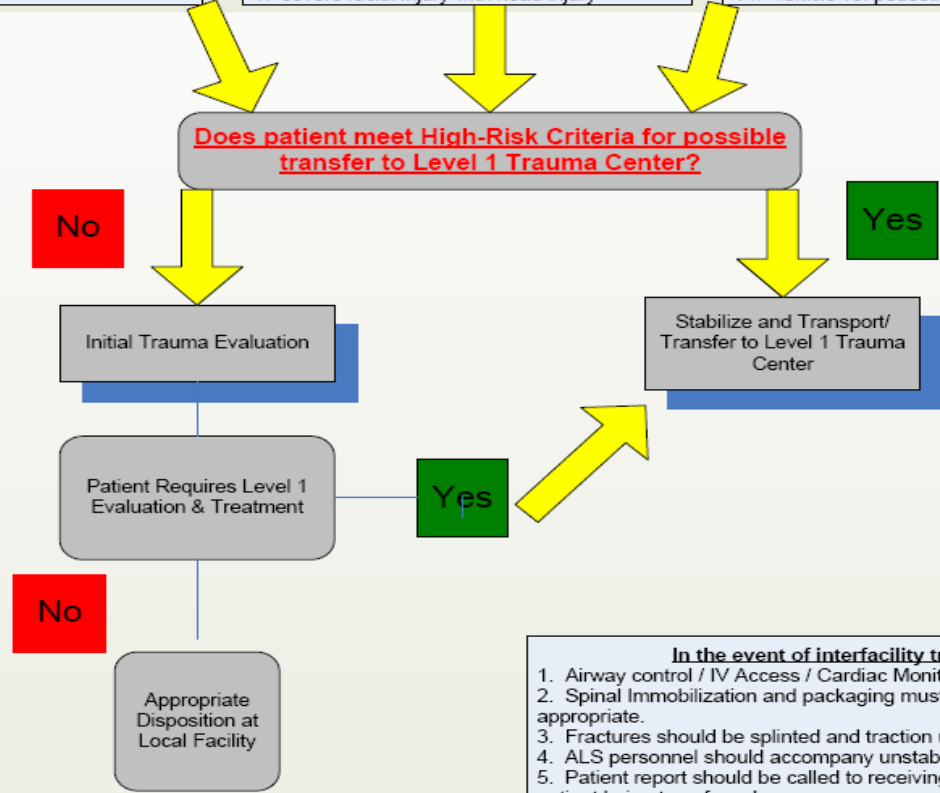
- Penetrating injuries to head, neck, and torso
- Respiratory compromise, obstruction, and/or intubation
- GCS \leq to 13
- Unstable Vital Signs-Any **ONE** below:
 - SBP <90 (SBP <100 if patient >60 y.o.)
 - RR <10 or >29 with distress
 - O2 Sat <90%
- Traumatic Paralysis (**NOT** numbness/tingling)
- Amputation proximal to the wrist or ankle
- Two or more proximal long bone fractures (Femur, Humerus)
- Pelvic fractures
- Burns \geq 20% BSA or \geq 10% if under 6 years old – **Transport to Burn Center if Possible**
- **Pediatrics**-Unstable Vital Signs-Any **ONE** below:
 - Tachycardia for age **PLUS** poor perfusion
 - BP not appropriate for age (70 + 2x age)
 - RR not appropriate for age

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Central Texas Regional Advisory Council Facility Trauma Triage Criteria

High-Risk Criteria For Consideration of Early Transfer / Transport to Level 1 Trauma Center

<p style="text-align: center; color: red; margin: 0;">Critical Patients:</p> <p>*Chest:</p> <ol style="list-style-type: none"> 1. major chest wall injury 2. penetrating thoracic wound 3. flail chest <p>*Pelvis:</p> <ol style="list-style-type: none"> 1. pelvic ring disruption with shock (sys <90) <p>*Abdomen</p> <ol style="list-style-type: none"> 1. blunt trauma with hypotension 2. penetrating abdomen wound <p>* Multiple System Trauma:</p> <ol style="list-style-type: none"> 1. chest injuries with head injuries 2. abdominal or pelvic injuries with head injuries <p>* Head:</p> <ol style="list-style-type: none"> 1. penetrating injury to head (GSW, stabbing) 2. Unconsciousness 	<p style="text-align: center; color: red; margin: 0;">Urgent Patient:</p> <p>*CNS:</p> <ol style="list-style-type: none"> 1. prolonged LOC, posturing, paralysis 2. spinal injuries with deficits 3. GCS \leq 13 4. open, penetrating, or depressed skull fractures 5. CSF leak 6. deterioration GCS <p>*Thoracic:</p> <ol style="list-style-type: none"> 1. suspected cardiac/great vessel injury 2. possible requirement for prolonged mechanical ventilation 3. respiratory distress with rate >29 or <10 <p>*Abdomen:</p> <ol style="list-style-type: none"> 1. blunt trauma without hypotension <p>*Multiple System Trauma:</p> <ol style="list-style-type: none"> 1. severe facial injury with head injury 	<p style="text-align: center; color: red; margin: 0;">Other Considerations:</p> <ol style="list-style-type: none"> 1. 2nd or 3rd degree burns $>10\%$ or airway involvement 2. barotrauma 3. uncontrolled hemorrhage 4. GCS less than or equal to 14 5. SBP less than or equal to 90 mmHg 6. HR above 130 or below 50 7. penetrating injuries to the head, neck and/or torso 8. two or more long-bone fractures 9. amputations proximal to wrist or ankle 10. open fractures 11. falls from > 20 feet 12. rollover MVC 13. ejection from vehicle 14. vehicle vs. pedestrian
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In the event of interfacility transfer:

1. Airway control / IV Access / Cardiac Monitor as appropriate.
2. Spinal Immobilization and packaging must be maintained as appropriate.
3. Fractures should be splinted and traction used if appropriate.
4. ALS personnel should accompany unstable patients.
5. Patient report should be called to receiving facility prior to patient being transferred.
6. Ensure appropriate documents are sent with the patient (x-rays, lab results, MOT, etc)

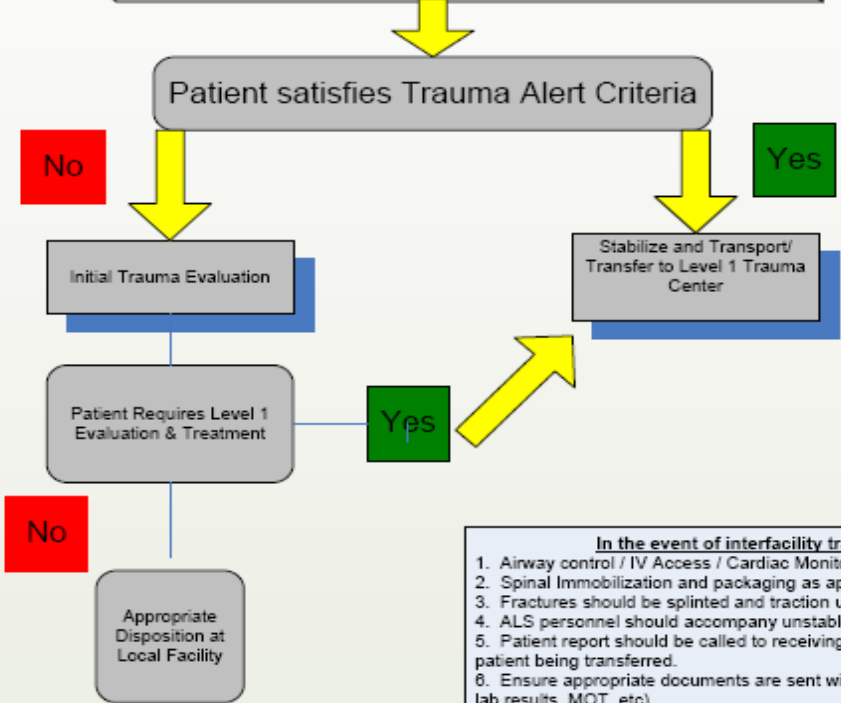
* When it becomes clear that the patient should be transferred, the physician should make a request for transfer **As Soon As Possible**. The patient should be stabilized as much as possible while awaiting the transfer vehicle.

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REGIONAL TRAUMA TEAM ACTIVATION CRITERIA

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Trauma Team Activation Criteria

- Trauma Team Activation Criteria
1. Blood Pressure < 90 systolic.
 2. GCS \leq 13 associated with a **traumatic injury**.
 3. Penetrating injury to head, neck, or chest.
 4. Respiratory distress with respiratory rate: <10 or > 29
 5. Airway compromise/intubation
 6. Traumatic Paralysis (**NOT** numbness/tingling)
 7. Discretion of the Emergency Room Physician.
- Pediatric Indicators (\leq 6 y.o.)
1. Unstable Vital Signs – Any One below:
 - * Tachycardia for age **PLUS** poor perfusion
 - * BP not appropriate for age ($70 + 2x$ age)
 - * Respiratory rate not appropriate for age



- In the event of interfacility transfer:**
1. Airway control / IV Access / Cardiac Monitor as appropriate.
 2. Spinal Immobilization and packaging as appropriate.
 3. Fractures should be splinted and traction used if appropriate.
 4. ALS personnel should accompany unstable patients.
 5. Patient report should be called to receiving facility prior to patient being transferred.
 6. Ensure appropriate documents are sent with the patient (x-rays, lab results, MOT, etc).
 7. If patient needs Level 1 trauma care, goal should be to transfer patient within \leq 2 hours from patient arrival.

* When it becomes clear that the patient should be transferred, the physician should make a request for transfer **As Soon As Possible**. The patient should be stabilized as much as possible while awaiting the transfer vehicle.



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INTERFACILITY TRANSFERS

Goal

The goal for establishing and implementing inter-hospital transfer criteria in TSA-L is to ensure that those trauma patients requiring additional or specialized care and treatment beyond a facility's capability are identified and transferred to an appropriate facility as soon as possible.

Objectives

1. To ensure that all regional hospitals make transfer decisions based on standard definitions which classify trauma patients according to TSA-L facility triage criteria.
2. To identify trauma treatment and specialty facilities within and adjacent to TSA-L.
3. To establish treatment and stabilization criteria and time guidelines for TSA-L patient care facilities.

Discussion

The level of trauma care resources required for **poly**-trauma patients is outlined in the TSA-L facility triage criteria and pre-hospital triage criteria. Scott and White Medical Center is the Lead Trauma Facility in TSA-L and accepts all poly-trauma transfer patients from any requesting TSA-L facility. A toll-free number has been established and distributed to all TSA-L emergency medical and hospital providers:

Scott and White Trauma Transfer Phone Line: 1-800-792-3368

Medical personnel calling this number receive an "automatic acceptance" for **poly**-trauma patients after speaking with the on-call **Attending Trauma Surgeon** or **Staff Emergency Medicine Physician**. Severely injured trauma patients should be immediately transferred to the TSA-L Lead Level I Trauma Facility. Patients with less life-threatening injuries should be initially transported to the closest trauma facility for stabilization. If admission is necessary, the patient should be transferred to the Lead Level I Trauma Facility within (2) hours from the time the patient arrived at that facility. The CTRAC Performance Improvement program will monitor all delay in trauma transfers out (>2 hours) for acute patients, trauma transfers outside TSA-L, and any ICU trauma patient admissions (**except the Lead Level I**).

Identification of Trauma Patients & Trauma Transfers

Trauma patients and their treatment requirements for optimal care are identified in the TSA-L facility triage criteria and pre-hospital triage criteria. Written transfer agreements are available between all TSA-L hospital facilities, and hospital facilities in adjacent regions. Trauma patients with special needs may be transferred to the Lead Trauma Facility for assessment and initial treatment by the trauma team. The TSA-L initial-receiving hospitals may also choose to transfer patients with special needs (burns) directly to these facilities, bypassing the Lead Level I Trauma Facility when appropriate. Below are lists of possible facilities that may be utilized outside TSA L:

- **Children's Medical Center of Dallas (Level I Trauma/Pediatric) – TSA E, Dallas**
- **Dell Children's Medical Center (Trauma/Pediatric) – TSA O, Austin**
- **Parkland Health & Hospital System (Level I Trauma/Burn) – TSA E, Dallas**
- **Brooke Army Medical Center (Level I Burns) – TSA P, San Antonio**
- **University Medical Center (Level I Burns) – TSA B, Lubbock**

Trauma Patient Transport



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Trauma patients in TSA-L 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 this Region.

Inter-hospital Transfer Process

Trauma Patients requiring specialized treatment should be transferred to an appropriate facility for continued care.

Written transfer agreements should be available between the Lead Trauma Facility (Scott and White Hospital) and all the hospitals within the trauma service area. Outlined below are the TSA-L Inter-hospital Transfer Components that have been evaluated and implemented:

- Scott and White Hospital will accept all emergent transfers provided they have the capacity and capability.
- Written transfer agreements are in place for all facilities participating in TSA-L. It is recommended that transfer agreements be renewed at least every three years.
- Available transport agencies have been identified and each acute healthcare facility has been provided with contact information.
- It is recommended that all agencies adopt the two hour rule for completing transfer process for the major trauma patient.

When it's determined that the patient needs to be transferred to a higher level of care, the following procedures should take place:

- Order obtained from the physician for transfer.
- Obtain acceptance from receiving hospital.
- Complete Memorandum of Transfer (MOT), and consent for transfer from patient.
- It is the transferring facilities responsibility to make transport arrangements. The receiving facility may assist with the decision making if requested by the transferring facility.
- All pertinent ED documentation (x-rays, lab work, medication administration records, MD and nursing notes, etc.), the original MOT, consent for transfer, and other pertinent information should be sent with the patient.
- Report should be called to the receiving hospital and ETA given.
- Appropriate equipment and personnel will accompany the patient during the transfer.



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PLANNING FOR DESIGNATION OF TRAUMA FACILITIES

Goal

All facilities actively participating in TSA-L should be designated at one of the four levels of trauma care.

Objectives

1. Provide regional resources to assist facilities in maintaining their designation level and those in pursuit of trauma designation.
2. The lead level trauma center (Scott and White Memorial Hospital) should have an active roll in the development, planning, and education for those facilities currently trauma designated and those seeking trauma designations.
3. Maintain transfer agreements between all facilities as indicated by resource needs within the TSA-L region.
4. Increase participation on the CTRAC Hospital Care and Management Committee by ensuring that each acute care hospital within the TSA-L region has a participating member from their facility on the committee.

Planning for Designation of Trauma Facilities

The Omnibus Rural Health Care Rescue Act of 1989 charged the Texas Department of Health through the Bureau of Emergency Management with the responsibility of designation trauma facilities in Texas. The law requires the Bureau to designate trauma facilities that are part of a regional system of trauma care. The law requires that the trauma facilities be designated in accordance with the standards for the American College of Surgeons for Level I, II and III facilities. Level IV facilities may be surveyed based on criteria adopted by the State Board of Health.

In the Texas Trauma System, there are four recognized levels of trauma facility designation: Comprehensive (Level I), Major (Level II), General (Level III) and Basic (Level IV).

At this time, Five (5) out of the nine (9) acute care hospitals in the TSA-L are trauma designated. Three (2) facilities are in active pursuit of Level IV trauma designation. See the "Hospital" section in the TSP for a complete list of TSA-L facilities and their currently trauma designation level/status.

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SYSTEM PERFORMANCE IMPROVEMENT PROGRAM

Goal

To provide ongoing performance assessment and improvement activities designed to objectively and systematically monitor and evaluate the quality of trauma patient care through system analysis in an effort to identify and pursue opportunities to improve patient care.

Objectives

1. To facilitate performance improvement in trauma patient care and services by establishing mechanisms to identify opportunities to improve.
2. To provide a framework for a planned, systematic and ongoing approach for the objective monitoring and evaluation of the quality, appropriateness and effectiveness of trauma patient services provided within TSA-L.
3. To create an organizational structure which will be accountable for the coordination and integration of performance improvement activities in accordance with established standards.

Membership

To ensure a multidisciplinary committee, membership of the System Performance Improvement Committee shall include, but is not limited to the following:

Trauma Medical Directors or designee
Trauma Coordinators
Physicians
Hospital Administrators
Prehospital providers, including first responders and aero medical services
Nurses
Trauma Registrars

The Committee Chair shall be selected by the membership of the Committee.
A physician, designated by the CTRAC Medical Advisory Board, shall provide medical oversight.

Meetings will be held in closed session to protect confidential information and only designated committee members from member organizations will be permitted to attend. Alternate members are not permitted to attend the SPI Committee meetings, unless alternate member is a SPI committee member already.

- Representatives from other organizations must receive approval from the SPI Committee Chair prior to attending and must sign a confidentiality statement. They will be offered the opportunity to address a specific area of concern but will not be included in any ensuing discussion concerning the issue.
- Meetings will be held at least 4 times per year at a minimum, providing there are members from three different organizations present. Members must attend at least 75% of the scheduled meetings or risk being removed from the committee. The meeting sign-in sheet will include a confidentiality statement for committee members.
- The Chair, or his/her designee, of the SPI Committee will attend the Medical Advisory Board meeting to report on the committee's activities, as well as to receive input from the members regarding selection of indicators and other activities.

Responsibilities

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The System Performance Improvement Committee shall be responsible for the implementation of monitoring activities, data collection, statistical analysis, identification of opportunities for improvement, recommending action, and re-evaluation.

A. Performance Improvement

1. Identification of Indicators

Indicators are related to the quality and/or appropriateness of processes and services related to trauma patient care. The indicators are objective, measurable components that reflect the integration of resources, system organization, and outcomes.

- The System Performance Improvement Committee, with input from other committees, will recommend specific indicators for review, with approval by the Executive Committee.
- Selection of indicators will be based on standards of care, current knowledge and research.
- A calendar of quarterly indicator reviews shall be submitted to the Executive Committee for approval on an annual basis.

2. Collection of Data

Data is collected and organized for review under the direction of the System Performance Improvement Committee.

- Each member organization shall be responsible for submitting the essential information to the Department of State Health Services Trauma Registry (recommend quarterly down loads)
- Indicators shall be reviewed on a quarterly basis. Aggregate data from the registry database will be extracted and reported out as a percentage value.
- Indicators that are not retrievable from the trauma registry database will be reported by each member organization as aggregate numbers.

3. Evaluation

The System Performance Improvement Committee will analyze the data collected and determine if further investigation is needed. When areas for improvement are identified, the root causes will be established. Root causes are defined as one of the following:

1. System
2. Education
3. Behavior

- Evaluation includes analysis of trends and patterns in the data collected, to be accomplished by the System Performance Improvement Committee.
- Sentinel events and individual peer review will be referred to the Medical Advisory Board. Sentinel events are defined as any event that causes harm or has a high potential to cause harm. These may be identified through mechanisms such as system concern forms, referrals from member organizations or data analysis.

4. Actions

When evaluation identifies an opportunity for improvement, actions are determined and implemented. Actions are directed toward the root cause with the overall goal being to improve the quality of service. Actions may involve, but are not limited to the following:

- Committee recommendations
- Educational offerings
- Performance improvement teams

5. Re-Evaluation (Loop Closure)

Through statistical analysis, the System Performance Improvement Committee will determine if actions/recommendations taken have been successful. Until that time, any identified problem or



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concern shall be considered “open” and will require continued evaluation until satisfactory closure has been achieved.

B. Agency Compliance

- Submit data to the state trauma registry as required by DSHS and TSA-L. Data shall be submitted to the state on a quarterly basis. (Submit proof of downloads on a quarterly basis to the CTRAC secretary)
- Utilize RAC Protocols
- Participate in RAC activities as determined by CTRAC by-laws.

C. Communication

The System Performance Improvement Committee will communicate results of all monitoring and evaluation activities to the CTRAC in the following manner:

- Quarterly reports of selected indicators, including actions and recommendations.
- Monthly minutes of activities (excluding any identifying information)
- All loop closures



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INJURY PREVENTION

Goal

Established to provide leadership to facilitate public education and awareness through trauma prevention activities. Members work closely with entities and community organizations to promote safety and prevent injuries. Topics and activities are selected based on injury trends and by community request.

Objective

- To provide leadership and resources to facilitate educational programs that increase awareness by changing behaviors regarding prevention of injuries and promote community safety.

Discussion

Activities include but are not limited to:

1. Increase awareness of value and role of injury prevention
2. Increase committee membership and participation
3. Determine priority prevention topics based on data review
4. Create structure which will provide support, leadership and resources for member entities to develop local educational activities
5. Increase visibility of CTRAC presence throughout area
6. Develop injury prevention page/links for CTRAC web site
7. Develop injury prevention newsletter for distribution

CTRAC has injury prevention literature and materials available for distribution. Contact the CTRAC office for additional information.



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EMSYSTEM POLICY

Goal To provide guidelines for EMSsystem/EMResource use by hospitals, pre-hospital providers, public health departments, as well as others who have access to the system.

TSA-L HOSPITALS INCLUDE:

Cedar Crest Hospital
Central Texas Veterans Health Care System
Central Texas Hospital
Coryell Memorial
Carl R Darnall Army Medical Center
Hamilton General Hospital
King's Daughters Hospital
Metroplex Hospital
Metroplex Pavilion
Richards Memorial Hospital
Rollins Brook Community Hospital
Scott and White Memorial Hospital
Scott and White Continuing Care Hospital
Scott and Pavilion
Scott and White-Santa Fe

TSA-L EMS INCLUDE:

Belton Fire Department EMS
Harker Heights Fire Department EMS
Scott & White EMS
Killeen Fire Department EMS
CRDAMC EMS
Copperas Cove Fire Department EMS
Central Texas Regional EMS
Coryell Memorial Hospital EMS
Capital Ambulance
Hamilton EMS
American Medical Response
Thorndale EMS
AirEvac/LifeStar
Mills County EMS
PHI STAT Air

HOSPITAL RESPONSIBILITY

All local, state, and federal laws, including but not limited to EMTALA, pertaining to patients presenting to emergency departments for care still apply. Nothing in this plan should be interpreted in a manner that would violate the right of patients seeking emergency care. Patients presenting to any hospital in the care of EMS will not be denied triage/treatment on the basis of that hospital's patient acceptance status.

REQUIREMENTS

- 1). All listed hospitals are required to update the EMSsystem daily between 7:00am and 9:00am or as situations warrant as described/defined in this document.
- 2) All listed EMS agencies are required to update the EMSsystem at a minimum of twice a week, preferably Mondays and Fridays between 7:00 am and 9:00 am or as situations arise as described/defined in this document. Air medical services should update daily as feasible.

EMSystem® PROTOCOLS AND POLICIES:

A. EMSsystem® Description

1. EMSsystem® is a Web-based program providing real-time information on status, capacity and availability of resources for emergency departments, hospitals and transport services.
2. EMSsystem® is used to coordinate "routine" and emergency medical operations [e.g., mass casualty incidents (MCI)] throughout the defined service area. The purpose of the EMSsystem® is not to make decisions regarding transportation, but to facilitate patient transportation and communication.
3. EMSsystem® is used to communicate important information, such as disasters, public health alerts or notification of potential terrorist events, simultaneously and consistently to all users.
4. EMSsystem® is operated on a computer located in the hub of operations, i.e., in the hospital emergency department or other location staffed 24 hours a day and in the dispatch centers of

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transporting EMS agencies. EMSSystem® is in use 24 hours a day, seven days a week.

B. Purpose

1. The implementation of the EMSSystem® is an effort to efficiently and effectively:
 1. Communicate situations in which the diversion of an ambulance(s) may be necessary due to the existence of temporary conditions in hospital emergency departments or the hospital that may affect patient care.
 2. Determine hospital patient capacity, availability of staffed beds and availability of specialized treatment capabilities during an MCI or a terrorist incident.
 3. Notify pre-hospital care providers, as well as other health care facilities, of temporary limitations of services or resources at receiving hospitals.
 4. To provide real-time public health and other special alerts.
2. With EMSSystem®, the definition of hospital status is standardized across the entire state. Participating hospitals will update EMSSystem with their current hospital status. However, EMS providers and/or emergency medical systems should continue to follow their local policies and procedures regarding the determination of hospital destinations.
3. Use of EMSSystem® will aid in taking patients to the most appropriate facility.
4. Use of EMSSystem® and these policies is intended to effectively manage and coordinate hospital and EMS resources, including but not limited to:
 - a. Minimizing prolonged patient transport times.
 - b. Minimizing prolonged out-of-hospital care when definitive hospital based resources are needed.
 - c. Determining EMS resources available to the service area.
 - d. Helping to determine or obtain timely information important during an MCI, public health or other special event.

C. EMSSystem® Functions

1. Hospital Emergency Department Status
 - a. Participating hospitals update their routine emergency department/hospital status at defined intervals. (Daily between 7:00am and 9:00am or as situation warrants.)
 - b. A status screen displays the status of each hospital in service area.
 - c. The 9-1-1 or dispatch center then uses the displayed information to appropriately alert EMS units to area emergency departments' status.
 - d. Hospitals, EMS services and other users view the current status page to assess system capacity, potential bottlenecks and the availability of resources.
2. Mass Casualty or Bio-Terrorism Incident Support
 - a. Unplanned, acute, medical emergencies involving significant numbers of ill or injured people require instantaneous EMS resource allocation.
 - b. Participating hospitals enter MCI details required to respond.
 - c. Each hospital then enters its ability to accept patients including decontamination patients and/or special needs patients.
 - d. Incident-specific evaluation and treatment protocols are easily uploaded and immediately available to all facilities.
 - e. Critical information can be instantaneously disseminated to health care providers, public health agencies and other key emergency medical personnel.

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Hospital Status Definitions:

Open—green color:	Accepting all traffic
Divert—red color:	Diverting ambulance traffic (update every 2 hours)
Resource Alert—maroon color:	Actual or pending resource limitations exist
Internal Disaster – black color:	Indicates that there is an environmental or physical plant situation, such as utility outage, unsafe situation in the hospital, etc.

The following abbreviations and terms may be used in comments as resources:

Med/Surg Beds - Medical/Surgical inpatient beds
 ICU Beds – Adult Intensive Care Unit beds to include Medical, surgical, or coronary.
 Telemetry Beds - Beds with monitoring capabilities
 NICU Beds - Beds in the Neonatal Intensive Care Unit
 PICU Beds - Beds in the Pediatric Intensive Care Unit
 PED Beds - Pediatric beds
 L & D Beds - Beds in Labor and Delivery
 Psych Beds - Available beds in the Psychiatric Unit
 Closed Psych beds – Locked Psychiatric beds
 OR - Operating Room
 Trauma Center Level - Designated Trauma Center Level I, II, III, or IV.
 CAT SCAN - Computerized axial tomography
 Fixed MRI - Fixed Magnetic Resonance Imaging Unit
 Mobile MRI - Mobile Magnetic Resonance Imaging Unit

Pre-Hospital Status Definitions:

Available – green color:	Unit or organization is ON-CALL and AVAILABLE to respond to emergency calls
Caution – yellow color:	Resource limitations exist. Must specify in comments.
Unavailable – red color:	Unit or organization is UNAVAILABLE TO RESPOND to new emergency requirements at this time.

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Example from system:

Central Texas



Update Status

[help](#)

EXAMPLE HOSPITAL

Update information below. You MUST update required information.

[Select All](#) - [Clear All](#)

Select the status(es) to update:

<input checked="" type="checkbox"/>	ED -- Current ED availability
<input type="checkbox"/>	Divert -- Diverting ambulance traffic. Please note: You <u>must</u> select one or more from this list when choosing " Divert " status: <ul style="list-style-type: none"> <input type="checkbox"/> ED Saturation -- All ED beds occupied <input type="checkbox"/> Internal disaster (indicate in comments) -- Such as flood or power failure. Please indicate in comments section. <input type="checkbox"/> No ICU beds -- All ICU beds occupied <input type="checkbox"/> No inpatient beds -- No available inpatient beds. <input type="checkbox"/> No monitored beds -- No monitored beds in house. <input type="checkbox"/> Other (indicate in comments)
<input type="checkbox"/>	Internal Disaster -- Indicates that there is an environmental or physical plant situation, such as utility outage, unsafe situation in the hospital, etc.
<input type="checkbox"/>	Open -- Accepting all traffic
<input type="checkbox"/>	Resource Alert -- Actual or pending resource limitations exist. Indicate in comments.

Comment:

[Select All](#) - [Clear All](#)

D. Primary Users

- a. Primary users are service area hospitals, pre-hospital agencies, EMS first responders, public health, and mental health. Additional primary users may be added as they are identified. Primary users have read and write access to their specific information on the system and read-only access to all other users' information.
- b. Primary users may view status information and update their respective area service data. User-specific historical data also can be retrieved for data collection, downloading or printing.

E. Secondary Users

- a. Secondary users are all other interested agencies such as Offices of Emergency Management, EMS dispatchers, etc. These users will have read only access to the system.



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- b. Secondary users may view defined area status information. These users cannot update or alter system information unless mutually agreed upon by the Primary user agency and the Secondary user agency.

F. Access to Data

The Administrator will have full access to EMSSystem® data.

The following policy is in place for data access:

1. Each Primary User shall have access to its individual data elements.
2. Anyone seeking data queries of a specific facility's information should direct their request to Administrator or that specific Primary User.
3. Requests from the public and media for statistics should be given to that agency's designated spokesperson.

G. Accessing EMSSystem® Help

- a. First discuss any EMSSystem problems you encountering with your own IS or IT department.

Technical assistance:

EMSSystem® has a 24-hour help desk to assist users with technical issues with the operation of EMSSystem®.

They can be reached at (888) 290-6710.



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Trauma Service Area-L

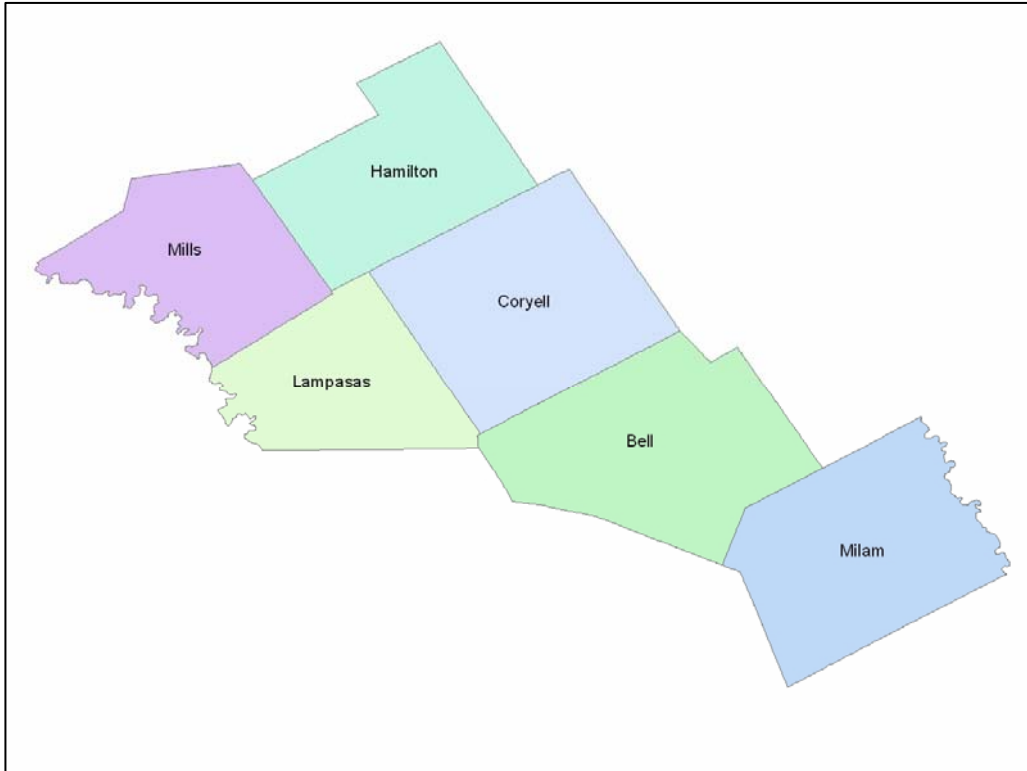
Regional ST Segment Elevation Myocardial Infarction (STEMI) Plan

2009

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Introduction

Trauma Service Area – L (TSA-L)



The purpose of this document is to develop a coordinated, region-wide system of care for patients experiencing an ST elevation myocardial infarction (STEMI). Guidelines from The American Heart Association (AHA) and the Society of Chest Pain Centers (SCPC) have been incorporated into this document.

ST Segment Elevation Myocardial Infarction (STEMI) is a life-threatening condition that must be recognized and treated promptly. Multiple studies have shown that morbidity and mortality can be reduced by prompt treatment directed at opening the occluded coronary artery. However, 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.

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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:

- Collect and report STEMI performance data
- Assign a STEMI contact

Definition of a PCI Facility

The goal of this effort is to move patients experiencing STEMI to PCI facilities 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 facility in TSA-L:

Scott and White Memorial Hospital, Temple, Texas

Cardiac Catheterization facilities are available and limited PCI services exist at:

King's Daughters Hospital, Temple, Texas
Metroplex Hospital, Killeen, Texas

Limited PCI services means elective PCI is performed at these facilities and primary PCI may or may not be performed based on the hour of the day and the presence of a qualified physician.

Primary PCI is not available at the following facilities:

Carl R. Darnall Army Medical Center, Ft. Hood, Texas
Central Texas Hospital, Cameron, Texas
Coryell Memorial Hospital, Gatesville, Texas
Hamilton General Hospital, Hamilton, Texas
Olin E. Teague VA Medical Center, Temple, Texas
Richards Memorial Hospital, Rockdale, Texas
Rollins Brook Community Hospital, Lampasas, Texas

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). All PCI facilities currently report STEMI performance data based on the ACC criteria to CMS to receive reimbursement. The American College of Cardiology (ACC) has established a minimum standard for performance as door to balloon time of 90 minutes or less 75% of the time. Additionally, inpatient mortality rates will be tracked.



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

Facility Representation

Each PCI capable facility should designate a CTRAC contact person.



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Role of EMS

Develop Acute Coronary Syndrome (ACS) Protocols

It is important to develop a standardized ACS protocol for all EMS agencies. There are several standards, considered quality of care measures that should be instituted on all ACS cases (i.e. immediate administration of aspirin). For a summary of evidence to construct an ACS protocol based on scientific evidence EMS agencies lacking a protocol should consult the following web site:

<http://emergency.medicine.dal.ca/ehsprotocols/Protocols/LOE.cfm?ProtID=6229.0510>

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

The American College of Cardiology (ACC) launched the D2B initiative in 2006 to emphasize the goal of 90-minute door to balloon time. In March 2007, an EMS initiative sought to assist the hospitals in meeting this goal by minimizing EMS patient contact time to 30 minutes. This 30-minute goal should also be the goal of EMS agencies participating in this endeavor. This is part of the overall 30-30-30 concept that means 30 minutes or less in the field pre-hospital arrival, 30 minutes or less in the hospital ED, and 30 minutes or less from arrival in the cardiac catheterization laboratory until the artery is open. Similar to the requirements on the hospitals, EMS agencies should prepare to collect and report performance data to the CTRAC. The data requirements are listed below.

Adopt the STEMI Bypass Guideline

All EMS agencies that do not have a STEMI Bypass Guideline should introduce the CTRAC 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. This guideline serves as a template to be used by EMS agencies when formulating their individual plans.



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ECG Transmission

There are conflicting opinions on the value of transmitted ECGs from the field vs. voice notification of an incoming STEMI. It is clear that early hospital notification by EMS significantly reduces the door-to-balloon time. In this region, only 25% of the EMS agencies currently transmit an ECG to the hospital while all EMS providers in the region report having 12-Lead capability. 67% of EMS agencies report having 12-Lead capability on every ambulance on the road.

There are a variety of EMS agencies in the region and each may utilize a different type of cardiac monitor. Each type of monitor requires its own proprietary software to transmit and receive its own data and these different monitor systems do NOT interface with each other. Specifically, you cannot transmit an ECG from a Phillips system and receive the data on a Zoll receiving station. The weakness is obvious in that if a hospital wants to receive ECG data from the several different EMS agencies it will require them to purchase multiple brands of ECG receiving stations at considerable expense. Moreover, there is little hope that all EMS agencies will agree on using one type of monitor. A question regarding this situation was submitted to a national EMS list serve with a thousand members to solicit. The response received was that a viable ECG transmission solution does not exist that can handle the three plus ECG monitor vendors.



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CTRAC HOSPITAL STEMI INFORMATION FORM

Measure Set: ST-Segment Elevation Myocardial Infarction (STEMI)

Set Measure ID#: CTRAC HOSPITAL STEMI 1.0

Performance Measure Name: Door to PCI Time for STEMI patients arriving by EMS.

Description: Median time of all cases from EMS arrival at the PCI facility to percutaneous coronary intervention (PCI) in patients with ST-segment elevation on the electrocardiogram (ECG) performed closest to hospital arrival time.

Included Populations: Discharges with:

- An ICD-9-CM Principal Diagnosis Code for AMI

AND

- ICD-9-CM Principal and Other Procedure Codes for PCI

AND

- ST-segment elevation on the ECG performed closest to hospital arrival time

AND

- PCI performed within 24 hours after hospital arrival

Excluded Populations:

- Patients less than 18 years of age
- Patients received in transfer from another acute care hospital, including another emergency department
- PCI described as non-primary by a physician/APN/PA
- Patients who did not receive PCI within 90 minutes and had a reason for delay documented by a physician/APN/PA (e.g., social, religious, initial concern or refusal, cardiopulmonary arrest, or other necessary diagnostic evaluation)

Data Elements and Formatting:

• Performance data will be placed in an Excel (or like) spreadsheet. The headers are described in the Data Elements below. Performance data will be in columnar format.

- Patient ID; to ensure patient confidentiality, names will not be used only first and last initials. A unique identifying number will be attached once the data is submitted to the STEMI Data Agent. EMS will use the same patient ID so we can match hospital patients with EMS patients. Format "FNLN" initials only.
- Birth date; format "mm/dd/yyyy"
- Arrival Date; format "mm/dd/yyyy". Use the EMS arrival date.
- Arrival Time; format hh:mm. Use the EMS arrival time.
- First PCI Date; format "mm/dd/yyyy"
- First PCI Time; format hh:mm
- Arrival Source (EMS Agency Name); format
- Initial ECG Interpretation; document interpretation including presence of bundle branch blocks, ST elevation in mm height and leads found, rate and rhythm, any other relevant ECG changes.
- Reason for Delay in PCI (if any); document valid reason



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CTRAC EMS STEMI INFORMATION FORM

Measure Set: ST-Segment Elevation Myocardial Infarction (STEMI)

Set Measure ID#: CTRAC EMS STEMI 1.0

Performance Measure Name: EMS to Door (E2D) for EMS STEMI patients.

Description: Median time of all cases from EMS call received to arrival at the ED door in patients with ST-segment elevation on the 12-lead ECG.

Included Populations: Calls with:

- An ICD-9-CM Principal Diagnosis Code for AMI or STEMI

AND

- ST-segment elevation on the pre-hospital ECG

Excluded Populations:

- Patients less than 18 years of age
- Patients received in transfer from another acute care hospital, including another emergency department

Data Elements and Formatting:

• Performance data will be placed in an Excel (or like) spreadsheet. The headers are described in the Data Elements below. Performance data will be in columnar format.

- Patient ID; to ensure patient confidentiality, names will not be used only first and last initials. A unique identifying number will be attached once the data is submitted to the STEMI Data Agent. The hospitals will use the same patient ID so we can match hospital patients with EMS patients. Format “FNLN” initials only.
- Birth date; format “mm/dd/yyyy”
- Call Received Date; format “mm/dd/yyyy”
- Call Received Time; format hh:mm
- Unit On Scene Date; format “mm/dd/yyyy”
- Unit On Scene Time; format hh:mm
- Unit Transporting Date; format “mm/dd/yyyy”
- Unit Transporting Time; format hh:mm
- At Destination Date; format “mm/dd/yyyy”
- At Destination Time; format hh:mm
- EMS Agency Name; format
- Initial ECG Interpretation; document interpretation including presence of bundle branch blocks, ST elevation in mm height and leads found, rate and rhythm, any other relevant ECG changes.
- Reason for Delay (if any); document any known reason for >30 minute E2D time.



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CTRAC STEMI Bypass Guideline

Guideline

- A. The CTRAC STEMI Bypass Guideline encourages EMS agencies to transport patients directly to the nearest open PCI facility.
- B. Each EMS agency will utilize their own protocol for the clinical care of a patient experiencing STEMI or ACS.

Procedure

- A. Patients who present with ST elevation of ≥ 2 mm in two or more contiguous leads accompanied with worrisome visceral symptoms should be selectively routed to a designated PCI facility.
- B. EMS units that initiate this guideline should notify the receiving facility as soon as STEMI is suspected or verified with the term "STEMI Alert."
- C. Patient care should be administered during transport as much as feasible.



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Trauma Service Area – L **EMS & Hospital Agencies**

EMS Agencies

American Medical Response
Belton Fire Department/EMS
Capital Ambulance
Carl R. Darnall Army Medical Center EMS
Central Texas Regional EMS
Copperas Cove Fire Department/EMS
Coryell Memorial Healthcare System EMS
Hamilton EMS
Harker Heights Fire Department/EMS
Killeen Fire Department/EMS
LifeStar/Air Evac
Mills County EMS
PHI STAT Air
Scott & White EMS
Thorndale EMS

Hospitals

Carl R. Darnall Army Medical Center
Central Texas Hospital
Central Texas Veterans Healthcare System (Temple)
Coryell Memorial Healthcare System
Hamilton General Hospital
Kings Daughter's Hospital
Metroplex Hospital
Richards Memorial Hospital
Rollins Brook Community Hospital
Scott & White Memorial Hospital



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CTRAC Acute Care Committee Members (include, but not limited to)

A special thanks to the following members who contributed their valuable time and effort to making this plan a reality:

Chair: Robert Greenberg, Scott & White
Vice Chair: Charlotte Resto-Mafnas, Scott & White
Members and/or contributors:
Kim Ingram, Metroplex Hospital
Sonya Ochoa, Metroplex Hospital
Fred Gray, Coryell Memorial Healthcare System EMS
Jerry Caldwell, Scott & White
Terri Thompson, Metroplex Hospital
Terry Valentino, Scott & White
Karen Spangle, Carl R. Darnall Army Medical Center
Jeffrey Mincy, Scott & White EMS
Brittney Misercola, PHI STAT Air
Don Kasperik, Central Texas Veterans Healthcare System (Temple)
James Lee, Hamilton General Hospital
Malae Lucas, Metroplex Hospital
Ron Johnson, Rollins Brook Community Hospital
Becky Musgrove, Hamilton General Hospital
Tricia Radenz, Rollins Brook Community Hospital
Kelly Stowell, King's Daughters Hospital
Joe Piper, Killeen FD/EMS
Scott McAninch, Metroplex Hospital
Glenn Gallenstein, Harker Heights FD/EMS
Mike Ingraham, Central Texas Regional EMS
Wayne Rutherford, Killeen FD/EMS



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Patient Label goes here

CENTRAL TEXAS RAC STEMI/STROKE FORM

EMS Initial Contact

EMS Provider: _____ Patient Contact: _____ Initial EKG: _____
 02 ___ Lpm via _____ ASA _____ mg @ _____ (if protocol allows)
 IV _____ gauge (minimum 1, ideal 2)

ACUTE STEMI

ACUTE STROKE _____

<p style="text-align: center;">EMS Scene Call</p> <p>STEMI Activation Time _____ Symptom Onset _____ Heparin _____ units @ _____ NTG _____ mg @ _____ Plavix _____ mg @ _____ Beta Blocker (name) _____ _____ mg @ _____ Analgesia (name) _____ _____ mg/mcg @ _____ Other Treatments _____</p> <p style="text-align: center;">Referral Hospital Transfer</p> <p>Arrival Referral Center _____ Depart Referral Center _____ If utilized: see STEMI Work Sheet History: (check if present) Diabetes ___ History Stroke ___ History Bleeding _____ CABG _____ Prior AMI _____ Medications During Transfer: _____ _____ _____ Other Treatments During Transfer: _____ _____ _____</p>	<p style="text-align: center;">EMS Scene Call</p> <p><input type="checkbox"/> Cincinnati Stroke Scale complete d-stick: _____ last seen normal: _____</p> <p style="text-align: center;">Referral Hospital Transfer</p> <p>Activation time: _____ non-contrast CT times: completed: _____ _____ resulted: _____ NIHSS score: _____ ACCU-check: _____ <input type="checkbox"/> STAT labs completed: CBC, CMP, PT/PTT Departure time: _____ Medications During Transfer: _____ _____ _____ Other Treatments During Transfer: _____ _____ _____</p> <p>Inclusions criteria for tPA: *Age > 18 *Clinical dx of ischemic stroke causing a measurable neurological deficit *Last seen normal time well established to be <180minutes</p>
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See Reverse Side for Detailed Information



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STEMI Highlights

Inclusion Criteria: ST elevation in 2 or more contiguous leads or new or presumed new LBBB

Thrombolytic Exclusions: See Stroke information in adjoining column

Patient Preparation: all clothes removed, groin shaved (if possible), distal pulses marked, radiolucent EKG electrodes applied (if available)

Detailed History: in addition to recorded information on STEMI Work Sheet:

Prior PCI

Prior CHF

PVD

Dialysis

Chronic Lung Disease

Atrial Fib/Flutter Past 2 Weeks

High Cholesterol

Recent Smoker (<1year)

Other Significant Medical Problems

Exclusion criteria for tPA

*Rapidly improving or minor symptoms

*pregnant or lactating/suspicion of pregnancy

*Onset>3hours

*SBP> 185mm or DPB>110 on more than one measurement

*Elevated PTT

*Anticoagulation therapy (excluding ASA)

*Heparin within 48 hours

*LP or Arterial puncture (non-compressible site) within 7days

*GI/GU hemorrhage within 21 days; Active internal bleeding/surgery past 14days

*Seizure at time of onset; evidence/suspicion of intracranial hem or SAH

*h/o: ESRD; hepatic disease; intracranial neoplasm, AV malformation, or aneurysm

*head injury or previous stroke within 3mths

*Blood glucose <50mg/dl or >400mg/dl

*Clinical presentation suggesting post-MI



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Stroke Point of Entry Plan Transport/Transfer Guidelines

Transport:

Transportation by an appropriate (ground, air, etc) to a Primary Stroke Center (PSC) within 2 hours of last seen normal is optimal.

In the presence of suspected symptomatic hypoglycemia, decreased level of consciousness, compromised airway, or hemodynamic instability, it may be appropriate to transfer the pt to the nearest hospital for acute stabilization.

On the identification of a stroke patient as per prehospital criteria (Cincinnati Stroke Scale), a Stroke Code should be activated.

Axioms of care (also see appendix A):

Stroke symptoms < 3hours or > 8hours of last seen normal should be transported to the nearest stroke facility for initial treatment before considering interventional treatment.

Stroke symptoms between 3-8 hours of last seen normal should be taken immediately to a PSC.

Transfer Guidelines:

Stroke patients within TSA-L are identified by a facility's triage criteria and/or prehospital criteria. The patient may be transferred to a PSC upon identification of a possible stroke. In the event that the patient requires resources beyond the PSC's capabilities, transfer to another appropriate facility should be expedited.

Suspected Stroke

Assessment Guidelines

Cincinnati Stroke Scale
Vital Signs
Blood Glucose
12-Lead EKG

*Consider other etiologies i.e.
Hypoglycemia or seizure

<3, >8 hours or
Unknown last seen
normal

Closest Stroke
Center

3-8
hours

Closest
Primary
Stroke Center



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REGIONAL HEALTH AND MEDICAL DISASTER PLAN

Under Separate Cover



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Attachment 1

REGIONAL COMMUNICATIONS FREQUENCIES

RADIO INTEROPERABLE COMMUNICATIONS CHANNELS
DIRECTOR IP ADDRESSES

<u>Copperas Cove Police/Fire/EMS</u>		
VHF		Tex Fire 1
VHF		Tex Med 1
VHF		Tex Law 1
VHF		Tex Law 2
800 MHz		8CALL90 aka NPSPAC1, 800 Hail
800 MHz		8TAC91 aka NPSPAC2, 800 TAC1
<u>Hamilton Sherriff</u>		
Channel 2		NPSPAC - Hail
Channel 3		NPSPAC – M/A
Channel 4		Tex Law 1
Channel 5		Tex Law 2
Channel 6		Tex Fire 1
Channel 7		Hamilton Emergency Services
<u>Gatesville PD</u>		
Channel 2		800 Hail
Channel 3		800 M/A
Channel 4		Tex Law 1
Channel 5		Tex Law 2
Channel 6		Tex Fire 1
Channel 10		EMS
<u>Lampasas Sherriff</u>		
Channel 2		800 Hail
Channel 3		800 TAC 3
Channel 4		Tex Law 1
Channel 5		Tex Law 2
Channel 6		Tex Fire 1
<u>Milam County</u>		
Channel 2		800 Hail
Channel 3		800 M/A
Channel 4		Tex Law 1 RX
Channel 5		Tex Law 2
Channel 6		Tex Fire 1
Channel 7		Milam EMS
<u>Rockdale PD</u>		
Channel 4		Tex Law 1
<u>Mills County Sherriff</u>		
Channel 2		800 Hail
Channel 3		800 M/A
Channel 4		Tex Law 1 RX
Channel 5		Tex Law 2
Channel 6		Tex Fire 1

