GEORGIA TRAUMA SYSTEM

Regional Trauma System Planning Framework

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We thank Joe Acker, Executive Director of BREMSS for providing valuable assistance and information leading to our understanding and adoption of the statewide trauma communication center and regional planning concepts. We thank Choona Lang, State Trauma Program Administrator for her warm hospitality, system development insight and for welcoming Trauma Commission members during their visit to see the Alabama system. Joe, Choona, their staff and colleagues in Alabama were most generous with their time and expertise to the Georgia Trauma Care Network Commission.

Limitations of content:
This Framework references content and documents either currently under development or under consideration for approval. In particular, the Georgia Trauma Communications Center will operate through an information system and operational plan that are being actively pursued but have yet to be determined.

Despite these content limitations, the Georgia Trauma Care Network Commission believes it is appropriate to put forth this Framework document in order to begin the process of review and approval for use in the Georgia Trauma System. Content is limited but adequate at this early stage to allow review of the Framework for regional trauma system planning.

GEORGIA TRAUMA SYSTEM

In 2007, the Georgia Legislature through Senate Bill 60 established the Georgia Trauma Care Network Commission ("the Trauma Commission"). The bill charges the Trauma Commission to create a trauma system for the State of Georgia and to act as the accountability mechanism for distribution of trauma system funds appropriated each fiscal year by the legislature. In January 2009, the Trauma Commission released "Our Emerging Vision—A New Public Service for Georgians"[1] which identifies steps to move the **Georgia Trauma System** forward over a five-year period from 2009-2014.

"Our Emerging Vision" addresses recognized development opportunities in Georgia's existing trauma system. Pursuant to a trauma system review by the American College of Surgeons' Trauma System Consultation Program in January 2009[2], the Trauma Commission identified a need for both a comprehensive state trauma system plan and for a statewide trauma communications system.

In order to meet these needs, the Georgia Trauma System will be comprised of integrated regional systems and plans with a centralized and statewide Trauma Communications Center as the common component of a state trauma system. It is envisioned each **region** will represent a **trauma service area**, which will accommodate overlapping and traditional patient catchment areas and incorporate statewide EMS Regional infrastructure. Each regional trauma system will operate according to a **Regional Trauma System Plan (or "Plan")** developed by the region's **Regional Trauma Advisory Council (or "Council").** Each Plan will organize existing resources to provide a comprehensive trauma care system to care for patients from the moment of injury through rehabilitation. The Council will develop data-driven injury prevention programs appropriate for the local community and provide for system **performance improvement** and regional plan maintenance. At the core of the Georgia Trauma System is a single statewide **Georgia Trauma Communications Center (or "Trauma Communications Center")** established to coordinate the needs of EMS providers in each region with the capacity of all **Trauma Centers** in the state. The Trauma Communications Center will eliminate the time-consuming search for an appropriate Trauma Center with available resources in response to serious injuries. Collectively, the regional Plans form the comprehensive State Plan for the Georgia Trauma System.

The Georgia Trauma System is best viewed as a continuum of care that prevents injuries and enables the injured access to appropriate care so that they can return to society at their most productive level. The Georgia Trauma System will include:

- Regional data-driven injury prevention and risk reduction programs;
- Medically supervised pre-hospital emergency medical services (EMS) with

[1] Georgia Trauma Care Network Commission, comp. *Our Emerging Vision: A New Public Service for Georgia*. Working paper. February 2009. Print.

[2] American College of Surgeons Committee on Trauma. *"Trauma System Consultation, State of Georgia"*. January 2009. Print.

statewide 911 dispatch services and statewide Trauma System triage criteria;

- Trauma System patient identification processes based on Trauma System Entry Criteria;
- Ground and air medical transport available statewide;
- Ongoing assessment of EMS and hospital resources and capabilities and the effective use of a state-of-the-art Automatic Vehicle Location (AVL) system for EMS vehicles;
- Regional Trauma Advisory Councils to develop regional Plans and provide the forum for oversight and performance improvement;
- Regional Trauma System Plans to accommodate the unique characteristics, capacities and capabilities of specific trauma service areas;
- State-designated Trauma Centers;
- Non-designated participating community hospitals;
- A Trauma Communications Center to determine and rapidly communicate Trauma System resources and capabilities;
- Trauma Registry and epidemiology for data-driven system compliance and performance improvement programs;
- Acute inpatient care (including emergency services, surgery and intensive care, mental health and social services);
- Rehabilitative services available statewide;
- Georgia Trauma System rules and regulations in place; and,
- Integration with disaster preparedness and medical surge capabilities planning.

Councils will use the guidance provided in the **Regional Trauma System Planning Framework ("the Framework")** as it is laid out in this document to develop regional Plans that encompass and describe the Georgia Trauma System, by region, as a continuum of care. This Framework is a planning guide for Plan development and includes guidance on the components, organization, and function of regional trauma systems.

The ultimate goal of Plan implementation and statewide integration is to make quick and equal access to the Georgia Trauma System available statewide to decrease trauma morbidity and mortality in each region and throughout Georgia. All Plans will comply with State Office of Emergency Medical Services and Trauma (OEMS&T) requirements.

Efforts are currently underway as of Summer 2009 to establish the State OEMS&T as the lead agency for trauma care and system regulation in the State of Georgia. Pending the Georgia Legislature's passage of Senate Bill 156[3], the State OEMS&T will serve as the lead agency for the Trauma Commission's efforts to formulate policy and establish guidelines to govern the development, operations, and evaluation of the Georgia Trauma System.

[3] State of Georgia. Legislature. Senate. Bill 156 (not enacted), An act to Amend Chapter 11 of Title 31 of the Official Code of Georgia Annotated [introduced in the Georgia Legislature 17 February 2009]. August 2009 http://www.legis.ga.gov/legis/2009_10/pdf/sb156.pdf

REGIONAL TRAUMA SYSTEM OVERVIEW

A regional trauma system requires an operational plan and an oversight body to define and describe the system's purpose, goals, and improvement processes and to maintain the plan's relevance. A Regional Trauma System Plan (or "Plan") organizes existing regional resources to provide a comprehensive trauma care system for patients from the moment of injury through rehabilitation. The Plan will include an injury prevention program specific to the region and based on regional injury data and trends. Such a plan should also identify areas of critical need and address solutions to filling these resource needs within the regional system.

Each Regional Trauma Advisory Council (or "Council") is responsible for Plan development and oversight in its respective region. All regional Plans will have similar purposes and program components, but will differ according to the assets and capabilities unique to the region. Specifically, the Trauma Communications Center will be a feature of communications components across all regions.

In order to decrease trauma morbidity and mortality throughout Georgia, the regional trauma systems will meet specific standards. These standards are common to all regional systems and will be reflected in all Plans. These are:

1. An injury prevention program specific to the region and based upon regional injury data and trends:
2. The ability to rapidly and accurately identify victims of incidents who have sustained or have a high probability of sustaining serious or life-threatening injuries and who are **"Trauma System patients";**
3. The ability to transport these Trauma System patients to a Georgia state-designated Trauma Center;
4. State-designated Trauma Centers will be capable of providing immediate and comprehensive assessment, resuscitation, and definitive care, plus establish rehabilitative care access when necessary;
5. Continuous and effective regional coordination of pre-hospital and hospital resources so that patients will get to the closest appropriate hospital with adequate resources to provide definitive care for the specific injury;
6. The ability to track all Trauma System patients beginning from the point of System entry;
7. The opportunity for all hospitals to participate in the Georgia Trauma System and to receive patients according to their available resources at any given time and according to their participation status in the Georgia Trauma System; and,
8. An effective regional performance improvement program to ensure a high statewide standard of care. The performance improvement program will be data-driven and will include evaluation of pre-hospital and hospital system participation and system plan efficacy. A standard pre-hospital patient encounter data set, unique System I.D. numbers, hospital (Trauma Registry) data and **participating hospital** system-status trend data will be used for uniform system

evaluation. The performance improvement program will comply with all state requirements governing data sharing at all levels.

REGIONAL TRAUMA SYSTEM PLANNING FRAMEWORK

Each regional trauma system will operate according to a Regional Trauma System Plan (or "Plan") developed by the region's Regional Trauma Advisory Council (or "Council"). The Plan will organize existing resources to provide a comprehensive trauma care system for patients from the moment of injury through rehabilitation.

To assist in developing regional Plans the Trauma Commission has developed this Framework document to guide regional plan development. The Framework is designed to address the Georgia Trauma Care Network Commission's strategic plan, "Our Emerging Vision—A New Public Service for Georgians," and suggested areas for improvement recognized during a trauma system review by the American College of Surgeon's Trauma System Consultation Program in January 2009.

The Trauma Commission will conduct a Pilot Project for Georgia Trauma System Regionalization in **EMS Region V** in order to test the Framework as a Plan development guide and to operationalize the Trauma Communications Center. The goals of the pilot are to:

- Introduce trauma system regionalization as a possible construct for Georgia Trauma System development;
- Test the Framework as a planning guide for a regional Council to develop a Plan;
- Operationalize the Trauma Communications Center as the interoperable, statewide communications component of the System;
- Identify and involve regional trauma system stakeholders including physicians, EMS, designated Trauma Centers, **non-designated participating hospitals**, hospital personnel, local governments, and the public in system planning;
- Revise the Framework as a regional planning guide pursuant to the results of the pilot evaluation; and,
- Recommend specific steps to expand the Georgia Trauma System statewide by way of introducing regional trauma system planning statewide and by extending the coverage area of the Trauma Communications Center.

A regional Plan that addresses all of the regional trauma system components and functions as listed in the Framework will serve as the operational plan for the regional trauma system. The Framework is divided into three parts. Part One addresses regional trauma system components and organization. It lists the roles and responsibilities of the pre-hospital, hospital, communications, performance improvement and Council components within the regional trauma system. Part Two addresses regional trauma system function. System function refers to the protocols and rules that should be developed for Trauma System entry, communications, operations, and system compliance and evaluation. Part Three addresses the need for Plan revision and calls for a routine plan review and revision process within each Plan. Appendix F provides a recommended step-by-step process to Plan development.

The Framework is a "living document" that is in its first iteration as of Summer 2009. The pilot project will test the Framework as a Plan development guide and will provide an opportunity for Framework improvement and evolution.

PART ONE: COMPONENTS AND ORGANIZATION

A regional trauma system is comprised of assets, capabilities, stakeholders and providers of a given trauma service area, organized to improve the area's ability to identify and then transport Trauma System patients to a designated Trauma Center. Transport time to definitive care is critical. The Trauma System patient's chances of survival are greatest the more quickly he or she receives treatment after the occurrence of a major multi-system trauma. Consistent achievement toward this goal requires that each system component be subject to a performance improvement process.

I. Pre-Hospital Component

EMS services are an integral part of the regional trauma system. The State OEMS&T EMS Rules and Regulations[4] will be the standard to which the pre-hospital component will adhere. This document establishes standards for ambulance services, medical first responder services, neonatal transport services and requirements for EMT programs.

In addition to these Rules and Regulations, regional Plans should require EMS services to inform all EMS personnel of the Plan and Georgia Trauma System. All licensed EMS personnel will be required to have a basic knowledge and awareness of regional Plan and trauma system function. They must have specific knowledge of Georgia **Trauma System Entry Criteria** and of the protocol for interaction with the Trauma Communications Center. This training should be institutionalized within EMS education and training for future/incoming EMS personnel.

As part of the pre-hospital component, EMS Regional Councils are assigned roles within the State OEMS&T EMS Rules and Regulations. The portion of this document relevant to EMS Regional Councils is appended to the Framework as Appendix C. EMS Regional Councils should ensure that the region has in place adequate mutual aid agreements to ensure regional EMS coverage at all times.

II. Hospital Component

Figure 1 shows the continuum of hospital participation in the Georgia Trauma System:

Figure 1

[4] Georgia Department of Community Health. Office of Emergency Medical Services and Trauma. *Rules and Regulations*. § 290-5-30-.06, 290-5-30-.07, 290-5-30-.08, 290-5-30-.09, 290-5-30-.12, 290-5-30-.13, 290-5-30-.14, 290-5-30-.15. 18 June 2009. Print.

Hospitals will participate in the Georgia Trauma System on a voluntary basis, either as state-designated Trauma Centers or as non-designated participating hospitals. Georgia Trauma Centers are designated by the State OEMS&T (see Appendix D) using standards based on the American College of Surgeons' Trauma Center Verification Standards.[5] Trauma Centers participating in the Georgia Trauma System may determine at any time whether their status is "system-open" (have adequate resources currently available and are able to receive Trauma System patients based on System operations protocols) "system-caution" (lack some primary resource availability but are able to receive Trauma System patients based on System operations protocols) or "system-closed" (have determined they do not have adequate resources currently available and have decided not to receive patients per System routine protocols). All Trauma Centers are able to broadcast their status as system-open, system-caution, or system-closed at will. A Trauma Center status record is a system performance point reviewed by the Council. Non-designated participating hospitals will accept patients according to service-line availability and will self-determine open, caution and closed status independently. A non-designated participating hospital status record is a system performance point reviewed by the Council.

Each participating hospital will have a point of contact designated 24/7 who is responsible for status determinations. The Council will review status records of participating hospitals as a performance improvement point. Each participating hospital must actively participate in Plan development and the regional performance improvement program.

Trauma Center Participation

Trauma Centers are de-facto participants in the Georgia Trauma System. The State OEMS&T has defined in policy the process for Trauma Center designation, re-designation and regulation. As a condition of designation, Trauma Centers will participate in regional trauma system planning and performance improvement. Appendices D and E contain all relevant information on the designation of Trauma Centers in the Georgia Trauma System. Appendix D provides detailed information on Trauma Program administration and Trauma Center designation, re-designation and status level changes. Appendix E is a Hospital Resources Checklist for Georgia Trauma Center Designation.

Non-Designated Hospital Participation

Non-designated participating hospitals are acute care community hospitals with emergency departments that have varying capabilities to receive and treat low acuity trauma patients. These hospitals will not receive Trauma System patients in transfer and their level of participation will be described in the Plan and reviewed by the Council. The Trauma Communications Center will not recommend transport of Trauma System patients to non-designated participating hospitals. These hospitals participate in the Georgia Trauma System by signing a letter of commitment indicating conditions of

[5] Resources for Optimal Care of the Injured Patient, American College of Surgeons-Committee on Trauma § Consultation/Verification Program (2006). Print.

participation. The advantage to non-designated hospitals of Trauma System participation is access through the Resource Availability Display to all other participating hospitals' service line availability and transfer assistance in the event they receive a Trauma System patient. Hospitals that do not participate in the Georgia Trauma System do not have access to hospital resource display through the Resource Availability Display.

III. Communications Component

The communications component is vital to the operation of the Georgia Trauma System as the link between all components of the System. Communications must provide:

1. Essential information regarding the status of pre-hospital capabilities and Trauma Center and non-designated participating hospital resource availability on a constant basis;
2. Access to Trauma System information i.e., regional protocols and Trauma System Entry Criteria;
3. A linkage between the injury scene and definitive hospital care for the rapid exchange of the injured patient care needs and the required resources; and,
4. Support for System-wide data collection to ensure System compliance for regional performance improvement activities.

Georgia Trauma Communications Center

The Trauma Communications Center coordinates Trauma System activities by maintaining and providing information on Trauma Center status and, when appropriate, on pre-hospital capabilities. This information is used to ensure that patients meeting Trauma System Entry Criteria have access to definitive trauma care at an appropriate level of state-designated Trauma Center. The Trauma Communications Center is continually staffed by personnel with specific and in-depth knowledge of Trauma System design, function, and protocols.

The Trauma Communications Center operates through statewide guidelines and region-specific protocols established by the Trauma Commission and the State OEMS&T. The Trauma Communications Center ONLY provides information and recommendations about patient destination as per pre-established regional protocols for System function. The Trauma Communications Center serves as an information resource for EMS providers, Trauma Centers and non-designated participating hospitals. The general functions of the Trauma Communications Center are to:

1. Provide information on System entry criteria based on statewide guidelines as requested by System stakeholders and providers;
2. Assign a unique System I.D. number for each patient meeting Trauma System Entry Criteria;
3. Collect brief pre-hospital database information;
4. Maintain available resource information and the functional status of all System Trauma Centers and non-designated participating hospitals at all times and, when appropriate, knowledge of System's pre-hospital capabilities;

5. Provide information regarding **secondary triage** status of the patient based on statewide guidelines and approved regional protocols;
6. Establish dependable communication link between field EMS provider and receiving facility;
7. Record and enter pre-hospital data for the **Trauma System Communications Database**;
8. Arrange inter-facility transfers of Trauma System patients between Trauma Centers and non-designated participating hospitals; and,
9. Coordinate communication for optimal resource utilization using pre-established statewide guidelines and regional protocols for medical surge during mass casualty incidents or public health emergencies in collaboration with the Department of Community Health Division of Preparedness and Response and the Georgia Emergency Management Agency (GEMA).

The data collection capabilities attributed to the Trauma Communications Center in the list above and the description of the Resource Availability Display below are based upon an information system not yet developed or purchased for Trauma Communications Center use. A proposed description of communications capabilities is included in this Framework in order to explain the Trauma Communications Center's role statewide and in regional trauma systems, but is subject to change based upon selection of an information system to serve the Trauma Communications Center.

Resource Availability Display

The **Resource Availability Display** (RAD) is the point of communication between hospitals and the Trauma Communications Center. An RAD terminal at each participating hospital provides the Trauma Communications Center with a continuous and real-time functional status display of all participating hospitals' capabilities.

Trauma Centers and non-designated participating hospitals have distinct display options for resource availability. Trauma Centers will use the RAD to display overall status as either "system-open", "system-caution" or "system-closed." These status labels will inform Trauma Communications Center destination recommendation to EMS providers based on state and regional protocols and EMS provider discretion. Non-designated participating hospitals will make RAD updates based upon the availability of specific service lines at the hospital. Such availability updates will enable the Trauma Communications Center to make informed patient transfer recommendations.

Participating hospitals are responsible for updating their respective resource displays. The Trauma Communications Center maintains a consolidated system-wide available resource database. All hospital status changes will be automatically communicated to the central system monitoring station at the Trauma Communications Center and to all other participating hospitals. All participating hospitals can view all other participating hospitals' status updates through the RAD. A record of participating hospitals' resource status over time will be available to each Council for regional performance improvement activities.

IV. Data-Driven Performance Improvement Component

The data-driven performance improvement component is essential to continued and overall Trauma System compliance and to the adequacy and improvement of regional Plans. Ongoing system compliance assessment and improvement is essential to ensure an optimal standard of care.

The State OEMS&T will oversee a statewide System performance improvement program by region. The state trauma performance improvement program and regional performance improvement programs will be codified in the Georgia Trauma System Rules and Regulations, which are currently under development. Regional system performance improvement is the responsibility of each Council. State and regional performance improvement programs will utilize, at a minimum, three data sets in order to develop and implement overall System improvements. These are:

1. The standardized pre-hospital dataset (EMS run data);
2. The Trauma Registry minimum data set maintained at each Trauma Center; and,
3. All data maintained and archived at the Trauma Communications Center (defined as the Trauma System Communications Database) including the unique System I.D. numbers assigned by the Trauma Communications Center and participating hospitals' history of resource availability.

The Councils will use these elements and others to develop performance improvement programs to monitor regional system compliance and performance. Regional Plans and transportation protocols are subject to change resulting from regional performance improvement review.

In addition to State and regional performance improvement programs, each participating hospital will conduct an internal performance improvement program.

The American College of Surgeons Committee on Trauma (ACS-COT) requires a structured effort by each designated trauma center to demonstrate a continuous process for improving care for injured patients,[6] and as is provided for in the performance improvement program specified above. Specific and regional audit filters for performance improvement will be determined. The ACS-COT document "Resources for Optimal Care of the Injured Patient"[7] recommends methods for data collection, performance review, corrective action, and performance re-evaluation, or "closing the loop." Non-designated participating hospitals will develop an internal performance improvement program consistent with the needs of the regional trauma system and as detailed in the regional Plan.

[6] Resources for Optimal Care of the Injured Patient, American College of Surgeons-Committee on Trauma § Performance Improvement and Patient Safety (2006). Print.

[7] *Ibid*

V. Regional Trauma Advisory Council

Councils will be established for the purpose of developing and maintaining the Plan and monitoring system compliance and improvement activities. Councils will ultimately report to the State OEMS&T. The relationship between Councils and the Trauma Commission has yet to be determined. It will, at a minimum, be advisory. Each Council will also:

1. Prevent injury by monitoring high incident areas, for example, and proposing solutions and follow-up plans to specific agencies. The Council will develop data-supported injury-prevention programs;
2. Monitor component compliance with the Plan;
3. Analyze system performance using data specified in the data-driven performance improvement component;
4. Evaluate regional trauma training needs;
5. Act as a forum for regional trauma issues to providers and consumers within the trauma care continuum;
6. Monitor hospitals' transfer agreements, proper use of diversion, **emergency department "wall time"** and holding patterns, etc.;
7. Identify additional Trauma Center and Trauma System capacity needs within the respective region;
8. Support non-designated participating hospitals to be brought up to Trauma Center designation status as determined; and,
9. Develop and monitor mutual aid agreements and activities to ensure region-wide EMS coverage at all times.

Council membership will represent all regional trauma system stakeholders including physicians, EMS, designated Trauma Centers, non-designated participating hospitals, hospital personnel, local governments, and the public. The Council will meet at least quarterly to oversee operation of the Plan but may meet more frequently as determined by system needs.

PART TWO: REGIONAL TRAUMA SYSTEM FUNCTION

The Regional Trauma Advisory Council (or "Council") will oversee function of its respective regional trauma system including the development and effectiveness of regional protocols for specific functions.

Within the Georgia Trauma System, patient management will follow this scenario:

1. Injury occurs;
2. **Primary triage** of patient by EMS provider who determines whether the patient meets Trauma System Entry Criteria (if EMS provider is unsure of entry criteria that information may be obtained immediately from the Trauma Communications Center);
3. If primary triage designates patient entry into Georgia Trauma System, the EMS provider establishes communication with the Trauma Communications Center and provides brief basic information on all patients who meet Trauma System Entry Criteria. All communications with the Trauma Communications Center are recorded;
4. **Secondary triage** including categorization of severity status, either physiologic, specific injury or mechanism is made by the EMS provider (with Trauma Communications Center assistance if necessary) on Trauma System patients;
5. Secondary triage, **regional destination protocols** and current Trauma Center activity status determine the Trauma Center destination recommendation from the Trauma Communications Center;
6. EMS field personnel will make transport destination decision and will inform the Trauma Communications Center of any resulting EMS capacity or coverage concerns;
7. A direct patched communications link between the Trauma Center and the EMS provider will be provided by the Trauma Communications Center. All communications are recorded;
8. Medical direction is established with the receiving Trauma Center by the communications link, if needed. Patient treatment orders are provided as needed;
9. Pre-hospital care is complete upon patient delivery to the destination Trauma Center;
10. If a patient who meets Trauma System Entry Criteria but has not been entered into the Trauma System arrives by EMS or private vehicle at a non-designated participating hospital, the hospital should notify the Trauma Communications Center and enter the patient in the Trauma System; and,
11. The Trauma Communications Center will, if requested, arrange inter-facility transfers of any patient meeting Trauma System Entry Criteria and from all non-designated participating hospitals.

Specific Trauma System functions are described in the following sections.

I. Trauma System Entry Criteria

To enter a patient into the Trauma System, the EMS provider will call the Trauma Communications Center both to enter the patient into the Trauma System and to obtain a Trauma Center destination recommendation. EMS providers make all final patient transport decisions.

Primary Triage

Primary triage, in this instance, refers to the decision as to whether a trauma patient meets Trauma System Entry Criteria. If the victim is a child, however, or is not in a stable enough condition to be transported to a Trauma Center, these decisions influence primary triage.

In general, the EMS provider should contact the Trauma Communications Center and enter the patient into the Trauma System if the patient meets Trauma System Entry Criteria. Trauma System Entry Criteria for the State of Georgia is described in detail in Appendix A. Considerations that supersede the basic primary triage decision are listed below.

If the victim is less than 15 years old:

Children under the age of 15 years have special trauma care needs. As a result of these special needs, patients in this age range will be directly transported to the closest available Pediatric Trauma Center or Trauma Center designated with "Pediatric Commitment" and if within regional transport-time guidelines.

If the victim is not in a stable condition:

In the following situations, the patient should be transported IMMEDIATELY to the closest hospital with full-time emergency physician coverage (preferably a Trauma Center); 1) The EMS provider is unable to effectively manage an airway or ventilate an unstable patient; 2) The EMS provider is unable to stop bleeding of a patient with severe hemorrhage; and, 3) The EMS provider is unable to establish/maintain an IV to provide volume resuscitation in an unstable hypovolemic patient.

II. Communication Protocols

After the primary triage decision that the patient meets Trauma System Entry Criteria and that no overriding considerations should supersede the basic primary triage decision, the EMS provider will contact the Trauma Communications Center at the earliest possible time and provide the following basic information in order to enter the patient into the Trauma System:

1. The communicating EMS provider's name and agency, unit number and county. If on-line medical direction is necessary, the receiving Trauma Center becomes medical direction. The Trauma Communications Center will help coordinate on-line medical direction with a physician immediately;

2. The geographic location of the injury event and current patient location;
3. Basic patient data including number of victims, age, and sex;
4. The number of individuals injured who meet Trauma System Entry Criteria and who should be entered into the Trauma System;
5. The specific Trauma System Entry Criteria that the patient meets including injury mechanism data and major anatomic injuries;
6. Vital signs, if able to be determined, of all patients entered into Georgia Trauma System including airway status, respiratory rate and pulse oximeter reading, blood pressure, and Glasgow Coma Score; and
7. The unit number of the transporting unit, mode of transport, and time of transport from the scene.

The Trauma Communications Center operator will offer available Trauma Centers as transport destination recommendations based on statewide guidelines, regional destination protocols, Trauma Center resource availability, and patient secondary triage. The final patient transport and destination decision will be made by the EMS provider. The Trauma Communications Center will connect the provider with the Trauma Center by voice communication for patient condition reporting, and will record the voice communication.

The Trauma Communications Center will generate a unique System I.D. number that the EMS provider should enter into the chart when generating the Patient Care Report. Upon assignment of a unique patient I.D. number, the patient becomes a Trauma System patient.

During transport of the Trauma System patient, EMS should notify the Trauma Communications Center of any change in the patient's condition. The transporting EMS personnel should update the receiving Trauma Center on patient's condition and arrival time five to ten minutes prior to arrival at the destination Trauma Center. After the patient is delivered to the Trauma Center, the transporting EMS unit should call the Trauma Communications Center with the Patient Care Report times.

III. System Operations

Secondary Triage

Secondary triage refers to the use of Trauma Communications Center and regional secondary triage protocols to determine Trauma Center destination once a patient has been entered into the Trauma System.

Regional secondary triage protocols are consistently reviewed for appropriateness by the Councils using;

1. The standardized pre-hospital dataset (EMS run data),
2. The Trauma Registry data maintained at each Trauma Center and downloaded to the OEMS&T; and,

3. All data maintained and archived at the Trauma Communications Center (this is the Trauma System Communications Database) including the unique System I.D. numbers assigned by the Trauma Communications Center and participating hospitals' history of resource availability.

The Trauma Communications Center coordinates the application of regional secondary triage protocols utilizing the patient assessment and **transport time** estimate provided by the EMS, combined with the current Trauma Center status as noted by updates maintained at the Trauma Communications Center to determine Trauma Center destination recommendation.

Secondary triage is based on physiologic status, mechanism of injury, and anatomic criteria and/or upon EMS provider discretion including the evaluation of co-morbid factors and distance from the site of injury to Trauma Center. State OEMS&T guidelines for secondary triage, which are currently being considered for official recommendation, are attached as Appendix B. These standards are based upon the field triage decision scheme recommendations of the Guidelines for Field Triage of Injured Patients Recommendations of the National Expert Panel on Field Triage[8].

Plans will include regional secondary triage protocols based upon the State OEMS&T guidelines and should address:

A. Regional Trauma Center(s) designation level(s) and System status, EMS transport times, and transport mode

B. Physiologic entry criteria
To be determined by the State OEMS&T and adapted regionally

C. Anatomic criteria—for patients with stable vital signs. For patients with unstable vital signs see physiologic entry criteria:
To be determined by the State OEMS&T and adapted regionally

D. Mechanism of injury criteria—for patients with stable vital signs. For patients with unstable vital signs see physiologic entry criteria:
To be determined by the State OEMS&T and adapted regionally

E. EMS provider discretion
To be determined by the State OEMS&T and adapted regionally

[8] Sasser, MD, Scott M., Richard C. Hunt, MD, Ernest E. Sullivant, MD, Marlene M. Wald, MLS, MPH, Jane Mitchko, MEd, Gregory J. Jurgovich, MD, Mark C. Henry, MD, Jeffrey P. Salomone, MD, Stewart C. Wang, MD, PhD, Robert L. Galli, MD, Arthur Cooper, MD, Lawrence H. Brown, MPH, and Richard W. Sattin, MD. "Guidelines for Field Triage of Injured Patients Recommendations of the National Expert Panel on Field Triage." *Morbidity and Mortality Weekly Report. MMWR Recommendations and Reports.* Center for Disease Control, 23 Jan. 2009. Web. 18 Aug. 2009. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5801a1.htm>.

F. Co-morbid factors
Any Trauma System patient who is stable but falls into certain categories may have a change in protocol:
Factors to be determined by the State OEMS&T and adapted regionally

Transport mode (ground versus air) is determined by the field EMS provider based upon established regional protocols. Based on pre-hospital activity and resource availability, the Trauma Communications Center may assist in coordination of patient scene transport mode.

Trauma Center Destination Recommendation
The Trauma Communications Center coordinates the application of regional secondary triage protocols utilizing the patient assessment and transport time estimate provided by EMS. This information combined with the current Trauma Center status as noted by updates maintained at the Trauma Communications Center is use to determine Trauma Center destination recommendation.

Trauma Centers will display status as "system-open", "system-caution" or "system-closed" based upon State OEMS&T guidelines and as reflected in Georgia Trauma Center designation standards and State Trauma System rules and regulations to be developed.

Protocols to guide the Trauma Communications Center recommendation of patient destination based on Trauma Center status will be regionally focused. As an example, Appendix G identifies the Birmingham regional protocol used by the Alabama Trauma Communications Center to recommend patient destination.

Role of Non-Designated Participating Hospitals in System Operation
Within the Georgia Trauma System, non-designated participating hospitals will continue to receive and treat trauma patients who do not meet Trauma System Entry Criteria when EMS performs primary triage according to hospitals' self-determined service line availability.

IV. Regional Trauma System Plan Compliance

Compliance with the system participation requirements and protocols is essential to correctly assess the effectiveness of the regional trauma system and of the Plan. All components' full compliance with the Plan is a requisite to judging system failures and considering Plan revision. Oversight of system compliance, participation and effectiveness of policies and protocols will be a function of each respective Council. Reports regarding system compliance, effectiveness, and improvement will be provided to the State OEMS&T and to the Trauma Commission.

Maintaining system component standards as established in the Regional Trauma System Plan

Pre-hospital Component Pre-hospital entities have the responsibility to ensure that individual EMS providers have a basic knowledge and awareness of the Trauma System including entry criteria and basic operations, and to comply with State EMS Rules and Regulations.

EMS Regional Councils will support EMS services in the region and will ensure the adequacy of mutual aid agreements to cover the region at all times.

Hospital Component Designated Trauma Centers must adhere to requirements and standards for their level of designation. They must also fulfill the roles and responsibilities assigned to them in the Plan, including the continuous update of RAD status.

Non-designated participating hospitals will fulfill their committed roles and responsibilities as detailed in the agreement signed with the Trauma Commission to include receipt and treatment of patients who do not meet Trauma System Entry Criteria when EMS performs primary triage according to service line availability.

Communications Component EMS, hospitals, and the Trauma Communications Center are responsible for maintaining in working order all communications equipment necessary for Georgia Trauma System function.

The Trauma Communications Center will fulfill all System obligations as assigned in the **Trauma Communications Center Operations Guide**, which is currently under development. The Trauma Communications Center will also be knowledgeable of all regional protocols governing interaction with the Trauma Communications Center and related to destination recommendation.

Data-Driven Performance Improvement Component Since state and regional performance improvement efforts depend upon data provided by individual system components, it is crucial that EMS and hospitals provide the appropriate data on the required basis as specified in the Plan. For EMS services this means providing the pre-hospital data set documentation to the Trauma Communications Center, and the pre-hospital patient care report to the receiving hospital. For Trauma Centers this means working with OEMS&T and their respective Regional Trauma Advisory Council to develop a regional trauma registry.

Trauma Centers must maintain their individual trauma performance improvement programs as specified by designation status or as described in the Plan. They are to provide reports of these activities to the Regional Trauma Advisory Councils on a timely basis as required.

Active participation in the regional trauma performance improvement program is expected. Individual components and agencies will support the focused review of identified and specific topics by providing all appropriate data and participating in the evaluation process.

Information (minimum registry data set, trauma death audit, etc.) is to be provided as required in a timely manner to the State OEMS&T. The State OEMS&T will communicate directly with individual agencies regarding any major performance improvement or compliance issues.

Regional Trauma Advisory Council The Council will establish membership composition, expectations of attendance and participation and will provide the forum for system compliance and performance review, protocol development and regional trauma plan revision.

Maintaining System Function as established in the Regional Trauma System Plan

Trauma System Entry Criteria as specifically defined in this Framework and by the State OEMS&T are to be used by EMS providers to determine patient entry into the Trauma System.

Communications protocols as outlined in the Plan are to be initiated and maintained by EMS services for entering patients into the Trauma System and determining Trauma Center destination recommendations. Participating hospitals have a responsibility to consistently update their resource and system status information to accurately represent current availability. EMS and hospital adherence to communications protocols provides the Trauma Communications Center with an accurate picture of available resources.

System operations are conducted by individual agencies and defined in state guidelines and regional protocols as per the Plan. Regional protocols will be in compliance with state guidelines and approved by State OEMS&T. Regional protocols will address use of secondary triage protocols to determine Trauma Center destination recommendations, accurate maintenance of system-open, system-caution, or system-closed Trauma Center status, and performance improvement and plan revision programs.

PART THREE: REGIONAL TRAUMA SYSTEM PLAN REVISION PROCESS

Regional trauma systems evolve and change over time as assets and capabilities change and as state and regional system performance improvement issues are identified. In order to accommodate system changes it is necessary that the Plan include a formal process for regular review and revision. It is recommended that this occur every two years, at a minimum.

All revisions to the Plan must comply with State rules and regulations governing each System component. The State OEMS&T may require Plan revision based upon changes to State OEMS&T Rules and Regulations or other identified circumstances. All Plan revisions will be considered and approved or rejected by the Council. Plan revisions should reflect state and regional system performance improvement recommendations, changes in regional assets and capabilities, and updates to State rules and regulations. State OEMS&T must approve all Plans.

Upon approval, Plan revisions should be incorporated into any relevant operational plans of the System components. The goal of regular Plan revision is to ensure that regional trauma systems are responsive and adaptable to changes in the Georgia Trauma System and to changes in other regional systems in order to maintain the highest standard of care.

GLOSSARY
of Georgia Trauma System Definitions

Emergency department "wall time"
Time spent by EMS personnel in an emergency department waiting to hand off transported patient to hospital personnel. A busy emergency department with limited beds and or staff to accept patients causes an increase in "wall time".

EMS Region
One of ten established geographic programmatic regions of the State of Georgia Office of Emergency Medical Services and Trauma within Georgia Department of Community Health.

Georgia Trauma Communications Center
A dedicated facility with specific functions that is staffed 24/7 by personnel with specific and in-depth knowledge of Trauma System design, function, and protocols, established to coordinate the needs of EMS providers responding to field incidents with the resource availability and capacity of hospitals participating in the Georgia Trauma System.

(Georgia) Trauma System
The collective body of regional trauma systems in the State of Georgia, organized to ensure statewide access to the highest standard of trauma care possible and implemented in order to decrease trauma morbidity and mortality throughout the State.

Major trauma center
A Level I or Level II Trauma Center as determined by the American College of Surgeons.

Non-designated participating hospital
An acute care Georgia licensed hospital with an emergency services department and varying specialty physician coverage and service line capabilities to treat, stabilize and admit low acuity trauma patients. These hospitals have signed a letter of commitment indicating Trauma System participation.

Non-participating hospital
A Georgia licensed hospital that has not signed a letter of commitment with the Georgia Trauma Commission indicating System participation and is not a designated Trauma Center.

Participating hospital
Any Trauma Center or non-designated participating hospital in the State of Georgia.

Performance improvement
A data-driven, documented, methodical and reviewable process for identifying and achieving component-specific, regional, or state-level system improvements.

Primary triage
The decision as to whether a patient meets Georgia Trauma System Entry Criteria.

Region
Any trauma service area—for the purpose of the pilot, this is EMS Region V.

Regional Trauma Advisory Council ("Council")
A body endorsed by the Georgia Trauma Commission within a trauma service area to develop, implement, and oversee a Regional Trauma System Plan.

Regional trauma system
Assets, capabilities, stakeholders and providers of a given trauma service area, organized to improve the area's ability to identify and then transport Trauma System patients to an appropriate hospital for definitive care within an optimal time.

Regional Trauma System Plan ("Plan")
A document developed by and for a Regional Trauma Advisory Council that specifies and formalizes the relationships between the various regional trauma system components.

Regional Trauma System Planning Framework ("Framework")
A document put forth by the Georgia Trauma Commission to be used as a planning guide for regional trauma system plan development. The Framework sets forth components and functions necessary for operation of a regional trauma system.

Resource Availability Display (RAD)
A computer system screen, which indicates the system-open status for Trauma Centers and resource (service line) availability for each participating hospital in the Georgia Trauma System. RAD terminals are limited to participating hospitals and the Trauma Communications Center.

Secondary triage
A process which considers the physiologic, anatomic, mechanism of injury, EMS provider discretion, or co-morbid criteria and region-specific trauma transport protocols used to determine the transport destination recommendations made by the Trauma Communications Center for EMS.

Transfer center
A hospital-based location tasked to arrange patient transfer into and out of the particular hospital.

Transport time
Amount of time estimated between scene departure and destination hospital considering the mode of transport, weather, traffic, and other variables.

Trauma Center
A Georgia licensed hospital designated by the State Office of EMS & Trauma as a Level

I, II, III, or IV trauma facility. State designation standards are extrapolated from the American College of Surgeons Committee on Trauma, Trauma Center Verification Standards.

Trauma Communications Center Operations Guide
A document containing all functional protocols for Trauma Communications Center interaction with regional system components.

Trauma service area
A geographic area, which accommodates overlapping and traditional hospitals' and Trauma Centers' patient catchment areas and incorporates statewide EMS Regional infrastructure. A trauma service area may or may not be the same as an EMS Region; however, it is an area that participates in common regional trauma system development and planning activities.

Trauma System Communications Database
The collective data set of all information gathered by the Georgia Trauma Communications Center including the patient unique system I.D. numbers and participating hospitals' available resource status history.

Trauma System Entry Criteria
Primary triage criteria: See Appendix A.

Trauma System patient
A trauma patient for whom the primary triage decision determined Trauma System entry and who has been assigned a unique System I.D. number by the Trauma Communications Center and is thereby entered into the Georgia Trauma System.

APPENDIX A

GEORGIA TRAUMA SYSTEM ENTRY CRITERIA

Tool for Primary Triage

The Georgia Trauma System Entry Criteria are largely adopted from the U.S. Department of Health and Human Services Center for Disease Control and Prevention National Triage Protocol.

PRIMARY TRIAGE DECISION SCHEME*

GEORGIA TRAUMA SYSTEM

1

Measure vital signs and level of consciousness

Glasgow Coma Scale	≤ 13 or
Systolic blood pressure	< 90 or
Respiratory rate	< 10 or > 29 (<20 in infant < one year)

YES

Steps 1 and 2 attempt to identify the most seriously injured patients. These patients meet *Georgia Trauma System Entry Criteria*.
Take to a trauma center.

NO

Assess anatomy of injury

2

- All penetrating injuries of the head, neck, torso, or groin associated with an energy transfer
- Flail chest
- Two or more obvious proximal long-bone fractures
- Crushed, degloved, or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures, as evidenced by a positive exam
- Open or depressed skull fracture
- Paralysis

YES

Steps 1 and 2 attempt to identify the most seriously injured patients. These patients meet *Georgia Trauma System Entry Criteria.*
Take to a trauma center.

NO

Assess evidence of high-energy impact

3

Falls
- Adults: > 20 ft. (one story is equal to 10 ft.)
- Children: > 10 ft. or 2-3 times the height of the child

High-Risk Auto Crash
- Intrusion: > 12 in. occupant site; > 18 in. any site
- Ejection (partial or complete) from automobile
- Death in same passenger compartment
- Vehicle telemetry data consistent with high risk of injury

Auto v. Pedestrian/Bicyclist Thrown, Run Over, or with Significant (>20 MPH) Impact

Motorcycle Crash > 20 MPH

YES

These patients meet *Georgia Trauma System Entry Criteria.*
Take to a trauma center.

NO

Assess special patient or system considerations

4

Age
- Older Adults: risk of injury death increases after age 55
- Children: Should be triaged preferentially to pediatric-capable trauma centers

Anticoagulation and Bleeding Disorders

Burn
- Without other trauma mechanism: Triage to burn facility
- With trauma mechanism: Triage to trauma center

Time Sensitive Extremity Injury

End-Stage Renal Disease Requiring Dialysis

Pregnancy > 20 Weeks

EMS Provider Judgment *(to include known patient medical history)*

YES

These patients meet *Georgia Trauma System Entry Criteria.*
Take to a trauma center OR other appropriate hospital identified in protocols.

NO

Transport according to protocol

*Adopted largely from the National Trauma Triage Protocol of the U.S. Department of Health and Human Services Centers for Disease Control and Prevention

When in doubt, transport to a trauma center.

APPENDIX B

STATE OF GEORGIA GUIDELINES FOR TRAUMA CENTER DESTINATION

Tool for Secondary Triage

These guidelines are established under the authority of the Georgia Trauma Care Network Commission by the Georgia Committee on Trauma Excellence.

STATE OF GEORGIA GUIDELINES FOR TRAUMA CENTER DESTINATION

1. Measure vital signs and level of conciousness

Glascow Coma Scale ≤ 13 or Systolic blood pressure < 90 or Respiratory rate < 10 or > 29 (<20 in infant < 1)

Transport to Level I or II Trauma Center

2. Assess anatomy of injury

a.

- All penetrating injuries to head, neck, torso and extremities proximal to elbow and knee
- Crushed, degloved, or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures
- Open and depressed skull fractures
- Paralysis

Transport to Level I or II Trauma Center

b.

- Flail Chest
- Two or more proximal long bone fractures

Transport to Level I, II, or III Trauma Center

3. Assess Mechanism of Injury and evidence of high-energy impact

Falls

- Adults > 20 ft (one story is equal to 10 ft)
- Children > 10 ft or 2-3 times height of Child

High Risk Auto Crash

- Intrusion > 12 in. occupant side; 18 in. any side
- Ejection (partial or complete) from automobile
- Death in same passenger compartment
- Vehicle telemetry data consistent with high risk or injury

Auto vs. Pedestrian/ Bicyclist thrown, run over, or with significant (>20mph) impact
Motorcycle crash > 20 mph

Transport to Level I, II, or III or IV Trauma Center

4.

Age

- Older Adults: risk of injury death increases after age 55
- Children: Should be triaged preferentially to pediatric-capable trauma centers

Anticoagulation and Bleeding Disorders
Burns
Time Sensitive extremity injury
End-stage renal disease requiring dialysis
Pregnancy > 20 weeks
EMS Provider Judgement

Transport to Participating Hospital with appropriate capabilities

APPENDIX C

GEORGIA OFFICE OF EMERGENCY MEDICAL SERVICES AND TRAUMA

Rules and Regulations

Sections 290-5-30-.01 and 290-5-30-.03

290-5-30-.01 Purpose.

(1) Under the authority of the O.C.G.A. Chapter 31-11, these rules establish standards for ambulance services, medical first responder services, neonatal transport services, designation of trauma centers and base station facilities, training and licensing requirements for medics, instructor licensing and course approval requirements for emergency medical technician, cardiac technician and paramedic training programs, and others as may be related to O.C.G.A. Chapter 31-11. These rules shall be reviewed at a minimum of every four years by the State Office of EMS and revised as necessary.

(2) The Director or Medical Director of the Office of Emergency Medical Services/Trauma has the authority to waive any rule, procedure, or policy in the event of a public health emergency in order to provide timely critical care and transportation to the injured or ill. Such waiver shall be in writing and filed with the Director of the Division of Public Health.

Authority O.C.G.A. Secs. 31-2-4, 31-11-1, 31-11-2, 31-11-5. **History.** Original Rule entitled "Definitions" adopted. F. May 29, 1973; eff. July 1, 1973, as specified by the Agency. **Repealed:** New Rule of same title adopted. F. Aug. 28, 1979; eff. Oct. 15, 1979, as specified by the Agency. **Amended:** F. June 22, 1981; eff. July 22, 1981, as specified by the Agency. **Repealed:** New Rule of same title adopted. F. Aug. 21, 1986; eff. Sept. 10, 1986. **Repealed:** New Rule entitled "Purpose" adopted. F. Oct. 21, 1993; eff. Nov. 10, 1993. **Repealed:** New Rule of same title adopted. F. Feb. 25, 2005; eff. Mar. 17, 2005. **Repealed:** New Rule of same title adopted. F. May 29, 2009; eff. June 18, 2009.

290-5-30-.03 Emergency Medical Services Advisory Councils.

(1) **Emergency Medical Services Advisory Council (EMSAC)**

(a) Purpose. Pursuant to the provisions of O.C.G.A. Section 50-4-4 and Department of Human Resources Administrative Order #9 there is established an Emergency Medical Services Advisory Council to the department. The purpose of this council is to advise the department in matters essential to its operations with respect to emergency medical services system.

(b) General Provisions.

1. Council recommendations are advisory and are not binding on the department or agencies under contract to the department.

2. The Council shall be composed of members who collectively are knowledgeable in the field of emergency medical service systems and all components thereof, who represent a broad section of Georgia's citizens, including consumers of services, providers of services, and recognized experts in the field.

3. Members shall be appointed by the commissioner, subject to approval of the board, for a term specified in the council bylaws.

4. The Council shall adopt bylaws for its self-government subject to the approval of the department and shall conduct its business according to established rules of order in keeping with the Georgia Open Records Act. Said bylaws shall address frequency of meetings, recording of minutes, creation and function of committees, and other issues relevant to the function of an advisory council.

5. Staff assistance and expenses essential to the operations of the Council shall be provided from the resources of the Division of Public Health and are subject to the Division's approval.

6. Responsibilities shall include, but not be limited to: reviewing and providing comment on legislative activities, standards, and policies which affect those persons, services, or agencies regulated under these rules and O.C.G.A. Chapter 31-11; and, participating as an advocacy body to improve Georgia's statewide emergency medical services systems and all components thereof.

(2) **Emergency Medical Services Medical Directors Advisory Council (EMSMDAC).**

(a) Purpose. The Department shall establish an Emergency Medical Services Medical Directors Advisory Council (EMSMDAC) to advise the OEMS on issues essential to its operation related to medical direction of the EMS system.

(b) General Provisions.

1. The council members shall be appointed by the commissioner, subject to approval of the Board, for a term specified in council bylaws.

2. The Council shall be composed of physician members who collectively are knowledgeable in the field of EMS systems and all components thereof, and who represent a broad section of the Georgia's EMS programs and the medical community.

3. The Council shall adopt bylaws for its self-government subject to the approval of the department and shall conduct its business according to established rules of order, in keeping with the Georgia Open Records Act. Said bylaws shall address frequency of meetings, recording of minutes, creation and function of committees, and other issues relevant to the function of an advisory council.

(c) Responsibilities of EMSMDAC shall include, but not be limited to:

1. Act as a liaison with the medical community, medical facilities, and appropriate governmental entities;

2. Advise and provide consultation to OEMS on practice issues related to the care delivered by entities and personnel under the jurisdiction of the OEMS;

3. Advise on and review matters of medical direction and training in conformity with accepted emergency medical practices and procedures;

4. Recommend and review policies and procedures affecting patient care rendered by Emergency Medical Services personnel;

5. Advise on the scope and extent of EMS practice for the emergency medical services of Georgia;

6. Advise on the formulation of medical, communication and emergency transportation protocols; and

7. Advise on quality improvement issues related to patient care rendered by Emergency Medical Services personnel.

(3) **Regional Emergency Medical Services Council.**

(a) Purpose. The board shall have the authority on behalf of the state to designate a public or nonprofit local entity to coordinate and administer the regional ambulance zoning plan (Emergency Medical Systems Communication Program), provide the guidance for developing the regional emergency medical services communication plan, make recommendations for the designation of base station facilities, make recommendations for the designation of trauma centers and to serve in an advisory capacity to the department and to perform other duties as directed by the department. Upon approval of the regional EMS council bylaws, the board will ensure that the council will be composed of individuals who are both knowledgeable or interested in the emergency medical services system and representative of the interest of a broad cross-section of the health district's citizens including consumers, private health care providers, public health care providers, and governmental entities.

(b) Duties of the Regional EMS Council shall include:

1. Recommend to the board or its designee the Regional Ambulance Zoning Plan.

2. Develop the Regional Emergency Medical Services Communications Plan.

3. Recommend to the board or its designee the designation of Base Station Facilities.

4. Recommend to the Board or its designee the designation and redesignation of Trauma Centers as specified in department policy and in these Rules.

5. Make other recommendations or provide other functions as directed by the department, rules and regulations or statute.

6. Recommendations. Regional EMS council recommendations directed to the department are advisory and not binding to the department unless expressly stated otherwise in statute or these rules and regulations.

Authority O.C.G.A. Secs. 31-2-4, 31-11-1, 31-11-5, 31-11-60.1, 50-4-4. **History.** Original Rule entitled "License" adopted. F. May 29, 1973; eff. July 1, 1973, as specified by the Agency. **Repealed:** New Rule of same title adopted. F. Aug. 28, 1979; eff. Oct. 15, 1979, as specified by the Agency. **Repealed:** New Rule entitled "Licensure" adopted. F. Aug. 21, 1986; eff. Sept. 10, 1986. **Repealed:** New Rule entitled "Emergency Medical Services Advisory Council (EMSAC)" adopted. F. Oct. 21, 1993; eff. Nov. 10, 1993. **Repealed:** New Rule of same title adopted. F. Feb. 25, 2005; eff. Mar. 17, 2005. **Repealed:** New Rule entitled "Emergency Medical Services Advisory Council" adopted. F. May 29, 2009; eff. June 18, 2009.

APPENDIX D

STATE OFFICE OF EMERGENCY MEDICAL SERVICES AND TRAUMA

Trauma Program Administration, Trauma Center Designation, Inspection, Re-Designation (Renewal) Suspension, Withdrawal and Status Level Changes

N.B. –The Division of Public Health became a division of the Department of Community Health effective 2009. This document is pending official approval from the Department of Community Health

SUBJECT: Trauma Program Administration, Trauma Center Designation, Inspection, Re-Designation (Renewal), Suspension, Withdrawal and Status Level Changes

I. PROCEDURE:

This document sets forth the procedures and processes for state trauma program administration including trauma facility designation, inspections, supporting site visits, participation renewals, status level participation changes, withdrawal and/or suspension of participants.

II. DEFINITIONS

This section provides a standard set of definitions related to the trauma program.

A. American College of Surgeons (ACS) - A scientific and educational association of surgeons that was founded in 1913 to improve the quality of care for the surgical patient by setting high standards for surgical education and practice. Through its Committee on Trauma, ACS works to improve the care of injured and critically ill patients before, en route to, and during hospitalization. ACS maintains a voluntary verification / consultation program for trauma centers and trauma systems. The ACS program and its publications substantially contribute to the foundation for Georgia's statewide trauma system.

B. Committee on Trauma, American College of Surgeons - *Resources for Optimal Care of the Injured Patient:* (current edition) (ACS Publication). United States. A primary definitive resource published by the ACS, which describes an idealized trauma system and its' associated components. This publication provides guidelines for optimal care as well as a verification process whereby facilities can be evaluated to determine whether ACS criteria are being met.

C. Critical Program Variance – Failure to maintain conformance to contractual participation guidelines or guidelines established by the ACS as mediated for State operating conditions by the State EMS / Trauma Medical Director. Critical program variances, once identified in writing to participants, must be resolved within 180 calendar days of notification.

D. Georgia Trauma System – A voluntary system, based upon a participation contract, coordinated by the Georgia Office of Emergency Medical Services and Trauma (OEMS) which is designed to provide an organized, preplanned response to patients who have suffered a traumatic injury. The structure of the statewide trauma care system involves facilities, personnel, and processes, each of which must be adapted to a specific environment, both urban and rural. This system helps to assure optimal pre-hospital, in-hospital

and rehabilitation care through strategic performance improvement as well as an efficient use of statewide health care resources.

E. Level I Trauma Facility – Level I is the highest level of trauma center designation and offers the greatest level of comprehensive trauma care, from prevention through rehabilitation. Level I facilities have the major responsibility for leading in trauma education, research and planning. Most facilities that meet Level I criteria will be academic facilities. Level I facilities are expected to meet other specific criteria as set forth in Form L-07K (Hospital Resource Checklist) of this procedure which enables its qualification by the OEMS as a Level I facility.

F. Level II Trauma Facility – Level II facilities generally can provide the same level of clinical care as a Level I, but usually do not have the focus on research, education and systems planning. Some patients with very complex injuries may require transfer to a Level I center. Level II facilities are expected to meet other specific criteria as set forth in Form L-07K (Hospital Resource Checklist) of this procedure which enables its qualification by the OEMS as a Level II facility.

G. Level III Trauma Facility – Level III facilities provide trauma assessment, resuscitation, emergency surgery, stabilization and if needed, transfer of patients requiring more definitive care to Level II or Level I centers. Level III facilities must meet other specific criteria as set forth in Form L-07K (Hospital Resource Checklist) of this procedure which enables its qualification by the OEMS as a Level III facility.

H. Level IV Trauma Facility – Level IV facilities provide advanced life support prior to patient transport in rural areas where no higher-level facility is available. Level IV centers can be a clinic or hospital in a remote area and may or may not have a physician available 24 hours a day. Level IV facilities must meet other specific criteria as set forth in Form L-07K (Hospital Resource Checklist) of this procedure which enables its qualification by the OEMS as a Level IV facility.

I. Non-Critical Program Variance – A noted lack of conformance to the guidelines established by the American College of Surgeons which in the view of the OEMS Medical Director is permissible due to statewide operating conditions. It is recognized that the ACS program guidelines are idealized and must be interpreted and applied based upon a consistent application of medical practitioner knowledge. Non-critical program variances are identified in writing to participants so that they can evaluate their performance against the ACS idealized standard.

J. Non-Designated Participant Facility – A facility, which desires to participate in the statewide trauma system, receives information or contributes data, but has not received designation by the OEMS. Non-designated participant facilities are permitted programmatic participation at the sole discretion of the OEMS.

K. Participation Contract – Upon successful completion of the requirements for Trauma Center Designation at the determined level and the final approval by the Director of Public Health, a contract between the State of Georgia and the participating trauma facility is written. This contract sets forth the agreement and conditions for participation in the Georgia Trauma System. The agreement also contains the specific programmatic reporting requirements for state trauma system participation.

L. Participant Information Package – This package contains descriptive information about the State's trauma system, a copy of this procedure and attachments, and applicable ACS publications.

M. Trauma – A term derived from the Greek word for "wound". Trauma is a disease characterized by the injury to the body caused by intentional or unintentional acute exposure to mechanical, thermal, electrical, radiation, or chemical agents.

N. Trauma Facility Site Review Team – A minimum three person team constituted by the OEMS which includes a trauma surgeon, an emergency medicine physician and a trauma coordinator. A representative from OEMS will act as facilitator on behalf of the State of Georgia. The site team may be composed of in-state or out-of-state reviewers that will be selected by the OEMS Medical Director and Trauma Systems Manager. Reviewers will not have any current affiliation with the facility that they are reviewing.

O. Trauma Registry – An aggregated database containing patient information which meets the Trauma Registry Reporting Definition received from participating trauma facilities providing quarterly updates of trauma patients' hospital medical records to be used to support research, policy evaluation, performance improvement initiatives and to identify injury prevention needs intended to reduce morbidity and mortality.

P. Trauma Registry Reporting Definition - In Georgia, the trauma registry reporting definition specifically includes all patients with at least one injury or suspected injury (ICD-9) diagnosis code between 800.00 and 959.9, including 940 (burns) when those burns are associated with other reportable injuries. Isolated burns are not included in this registry. Trauma excludes ICD-9 codes 905-909 (late effects of injuries), 910-924 (blisters, contusions, abrasions, and insect bites), 930-939 (foreign bodies), and patients older than 65 years who were admitted with isolated hip fractures as a result of a same-level fall, and/or patients that have a minimum length of hospital stay of less than 48 hours unless dead or transferred. This definition is intended to include those patients who meet the above criteria who were transferred to or from another facility, died, regardless of length of hospital stay, admitted to the ICU, regardless of length of stay, DOA's (dead on arrivals) and unscheduled re-admissions, associated with trauma, within 72 hours of discharge from a first visit.

III. STATE TRAUMA SYSTEM ADMINISTRATION

A. The OEMS is responsible for the administration, leadership, authority, planning, development and continuous improvement of the statewide trauma system components.
   1. The OEMS will establish and maintain the administrative procedures and processes associated with statewide trauma system operations.
   2. Procedures and processes will be substantially based upon applicable ACS criteria as mediated by guidance from the State EMS Medical Director.
   3. The Forms attached to this policy can be updated at any time based upon a review by the OEMS Medical Director, OEMS Director or designee. Implementation of may be based upon a new effective date and signature without a review of this procedure.
   4. The OEMS is responsible for the timely promulgation of procedural changes to trauma system participants.

B. The OEMS will coordinate the designation, contract participation, inspection, renewal, and suspension or any changes in level status with each trauma center in the Georgia Trauma System.
   1. The OEMS will conduct an on-going program of public contact and research to insure that statewide interests are being appropriately recognized and served.
   2. The OEMS will participate in trauma-related professional activities consistent with its annual trauma plan.

C. The OEMS will analyze and publish data on at least an annual basis.
   1. The OEMS will designate, by procedure, the manner and mechanism of statewide trauma data collection and reporting.
   2. The OEMS will update and publish a statewide trauma plan when appropriate. This schedule may be modified if a grant participation requires; however, the intent of the policy is that a new or updated plan is articulated on a periodic basis.

D. The statewide trauma plan will establish the strategic direction, performance improvement objectives, and timetable for trauma publication and research activities.
   1. The statewide trauma plan will document permissible, non-critical program variances, which may be permitted from the ACS trauma system plan. Updates to non-critical program variances will require a revision to the forms attached to this procedure, as warranted.
   2. The statewide trauma plan will contain a mechanism for annual update and supplementation, as required.

IV. TRAUMA FACILITY DESIGNATION

A. Facilities seeking participation in the Georgia Trauma System as a designated trauma center must notify the appropriate Regional EMS Council and receive the Council's approval before making formal application to the OEMS/Trauma.

B. Upon approval by the Regional EMS Council, the Council will appoint the Office of EMS/Trauma (Trauma Manager) as the facilitator of the process for designation.

C. The facility must appoint a Trauma Coordinator and a Trauma Medical Director. These individuals will provide leadership for the development of the trauma program and for the communication with the OEMS/Trauma.

D. The facility must obtain a registry program approved by the OEMS/Trauma, implement the registry into their trauma program development and collect data into the approved registry. Data must be entered into the registry for a period of time, no less than ninety (90) business days. This data will then be submitted to the OEMS/Trauma for review and approval.

E. Facilities seeking participation in the Georgia Trauma System must make written application to the OEMS/Trauma by completing Form L-07A (Pre-Review Questionnaire for Trauma Center Designation).

F. Upon receipt of the written application, the OEMS/Trauma will review it to insure the clarity and completeness of information. Applications that contain unclear or incomplete information will be returned to the applicant facility within thirty (30) business days requesting amendment. Receipt of a completed application will be considered as an applicant's letter of intent for state trauma system participation.

G. Upon the determination that the application is complete, the OEMS/Trauma will appoint a Trauma Facility Site Review Team and coordinate arrangements for a site review.

   1. Prior to the facility inspection, the Site Review Team will receive the applicant's application along with a copy of this procedure and related forms regarding designation guidelines.
   2. The Site Review Team will utilize Form L-07M (Trauma Center Site Review Summary) for facility inspection and designation.
   3. The trauma facility will be inspected according to the applicable sections of this policy. The Site Review Team will complete all applicable sections of Form L-07K (Hospital Resource Checklist) and Form L-07M (Trauma Center Site Review Summary).
   4. An OEMS/Trauma representative will review the completed Form L-07M (Trauma Center Site Review Summary) and Form L-07K (Hospital Resource Checklist) with the applicant at the completion of the site visit.

5. On a post inspection basis, the OEMS/Trauma will maintain a record of the completed and acted upon application, Form L-07J (Pre-Review Questionnaire for Trauma Center Re-designation and Upgrade) and Form L-07M (Trauma Center Site Review Summary) and L-07K (Hospital Resource Checklist), including facility variance findings and recommendations.
6. The OEMS/Trauma Medical Director or Trauma Manager will submit the findings and recommendations of the site review team to the Director of the Division of Public Health for approval or denial of trauma center designation.
7. Final outcomes will be made in writing to the facilities and to the Regional EMS Offices within 30 days of the site visit.

H. Decisions to designate will result in the execution of a standard trauma facility contract process containing the noted critical and non-critical variances approved by the OEMS/Trauma Medical Director.
1. The Director of the Division of Public Health will issue a letter of decision to the CEO/Administrator/president of the facility and will copy involved parties as well as the Regional EMS Council representing the facility.
2. The Director of the Division of Public Health will act upon the recommendation of the OEMS/Trauma Medical Director in compliance with O.C.G.A. § 31-11.

V. TRAUMA FACILITY PERIODIC REVIEWS

A. The OEMS/Trauma will maintain an active program of participant trauma facility periodic reviews and site visits to promulgate information and insure trauma system program compliance.
1. Each participating trauma facility will receive a periodic review including visitation on at least an annual basis.
2. Trauma facility site visits will be structured as outlined in Form L-07L (Trauma Facility Periodic Review). Applicable sections of this form will be completed during each site visit.
3. A signed copy of Form L-07L (Trauma Facility Periodic Review*)* will be provided to the facility and the Regional EMS Office upon the completion of each visit.
4. Trauma Facility Periodic Review Reports, which indicate evidence or findings of critical program variances, will be reviewed by the OEMS/Trauma Medical Director, Trauma Manager and/or Registrar

VI. TRAUMA FACILITY REDESIGNATION

A. Each trauma facility must undergo a renewal process beginning no later than ninety (90) business days prior to designation expiration.
1. The trauma center re-designation process will consist of the facility's completion of Form L-07J (Pre-review Questionnaire for

Trauma Center Re-designation and Upgrade). This application, along with quarterly and annual reports, will be reviewed by the Trauma Systems Manager and other appropriate OEMS/Trauma staff.

2. It is intended that State designated trauma centers be inspected at least every three (3) years based upon the date of the initial designation inspection report. A trauma facility re-inspection will occur if:
   a. The date of the inspection on file is more than three years old;
   b. The facility has requested a status level change; or
   c. If serious deficiencies or variances have been reported to OEMS/Trauma.

VII. TRAUMA FACILITY UPGRADE

A. Any facility designated as a trauma center (level II or below) in the State of Georgia may apply to upgrade the level of trauma center designation if they have maintained compliance with all the provisions required for that facility. No critical variances will be present, and data downloads must be current at the time of application for upgrade.

B. The facility requesting upgrade to a higher level of designation must notify the appropriate Regional EMS Council of their intent to change the level of designation for their facility.

C. Upon approval of the Regional EMS Council, the Council will appoint the OEMS/Trauma to facilitate the upgrade process.

D. A completed Form L-07J (Pre-Review Questionnaire for Trauma Center Re- Designation and Upgrade) must be submitted to the OEMS/Trauma for review.

E. Upon receipt of the written application, the OEMS/Trauma will review it to insure the clarity and completeness of information. Applications that contain unclear or incomplete information will be returned to the applicant facility within thirty (30) business days requesting amendment. Receipt of a completed application will be considered as an applicant's letter of intent for State trauma system participation.

F. Upon determination that the application is complete, the OEMS/Trauma will appoint a Trauma Facility Site Review Team and coordinate arrangements for a site review.
   1. Prior to the facility inspection, the Site Review Team will receive the applicant's application along with a copy of this procedure and associated attachments regarding designation guidelines.
   2. The Site Review Team will utilize Form L-07K (Hospital Resource Checklist) for facility inspection and designation.
   3. The trauma facility will be inspected according to the applicable sections of this policy. The Site Review Team will complete all

applicable sections of Form L-07M (Trauma Center Site Review Summary).

4. An OEMS/Trauma representative will review the completed Form L-07M (Trauma Center Site Review Summary) and Form L-07K (Hospital Resource Checklist) with the applicant at the completion of the site visit.
5. On a post inspection basis, the OEMS/Trauma will maintain a record of the completed and acted upon application Form L-07J (Pre-Review Questionnaire for Trauma Center Re- Designation and Upgrade), Form L-07K (Hospital Resource Checklist) and Form L-07M Trauma Center Site Review Summary), including facility variance findings and recommendations.
6. The OEMS/Trauma Medical Director will submit the findings and recommendations of the site review team to the Director of the Division of Public Health for approval or denial of trauma center designation.
7. Final outcomes will be made in writing to the facilities and to the Regional EMS Offices within 30 days of the site visit.

G. Decisions to designate will result in the execution of a standard trauma facility contract process containing the noted critical and non-critical variances approved by the OEMS/Trauma Medical Director.

1. The Director of the Division of Public Health will issue a letter of decision to the CEO/Administrator/president of the facility and will copy involved parties as well as the Regional EMS Council representing the facility.
2. The Director of the Division of Public Health will act upon the recommendation of the OEMS/Trauma Medical Director in compliance with O.C.G.A. § 31-11.

VIII. TRAUMA FACILITY STATUS LEVEL PARTICIPATION CHANGES AND WITHDRAWAL

A. Trauma facilities may request in writing to the OEMS/Trauma Medical Director a status level change. Requests for status level changes will be acted upon by the OEMS/Trauma within thirty (30) business days of receipt.

B. Trauma facilities may request in writing to withdraw from participation in the State trauma system. Requests for withdrawal will result in promulgation of updated information within thirty (30) business days of the OEMS receiving such request.

IX. OEMS MEDICAL DIRECTOR REVIEWS, TRAUMA FACILTY SUSPENSION OR DE-RECOGNITION

A. The OEMS/Trauma Medical Director may act to suspend participation or de-designate any facility that fails to comply with state trauma system

participation obligations. Suspension would take place if a facility failed to comply with guidelines set forth under *Trauma Center Designation* and or the contract obligations that were agreed to by the designated facility. The suspension period would be based on the specific variance and the appropriate time needed to correct the variance. De-designation would result if the facility chose not to respond to the identified variances in the appropriate time or action stated. The OEMS/Trauma Medical Director will review Form L-07L (Trauma Facility Periodic Review). Any Periodic review reports that indicate evidence or findings of critical program variances will require an automatic administrative review by the Medical Director, Trauma Systems Manager and if requested by the Medical Director, the Medical Review Committee (medical sub-committee of the Trauma Systems Development Committee).

1. Trauma facilities will be notified in writing regarding any evidence, belief or finding of critical program variance contained in Form L-07L (Trauma Facility Periodic Review). This notification will be within ten (10) business days of the periodic review report. Items of non-critical variance will be documented; however, no actions are specifically required unless deemed necessary by the OEMS/Trauma Medical Director.
2. Failure to resolve a critical program variance(s) to the satisfaction of the OEMS/Trauma Medical Director within 180 calendar days of notification will constitute state trauma system participation suspension or de-designation.

B. Trauma facilities may appeal suspension or de-designation in writing to OEMS/Trauma within ten (10) business days of notification. An appeal of suspension or de-designation may, at the discretion of the OEMS/Trauma Medical Director, require the facility to make a new application (Form L-07A: Pre-Review Questionnaire for Trauma Center Designation) for state trauma system participation to OEMS/Trauma. Upon receipt of the new questionnaire, the OEMS/Trauma will review it to insure the clarity and completeness of information. Questionnaires that contain unclear or incomplete information will be returned to the applicant facility within thirty (30) business days requesting amendment. Receipt of a completed questionnaire will be considered as an applicant's letter of intent for State trauma system participation, which will require a site visit inspection of the facility by a site review team.

APPENDIX E

GEORGIA OFFICE OF EMERGENCY MEDICAL SERVICES AND TRAUMA

Hospital Resources Checklist for Trauma Center Designation, Re-designation or Upgrade

Georgia Office of EMS/Trauma

Department of Human Resources – Division of Public Health

Hospital Resources Checklist
For Trauma Center Designation, Re-designation or Upgrade

[**E** = essential requirements]
[**D** = Desired but not essential]

	Levels				Hospital met?		Reviewers		Comments (for site reviewers)
	I	II	III	IV	Yes	No	Yes	No	Comments
A. Institutional Organization									
1. Trauma program	E	E	E	E					
2. Trauma service	E	E	E						
3. Trauma team	E	E	E	E					
4. Trauma program medical director	E	E	E	D					
5. Trauma multidisciplinary committee	E	E	E	D					
6. Trauma coordinator/TPM	E	E	E	E					
B. Hospital Departments/Divisions/Sections									
1. Surgery	E	E	E						
2. Neurologic surgery	E	E							
a. Neurological trauma liaison	E	E							
3. Orthopaedic surgery	E	E	E						
a. Orthopaedic trauma liaison	E	E	E						
4. Emergency medicine	E	E	E						
5. Anesthesia	E	E	E						
C. Clinical capabilities									
(Speciality immediately available 24 hours a day)									
Published on-call schedule	E	E	E	E					
1. General surgery	E	E	E	D					

a. Published back-up schedule	E	E	D						
b. Dedicated to single hospital when on-call	E	E	D						
2. Anesthesia	E	E	E	D					
3. Emergency medicine 1	E	E	E						
On call and promptly available 24 hours/day									
1. Cardiac surgery	E	D							
2. Hand surgery	E	E	D						
3. Microvascular/replant surgery	E	D							
4. Neurologic surgery	E	E	D						
a. Dedicated to one hospital or back-up call	E	E	D						
5. Obstetric/Gynecologic surgery	E	E	D						
6. Opthalamic surgery	E	E	D						
7. Oral/Maxillofacial surgery	E	E	D						
	I	II	III	IV	Yes	No	Yes	No	Comments
8. Orthopaedic surgery	E	E	E	D					
a. Dedicated to one hospital or back-up call	E	E	D						
9. Plastic surgery	E	E	E	D					
10. Critical care medicine	E	E	D						
11. Radiology	E	E	E	D					
12. Thoracic surgery	E	E	D						
D. Clinical qualifications									
1. General/trauma surgeon									
a. Current board certification	E	E	E						
b. 16 hours CME/year	E	E	D	D					
c. ATLS completion	E	E	E	E					
d. Peer review committee attendance >50%	E	E	E						
e. Multidisciplinary committee attendance	E	E	E						
2. Emergency medicine									
a. Board certification	E	E	D						
b. Trauma education: 16 hours CME/year	E	E	D						
c. ATLS completion	E	E	E	E					
d. Peer review committee attendance >50%	E	E	E						
e. Multidisciplinary committee attendance	E	E	E						
3. Neurosurgery									
a. Board certification	E	E							
b. 16 hours CME/year	E	E	D	D					
c. ATLS completion	D	D	D	D					
d. Peer review committee attendance >50%	E	E	E						

e. Multidisciplinary committee attendance	E	E	E						
4. Orthopaedic surgery									
a. Board certification	E	E	D						
b. 16 hours CME/year in skeletal trauma	E	E	D	D					
c. ATLS completion	D	D	D	D					
d. Peer review committee attendance >50%	E	E	E	D					
e. Multidisciplinary committee attendance	E	E	E						
E. Facilities/Resources/Capabilities									
1. Volume performance									
a. Trauma admissions 1,200/year	E								
b. Patients with ISS>15 (240 total or 35 patients/surgeon)	E								
c. Presence of surgeon at resuscitation	E	E	E	D					
	I	II	III	IV	Yes	No	Yes	No	Comments
d. Presence of surgeon at operative procedures	E	E	E	E					
2. Emergency Department (ED)									
a. Personnel 1). Designated physician director	E	E	E	D					
b. Equipment for resuscitation for patients of all ages									
1). Airway control and ventilation equipment	E	E	E	E					
2). Pulse oximetry	E	E	E	E					
3). Suction devices	E	E	E	E					
4). Electrocardiograph-oscilloscope-defibrillator	E	E	E	E					
5). Internal paddles	E	E	E						
6). CVP monitoring equipment	E	E	E	D					
7). Standard IV fluids and administration sets	E	E	E	E					
8). Large bore IV catheters	E	E	E	E					
9). Sterile surgical sets for:									
a). Airway control/cricothyrotomy	E	E	E	E					
b). Thoracostomy	E	E	E	E					
c). Venous cutdown	E	E	E	E					
d). Central line insertion	E	E	E						
e). Thoracotomy	E	E	E						

f). Peritoneal lavage	E	E	E	D					
10). Arterial catheters	E	E	D	D					
11). Drugs necessary for emergency care	E	E	E	E					
12). X-ray availability 24 hours a day	E	E	E	D					
13). Cervical traction devices	E	E	E	D					
14). Broselow tape	E	E	E	E					
15). Thermal control equipment									
a). for patient	E	E	E	E					
b). for blood and fluids	E	E	E	D					
16). Rapid infuser system	E	E	E	D					
17). Qualitative end-tidal CO2 determination	E	E	E	E					
c. Communication with EMS vehicles	E	E	E	E					
3. Operating suite									
	I	II	III	IV	Yes	No	Yes	No	Comments
a. Immediately available 24 hours/day	E	D	D	D					
b. Personnel									
1). In house 24 hours/day	E	D							
2). Available 24 hours/day		E	E	E					
c. Age specific equipment									
1). Cardiopulmonary bypass	E	D							
2). Operating microscope	E	D	D						
3). Thermal control equipment									
a). For patient	E	E	E	E					
b). for blood and fluids	E	E	E	E					
4). X-ray capability including c-arm image intensifier	E	E	E	E					
5). Endoscopes, bronchoscope	E	E	E	D					
6). Craniotomy instruments	E	E	D						
7). Equipment for long bone and pelvic fixation	E	E	E	D					
8). Rapid infuser system	E	E	E	D					
4. Postanesthetic recovery room (SICU is acceptable)									
a. Registered nurses available 24 hours/day	E	E	E						
b. Equipment for monitoring and resuscitation	E	E	E	E					
c. Intracranial pressure monitoring equipment	E	E	D						
d. Pulse oximetry	E	E	E	E					
e. Thermal control	E	E	E	E					

5. Intensive or Critical Care Unit for injured patients									
a. Registered nurses with trauma education	E	E	E						
b. Designated surgical director or surgical co-director	E	E	E	D					
c. Surgical ICU service physicain in house 24 hours/day	E	D	D						
d. Surgically directed and staffed ICU service	E	D	D						
e. Equipment for monitoring and resuscitation	E	E	E						
f. Intracranial monitoring equipment	E	E							
g. Pulmonary artery monitoring equipment	E	E	E						
6. Respiratory Therapy Services									
a. Available in house 24 hours/day	E	E	D	D					
	I	II	III	IV	Yes	No	Yes	No	Comments
b. On call 24 hours/day			E	D					
7. Radiological Services (available 24 hours/day									
a. Inhouse radiology technologist	E	E	D	D					
b. Angiography	E	E	D						
c. Sonography	E	E	E	D					
d. Computed tomography (CT)	E	E	E	D					
e. In-house CT technician	E	D							
f. Magnetic resonance imaging	E	D	D						
8. Clinical Laboratory Services (available 24 hours/day)									
a. Standard analyses of blood, urine, and other body fluids, including microsampling when appropriate	E	E	E	E					
b. Blood typing and cross matching	E	E	E	E					
c. Coagulation studies	E	E	E	E					
d. Comprehensive blood bank or access to a community central blood bank and adequate storage facilities	E	E	E	E					
e. Blood gases and pH determination	E	E	E	E					
f. Microbiology	E	E	E	E					
9. Acute hemodialysis									
a. In house	E	D							
b. Transfer agreement		E	E	E					
10. Burn care – organized									

a. In house or transfer agreement with Burn Center	E	E	E	E					
11. Acute spinal cord management									
a. In house or transfer agreement with Regional Acute Spinal Cord Injury Rehabilitation Center	E	E	E	E					
12. Rehabilitation Services									
a. Transfer agreement to an approved rehabilitation facility	E	E	E	E					
b. Physical therapy	E	E	E	D					
c. Occupational therapy	E	E	D	D					
d. Speech therapy	E	E	D						
e. Social service	E	E	E	D					
	I	II	III	IV	Yes	No	Yes	No	Comments
F. Performance Improvement									
1. Performance improvement programs	E	E	E	E					
2. Trauma registry									
a. In house	E	E	E	D					
b. Participation in state, local, or regional registry	E	E	E	E					
c. Orthopaedic database	D	D							
3. Audit of all trauma deaths	E	E	E	E					
4. Morbidity and mortality review	E	E	E	E					
5. Trauma conference, multidisciplinary	E	E	E	D					
6. Medical nursing audit	E	E	E	E					
7. Review of prehospital trauma care	E	E	E	D					
8. Review of times and reasons for trauma-related bypass	E	E	D	D					
9. Review of times and reasons for transfer of injured patients	E	E	D	D					
10. Performance improvement personnel dedicated to care of injured patients	E	E	D	D					
G. Continuing Education/Outreach									
1. General surgery residency program	E	D							
2. ATLS provide/participate	E	D	D	D					
3. Programs provided by hospital for									
a. Staff/community physicians (CME)	E	E	E	D					
b. Nurses	E	E	E	D					

c. Allied health personnel	E	E	E						
d. Prehospital personnel provision/participation	E	E	E	D					
H. Prevention									
1. Injury control studies	E	D							
2. Collaboration with other institutions	E	D	D	D					
3. Monitor progress/effect of prevention programs	E	D	D	D					
4. Designated prevention coordinator-spokesperson for injury control	E	E	D						
5. Outreach activities	E	E	D	D					
6. Information resources for public	E	E	D						
7. Collaboration with existing national, regional, and state programs	E	E	D						
	I	II	III	IV	Yes	No	Yes	No	Comments
8. Coordination and/or participation in community prevention activities	E	E	E	D					
I. Research									
1. Trauma registry performance improvement activities	E	E	E						
2. Research committee	E	D							
3. Identifiable IRB process	E	D							
4. Extramural educational presentations	E	D	D						
5. Number of scientific publications	E	D							

from Resources for Optimal Care of the Injured Patient: 1999. Committee on Trauma, American College of Surgeons

(7/05)

APPENDIX F

REGIONAL TRAUMA SYSTEM PLAN DEVELOPMENT PROCESS

This appendix contains the **recommended** development process for Regional Trauma Advisory Councils to develop a Regional Trauma System Plan.

REGIONAL TRAUMA SYSTEM PLAN DEVELOPMENT PROCESS

I. Regional Trauma Advisory Council Established

II. Regional Trauma System Plan Development

- Perform assessment of regional system
- Review Regional Trauma System Planning Framework
- Write Regional Trauma System Plan

III. Regional Trauma System Plan Finalization

- Present proposed Regional Trauma System Plan to stakeholders
- Conduct stakeholder review of Regional Trauma System Plan
- Review, revise and adopt a Regional Trauma System Plan

IV. Regional Trauma System Plan Implementation

- Regional Trauma Advisory Council defines steps to be taken by each agency to incorporate Regional Trauma System Plan into existing operational plans

V. Regional Trauma System Plan Revision

- Consider and make revisions to the Regional Trauma System Plan as described in the process contained within the Plan

APPENDIX G

BIRMINGHAM REGIONAL EMERGENCY MEDICAL SERVICES SYSTEM

Regional Patient Destination Guidelines

These guidelines are drawn from the Birmingham Regional Emergency Medical Services System Trauma System Plan, the full text of which is available at http://bremss.com/RTAC/Oct282008Meeting/BREMSS%20Trauma%20Plan%20draft%20RTAC%2010-28-2008.pdf

BIRMINGHAM REGIONAL PATIENT DESTINATION GUIDELINES

The Birmingham Regional Emergency Medical Service System utilizing the following regional protocol to coordinate Alabama Trauma Communications Center regional patient destination recommendations.

In Alabama hospitals maintain an availability status of green, yellow or red representing full, conditional, or zero availability. The following is the Alabama Trauma Communication Center destination protocol:

A. In the following situations the patient should be transported IMMEDIATELY to the closest hospital with full time emergency physician coverage (Trauma Center preferably) as coordinated by the GTCC, and entered into the trauma system by being assigned a unique trauma system ID.

1. The EMS provider is unable to effectively manage the airway or ventilate the unstable patient.
2. The EMS provider is unable to stop the bleeding of a patient with severe hemorrhage.
3. The EMS provider is unable to establish/maintain an IV to provide volume resuscitation in an unstable hypovolemic patient.

B. Trauma center destination for patients entered into the system will be the closest appropriate trauma center based on secondary triage and Trauma Center availability and RTSP protocols;

C. When a trauma center is on conditionally available status for the trauma surgeon/secondary backup surgeon status, trauma patients are directed to that Trauma Center only when equivalent facilities are unavailable or beyond the routine 60 minute transport time, or there are multiple casualties requiring care at that level.

D. A conditionally available status due to the unavailability of neurosurgical services or a CT scanner at a Level I facility means patients with neurologic trauma are to be transported to another facility.

E. No trauma center should receive more than one unstable patient at one time if there are other level I trauma centers on available status within a reasonable transport time.

F. In the event a patient or family member requests transport to a specific hospital that does not meet system guidelines, efforts will be made to clarify and encourage the advantage of using the Trauma System and a specific request to follow the established Trauma System plan will be made of the family. The patient's or family members' wishes will, however, ultimately prevail.

G. If an event occurs where there are multiple patients meeting TSEC, the patient who is most critically injured (yet potentially salvageable) should go to the nearest appropriate available

trauma center based on secondary triage criteria. The other patients should go to other Trauma Centers as coordinated through the GTCC.

H. In a situation where GTCC notification has occurred and no medical direction is needed, the GTCC will notify the receiving trauma center of the patient transport and provide information of condition, mechanism of injury, estimated arrival time, etc.

I. If the patient meets physiologic criteria and the appropriate level Trauma Center determined by protocol based destination is not available, the patient should be transported to nearest currently active ("green") trauma center.

J. If the patient is stable and the Trauma Center per the secondary triage destination protocol is not available, the patient may be taken to the nearest actively available ("green") trauma center.

K. If, in the attending trauma surgeon's judgment, a level one trauma center is nearing capacity, the surgeon may place the level one trauma center on trauma system overload. The level one trauma center will appear yellow on the Trauma Center resource screen. The level one trauma center will remain available for trauma patients entered into the system under physiologic criteria, (except GCS >9) but patients entered under any other criteria will be routed as if the level one trauma center is unavailable. Patients routed in this manner will be reported to the RTAC and to the State OEMS/T.