Northwest Georgia
Region I EMS
Regional Trauma Plan

Care Through Collaboration

This document represents the strategic framework for trauma care delivery within Northwest Georgia's Region I as decided by The Regional Council. This Regional Trauma Plan reflects our commitment to advancing trauma mortality and morbidity through coordinated efforts among EMS agencies, trauma centers, non-designated hospitals, and other regional stakeholders. Updated as of December 2024, this plan is based on evidence-based medicine, updated with the latest data, and strives for seamless collaboration across the trauma stakeholders. 1/7/25

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Northwest Georgia EMS Region I Trauma Plan

Executive Summary: Analytical Insights into Trauma Systems in Georgia

Trauma, i.e. physical injury, can occur in a myriad of ways, but most are either blunt or penetrating. Traumatic injuries remain one of the top public health concerns both in the US and in Georgia, with falls and motor vehicle crashes (MVCs) accounting for the majority of cases. In this context, Georgia particularly carries a high burden of traumatic brain injuries (TBI) and associated deaths, ranking 19th worst for overall TBI-related deaths with an age-adjusted rate of 20.3, a 17.3% increase over the national average; it ranks 25th worst for unintentional TBI-related deaths at a rate of 10.4, and 15th worst for intentional TBI-related deaths at a rate of 9.8, highlighting the need for targeted prevention and intervention strategies. [1] Furthermore, traumatic injuries unfortunately disproportionately impact children, adolescents, and young adults, accounting for more than half of all deaths between ages of 1-44. [2] TBIs cost Georgians over $I.5 billion per annum in medical costs and lost wages, with estimates of almost $250MM of uncompensated trauma care in total annually a decade ago. [3,4] Low quality evidence exists to support implementation of structured trauma systems to help mitigate preventable fatalities and enhanced patient outcomes from trauma, although the evidence is limited by confounders as well as ethical issues surrounding prospective studies. [5-7]

Ultimately almost ¼ of all ED Visits in the US stem from injuries, with almost 20% of those arriving via EMS. [8] The Region I Trauma Plan proposes a cohesive, inclusive system that aligns trauma patient needs with the appropriate care resources, leveraging existing emergency and trauma care infrastructure to optimize outcomes. This integrative model addresses both urban, suburban and rural challenges, with particular emphasis on the unique barriers faced in geographically isolated areas. These include delayed injury discovery [9], extended extrication times, and the scarcity of local healthcare resources.

Developing and operationalizing a trauma system demands coordinated, multidisciplinary efforts. The process necessitates robust system activity coordination, data-driven decision-making, well-defined infrastructure, and sustainable funding streams. The subsequent sections of this plan delineate the foundational components of the Region I Trauma Plan and the strategic oversight role of the Regional Trauma Advisory Committee (RTAC).

Mission, Vision and Goals: Region I Trauma Plan and Regional Trauma Advisory Committee (RTAC)

MISSION

The mission of the Region I Trauma Plan and Regional Trauma Advisory Committee (RTAC) is dual in focus, aiming to address the multifaceted challenges associated with trauma care and prevention. The primary objective is to mitigate the incidence and impact of traumatic injuries through targeted, data-driven injury prevention strategies tailored to the unique epidemiological patterns and statistical trends observed within Region I and its collaborating stakeholders. Concurrently, the plan seeks to ensure that trauma victims receive a continuum of care—from pre-hospital intervention until discharge—designed to uphold the highest standards of quality, thereby optimizing clinical outcomes and reducing preventable morbidity and mortality.

VISION

The Region I Trauma Plan and Regional Trauma Advisory Committee (RTAC) aspire to establish a comprehensive leadership framework for trauma care, extending their influence beyond regional boundaries to foster collaboration and optimize trauma management across state and regional systems. This vision underscores a commitment to evidence-based practices, system-wide integration, and the delivery of equitable and high-quality trauma care.

GOALS

- **Reduce preventable mortality:** Prioritize interventions and strategies to minimize fatalities attributable to traumatic injuries through early intervention, system optimization, and data-driven prevention efforts.
- **Enhance trauma outcomes:** Improve patient recovery trajectories and long-term health outcomes by ensuring seamless care coordination, adherence to best practices, and leveraging advanced medical technologies and protocols.
- **Optimize resource utilization:** Reduce the financial and societal costs of trauma by optimizing resource allocation strategies and minimizing unnecessary expenditures through efficient system design such as triaging trauma to appropriate level of care

OBJECTIVES

- **Foster inter-agency collaboration:** Partner with a diverse range of agencies and organizations to deliver comprehensive oversight and guidance for system evaluation, workforce education, training programs, and public education campaigns, with a focus on prevention strategies grounded in regional injury data.
- **Support compliance and resource monitoring:** Collaborate with the State Office of EMS &

Trauma (OEMS&T) to ensure resource availability, uphold adherence to system standards, and establish a robust process for the systematic review and improvement of trauma care delivery.

- **Conduct system-level outcome evaluations:** Regularly assess patient outcomes on a regional scale to identify trends, disparities, and areas for targeted improvement.
- **Drive continuous improvement:** Perform rigorous analysis of system performance data to measure impact, identify gaps, and propose actionable recommendations that ensure sustained quality improvements and alignment with regional and national benchmarks.

Administration: Regional Trauma Advisory Committee (RTAC)

REGIONAL TRAUMA ADVISORY COMMITTEE

The Region I Regional Trauma Advisory Committee (RTAC) serves as a critical resource for supporting and aligning with the Georgia Trauma Commission in improving the health of injured Georgians and its guest by ensuring access to quality trauma care, coordinating key trauma components, and educating our regional providers access to the multidisciplinary continuum. Through its strategic role, the RTAC focuses on analyzing local trauma care trends and promoting data-driven injury prevention initiatives and quality improvement measures to decrease the incidence of trauma and ensure the delivery of effective, timely care across the continuum.

Key Responsibilities of the RTAC:

1. **Injury Prevention and Risk Mitigation**: Systematically monitor high-incidence trauma areas, develop data-supported injury prevention strategies, and recommend actionable solutions with follow-up plans to relevant agencies.
2. **Plan Compliance Oversight**: Ensure adherence to the trauma system's operational components, policies, and standards, as specified in the regional trauma plan.
3. **Performance Analysis**: Utilize comprehensive data analytics to evaluate the trauma system's performance, focusing on identifying gaps and implementing evidence-based improvements.
4. **Trauma Training Needs Assessment**: Evaluate regional trauma training requirements to address skills gaps, ensuring that providers are equipped with up-to-date knowledge and competencies.
5. **Collaborative Forum for Stakeholders**: Serve as a platform for addressing trauma-related issues within the care continuum, fostering dialogue among providers, consumers, and other stakeholders.
6. **Hospital Operations Monitoring**: Oversee critical operational metrics, such as transfer agreements, emergency department diversion practices, “wall time,” and patient holding patterns, ensuring alignment with best practices.
7. **Capacity Building**: Identify and address regional needs for additional trauma centers and system capacity, ensuring the sustainability and scalability of trauma care infrastructure.
8. **Support for Non-Designated Hospitals**: Assist non-designated hospitals in meeting the requirements for trauma center designation, fostering an inclusive and robust trauma care network.

9. **EMS Coordination and Mutual Aid Agreements**: Develop and oversee mutual aid agreements to ensure comprehensive emergency medical services (EMS) coverage across the region, emphasizing inter-agency coordination and resource optimization.

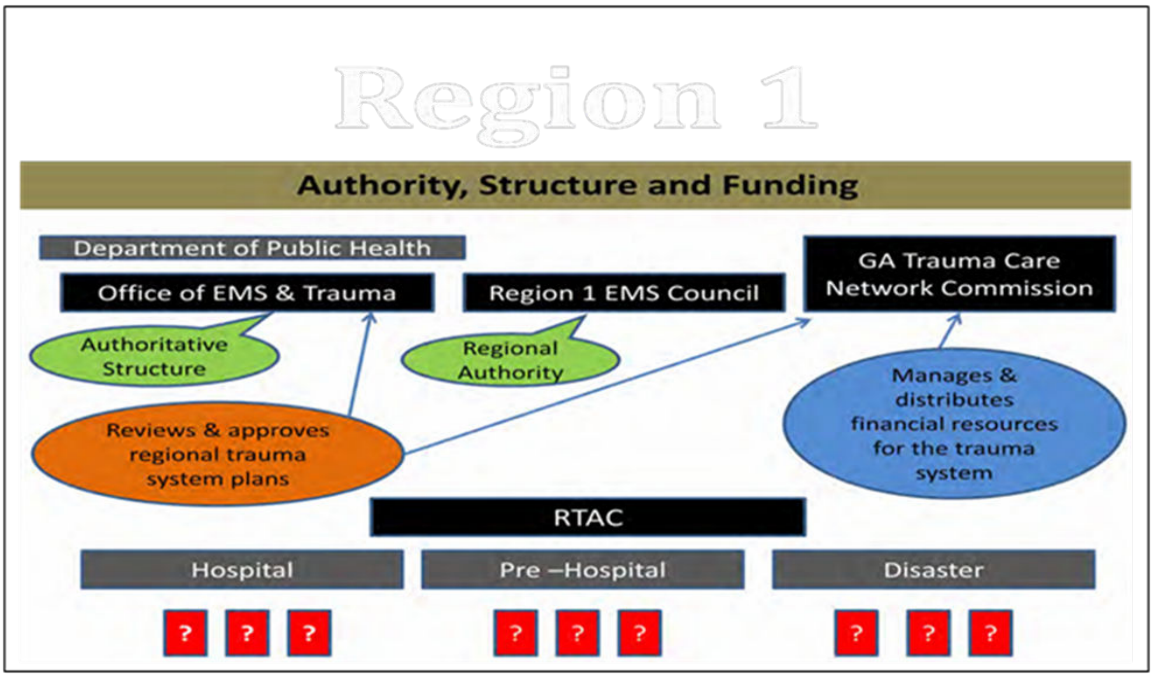
AUTHORITY, STRUCTURE AND FUNDING

The Regional Trauma Advisory Committee (RTAC) operates as a specialized subcommittee of the Region I EMS Council, which is accountable to the Office of EMS and Trauma (OEMS&T) under the Georgia Department of Public Health. This structural integration demonstrates a collaborative approach between the RTAC, the Region I EMS Council, the OEMS&T, the Georgia Trauma Care Network Commission (GTCNC), and other key stakeholders engaged in advancing trauma system development and continuous improvement.

The GTCNC, established as a central governing body for trauma care in Georgia, introduced the *Regional Trauma Care Network Planning Framework* in September 2009. This framework provides a systematic, evidence-based methodology to guide the development and implementation of regional trauma plans. The GTCNC is further tasked with reviewing and approving these regional plans in collaboration with the OEMS&T, ensuring their alignment with statewide standards and objectives. Beyond its planning role, the GTCNC also oversees the allocation and management of financial resources critical to sustaining and enhancing the trauma system.

Within this governance structure, the Georgia OEMS&T holds ultimate authority over the regional trauma system, serving as the regulatory and oversight entity. The Region I EMS Council, functioning as the regional governing body, ensures localized implementation and operational accountability. The reporting relationships and organizational structure of the RTAC within this framework are detailed in Figure I, illustrating the hierarchical and collaborative dynamics essential to achieving an integrated trauma care system.

RTAC STRUCTURE AND RELATIONSHIPS



RTAC MEMBERSHIP

RTAC members are appointed by the Chair of the Region I EMS Council, with the membership consisting of no fewer than I5 and no more than 32 individuals. Functioning under the bylaws of the Region I EMS Council, the RTAC's membership is pivotal to the implementation and success of the regional trauma plan and the broader statewide trauma system. Members are expected to actively participate, ensuring consistent contribution and engagement to advance the committee's objectives.

The composition of the RTAC is designed to reflect the diverse demographics and multidisciplinary components of the trauma system within the region. This inclusivity ensures that all key stakeholders are represented, with the final membership composition requiring formal approval by the Region I EMS Council. Such representation is critical to fostering collaboration and addressing the multifaceted needs of the trauma system.

The **RTAC Chair**, a voting member of the Region I EMS Council, is responsible for presiding over all RTAC meetings. This role includes setting the meeting agenda, facilitating discussions, and ensuring that deliberations align with the strategic goals of the trauma plan. In the Chair's absence, the **Vice-Chair** assumes these responsibilities. Unlike the Chair, the Vice-Chair is not required to hold membership in the Region I EMS Council, providing additional flexibility in leadership while maintaining continuity.

RTAC Coordinators play a vital operational role, acting as liaisons between the committee and the Georgia Trauma Care Network Commission (GTCNC). They are tasked with planning, coordinating, and overseeing targeted improvement activities, ensuring alignment with the goals and strategic vision of

the GTCNC. This coordination underscores the RTAC's commitment to data-driven improvements and the advancement of trauma care across the region.

Composition of RTAC Membership: Analytical Framework

The Regional Trauma Advisory Committee (RTAC) is structured to ensure a multidisciplinary, representative membership that reflects the complex needs and diverse demographics of the trauma system in Region I. Each membership category is carefully defined to foster collaboration, enhance expertise, and address the continuum of trauma care effectively.

Designated Trauma Center Representatives

Each designated trauma center within Region I must provide at least one representative. These members serve as critical links between their institutions and the RTAC, ensuring alignment with regional and state trauma system objectives.

Hospital Members (Minimum of 3)

Hospital representation requires a minimum of three members drawn from senior hospital management, emphasizing a blend of administrative and clinical perspectives. The composition must include:

- **At least one direct patient care provider, ensuring frontline insights.**
- **One representative from a critical access hospital, addressing rural and resource-constrained settings.**
- **One representative from a rural hospital, which may be designated or non-designated, reflecting the unique challenges of geographically isolated trauma care.**

EMS Members (Minimum of 3)

EMS representation prioritizes diversity in service areas and functional roles:

- **One member from an urban 9II EMS service area.**
- **One member from a rural 9II EMS service area.**
- **One member with direct patient care responsibilities, ensuring practical, field-based expertise.**

See Appendix A

Physician Members (Minimum of 2)

Physician representation must include:

- **A rural physician actively involved in trauma care at a non-designated participating hospital, providing insights into challenges faced in less resourced facilities.**
- **A trauma surgeon, contributing advanced clinical expertise and alignment with best practices in trauma care.**

Nurse Members (Minimum of 3)

Nurses serving on the RTAC are expected to possess comprehensive knowledge of pre-hospital and hospital trauma care. Ideal candidates will have experience in trauma-related education and injury prevention initiatives, reinforcing the RTAC's commitment to systemic improvement.

Emergency Medical Services for Children (EMSC) Representative (I)

A designated EMSC representative will focus on pediatric trauma care, providing specialized guidance and recommendations to ensure the unique needs of pediatric patients are addressed.

State Representatives (3)

A representative from each of the neighboring states of Region I (Alabama, Tennessee, and North Carolina) should be included. These members contribute cross-border perspectives, resources, and expertise, enhancing the RTAC's regional integration and capacity for systemic improvement.

At-Large Members

The At-Large membership category ensures flexibility and inclusivity, incorporating stakeholders from diverse areas, including:

- **Fire Services**
- **Law Enforcement**
- **Emergency Management**
- **Air Ambulance Services**
- **Business and Industry**
- **Public Health (e.g., epidemiologists)**
- **Emergency Preparedness**
- **Government Officials**
- **Injury Prevention specialists**
- **Major trauma survivors and/or their family members**
- **Veterinarians[10]**

Additional members may be appointed as necessary to address emerging needs or gaps within the RTAC framework.

Operational and Clinical Components

Triage and Facility Selection: Analytical Framework for Optimal Trauma Care

The triage of trauma patients and the selection of the most appropriate facility are complex processes influenced by resource availability, geographic constraints, and transport time. The critical role of Emergency Medical Services (EMS) in transporting patients to Trauma Centers have been consistently demonstrated by research. In this sense, a cross-sectional study of 16,082 adults revealed an 8% increase in odds of death for every 5-mile increase in distance to the nearest trauma center, compounded by a 3% increase in odds of death for every 5-year rise in neighborhood median age, while neighborhoods with per capita incomes above $25,000 experienced a 27% decrease in odds of death. While another study found significantly lower in-hospital mortality rates at trauma centers (7.6%) compared to non-trauma centers (9.5%), with even greater reductions in one-year mortality (10.4% vs. 13.8%) particularly for severely injured patients. Additionally, research on fatal crashes highlighted a significant correlation between increased distance to trauma centers and mortality (OR 1.0021 per mile), emphasizing the pivotal role of EMS in mitigating geographic disparities and improving survival outcomes through timely transport to specialized care facilities. [11-13]

However, a nuanced approach to triage is essential. Transporting all trauma patients, irrespective of injury severity, to Level I trauma centers can lead to resource saturation, diminishing the availability of these facilities for the most critical cases. Patients with less severe injuries may benefit from expedited care at closer facilities equipped to manage their specific need, though best available evidence suggests patient outcomes are not typically affected by high level trauma center overcapacity. [14]

National and Regional Guidelines

The American College of Surgeons' redesign of the CDC's 20II Field Triage Scheme into the 202I *National Guideline for the Field Triage of Injured Patients* provides an evidence-based framework for EMS providers. These guidelines aim to enhance decision-making by clearly defining criteria for identifying trauma patients and aligning transport decisions with the severity of injury and facility capabilities. This systematic approach ensures that patients are directed to facilities best suited to address their needs, improving outcomes and resource allocation.

Within Region I, the Regional Trauma Advisory Committee (RTAC) aims to employ these national guidelines while tailoring them to regional assessments and needs. By integrating national standards with localized considerations, the RTAC ensures that triage protocols remain relevant and effective in addressing the unique challenges of the region.

Air Medical Transport Utilization

The Region I RTAC also maintains and applies specific *Air Medical Guidelines* to assist on-scene providers in making decisions regarding air medical transport. These guidelines prioritize scenarios

where air transport is critical for minimizing transport time and providing advanced pre-hospital care. Key considerations include:

- The severity of the patient's condition and the proximity of appropriate trauma centers.
- Regional geographic constraints that may impede ground transport efficiency.
- Real-time resource availability, including ground and air transport options.

By adhering to these guidelines, EMS providers can make informed, situation-specific decisions that align with the overarching goal of optimizing trauma care delivery.

The integration of national triage standards with region-specific guidelines should be the pinnacle approach to trauma care within Region I. By continuously evaluating and refining these protocols, the RTAC ensures that triage decisions are data-driven, context-sensitive, and aligned with the region's broader trauma system goals. Appendix D provides detailed guidance on these protocols, serving as a critical resource for EMS providers and other stakeholders.

Regional Air Medical Service Utilization Guidelines: Analytical Framework for Decision-Making

Effective utilization of air medical services (AMS) is a critical component of trauma system efficiency, particularly in regions where geographic and resource constraints necessitate rapid transport of severely injured patients. These guidelines aim to standardize decision-making processes to ensure optimal patient outcomes while maintaining resource availability.

Scene Assessment and Incident Command Decision-Making

Upon arrival at the scene, EMS personnel must conduct a comprehensive assessment of the situation, guided by the principles of the incident command system. The highest trained EMS provider assumes responsibility for transport decisions, relying on regional guidelines to determine the most appropriate destination hospital. This decision-making process integrates patient condition, injury severity, and geographic considerations to align transport modality with clinical urgency.

Coordination with Air Transport Services

Once a decision for air transport is made, the local urban dispatch center will contact the closest air transport service. The air transport service must promptly provide an estimated time of arrival (ETA) to the designated landing zone (LZ), inclusive of lift-off time and preflight time. In cases where the nearest aircraft is unavailable, the air service should notify the dispatch center and assist in identifying and coordinating with the next closest available aircraft, ensuring minimal delays.

If circumstances change and the highest trained EMS provider on scene determines that AMS is no longer necessary, the provider must cancel the request through the incident command system without due delay. This proactive cancellation will prevent unnecessary resource utilization, optimizing regional AMS availability.

Early Activation and Standby Protocols

Proactive early activation or standby of AMS based on dispatch information is a cornerstone of these guidelines. EMS providers are encouraged to use their clinical judgment to initiate early activation, taking into account factors such as:

- Patient condition and injury severity.
- The most appropriate receiving facility for the patient's needs.
- Geographical and logistical constraints, including terrain, weather and transport time.

Early activation ensures the timely availability of air transport when definitive care is critically time-sensitive.

Avoiding Delayed Ground Transport

Ideally EMS personnel should not delay ground transport while awaiting AMS arrival. If the patient is stable for ground transport, providers must initiate movement toward the receiving facility immediately. This guideline minimizes the potential for adverse outcomes caused by prolonged scene times.

These regional air medical service utilization guidelines emphasize efficiency, collaboration, and adaptability, ensuring that AMS is deployed judiciously to meet the needs of trauma patients while preserving system-wide resource availability. By integrating real-time assessments with structured protocols, the Region I RTAC maximizes the effectiveness of both air and ground transport systems, contributing to a resilient and responsive trauma care network.

Pediatric Field Triage: Enhancing Pre-Hospital Care and Outcomes

The Gap in Pediatric Pre-Hospital Care

Pre-hospital care constitutes a pivotal link in the survival chain for trauma patients, particularly in emergency scenarios where timely interventions can drastically influence outcomes. However, the pediatric population presents unique challenges, as existing EMS systems are predominantly structured and trained to address adult emergencies.

Additionally, pediatric emergency training occupies only a minor segment of standard pre-hospital curricula. Recent data demonstrates that for children older than middle school, there was no difference in outcomes based on treatment at adult vs. pediatric trauma centers; although the evidence is mixed for younger children. [15] Consequently, pediatric patients are conventionally defined as individuals under the age of 15 years, aligning with current trauma system categorizations and clinical guidelines.

Trauma as a Leading Cause of Pediatric Mortality

Trauma remains the top cause of death and disability among children in the United States, underscoring the critical role of EMS systems in pediatric trauma care, with Firearms being the top cause of death and Motor Vehicle Accidents the second for those between the ages of 1 and 18. [16]. EMS providers serve as

the frontline in ensuring these children receive timely and appropriate care enroute to facilities equipped to deliver definitive treatment.

Addressing the Training Deficit

To bridge the gap in pediatric pre-hospital care, a targeted approach to education and skills development is essential. EMS providers must undergo frequent and rigorous training, emphasizing:

- **Pediatric Triage and Treatment Protocols:** Ensuring familiarity with age-specific physiological considerations and clinical guidelines.
- **Competency Verification:** Regular evaluations of critical pediatric skills, including airway management, resuscitation techniques, and trauma stabilization.
- **Protocol Adherence:** Reinforcing adherence to established destination guidelines and protocols tailored to pediatric patients.

Several existing courses, such as Emergency Pediatric Care (EPC), Pediatric Education for Prehospital Professionals (PEPP), Prehospital Trauma Life Support (PHTLS), and Pediatric International Trauma Life Support (P-ITLS), offer foundational and advanced training in pediatric trauma care. The Region I RTAC, in collaboration with stakeholders, can augment these offerings by developing customized educational modules that address the specific needs and challenges of the region.

The critical role of EMS providers in pediatric trauma care necessitates a paradigm shift in training and preparedness. By prioritizing pediatric-specific education, frequent competency assessments, and the integration of advanced training programs, the Region I trauma system can significantly enhance outcomes for injured children. A systematic and data-driven approach to pediatric field triage will ensure that EMS providers are equipped to deliver high-quality care, bridging the gap between pre-hospital and definitive treatment settings.

Pediatric Field Triage Decision Scheme: Analytical and Systematic Protocol

Step I: Immediate Life-Threatening Conditions

Patients presenting with critical airway or respiratory compromise or impending cardiac arrest require immediate intervention and transport to the nearest trauma center or hospital emergency department capable of stabilizing the condition. Key indicators include:

- **The necessity for airway adjuncts or definitive airway management.**
- **Cardiac arrest or CPR performed prior to EMS arrival.**

In these scenarios, proximity supersedes trauma designation to prioritize rapid stabilization.

Step 2: Criteria for Specialized Pediatric Trauma Centers

Patients who meet specific physiological, anatomical, or mechanism-based criteria must be transported to a Level I or Level 2 Pediatric Trauma Center (PTC) to ensure optimal care and outcomes. Early and direct communication with the receiving PTC is essential, particularly when estimated transport times exceed 30 minutes. For the Northwest Georgia Region I, the preferred PTCs are Children's Healthcare of Atlanta (CHOA) Arthur M. Blank Hospital or Children's Hospital at Erlanger, as these facilities offer specialized expertise and resources for managing complex pediatric trauma cases.

Physiological Criteria:

- **Modified Glasgow Coma Scale ≤ 9 or deteriorating by 2, with a mechanism attributed to trauma (adjusted for pre-verbal children).**
- **Systolic blood pressure <70 mmHg + (2 × age)**
- **Respiratory rate <I0 or in significant distress.**
- **Pediatric Trauma Score <8.**

Anatomical Injuries:

- **Penetrating injuries to critical areas (head, neck, torso, or proximal extremities).**
- **Skull deformity, suspected skull fracture**
- **Open or sucking chest wounds.**
- **Spinal injuries or suspected spinal injuries with new motor or sensory loss.**
- **Pelvic fractures or significant joint/vessel injuries.**
- **Suspected fracture of two or more proximal long bones.**
- **Crushed, degloved, mangled, or pulseless extremity.**
- **Combination trauma with burns.**
- **Amputations proximal to the wrist or ankle.**
- **Blunt abdominal or chest trauma presenting with tenderness, contusions, or distension.**
- **De-gloving injuries or significant lacerations (>7 cm).**

Mechanism of Injury:

- **Ejection from an automobile or death in the same passenger compartment.**
- **Falls exceeding 20 feet or two times the child's standing height.**
- **High-speed vehicle crashes (rollovers, significant intrusion).**
- **Unrestrained child traveling >30 mph.**
- **High-risk pedestrian or bicycle incidents (impact >5 mph).**
- **Near drowning or near hanging.**
- **Suspected abuse or neglect.**

Special Considerations:

- **Children with special healthcare needs or presenting with signs of systemic compromise (e.g., inhalation injury, extensive burns) require consultation and potential transfer to specialty centers, such as designated burn facilities.**

Step 3: Re-Evaluation and Exceptions

For patients who do not meet the criteria under Steps I or 2:

- **Reassess with input from online medical control.**
- **Consider exceptions to air medical guidelines based on the following:**
    - **Transport time.**
    - **Patient condition and stability.**
    - **Treatment window for definitive care.**
    - **In cases where a PTC is realistically accessible via air transport, it may be preferable to wait for air resources rather than risk delays in care.**

See Appendix D

Education and Training: Trauma Care Proficiency in Region I

Continuous education and training are fundamental to maintaining and enhancing the competencies required for effective trauma care. Given the dynamic nature of trauma management, EMS personnel must remain proficient in evolving practices through structured, evidence-based training programs. Courses such as *Pre-hospital Trauma Life Support® (PHTLS)*, *International Trauma Life Support® (ITLS)*, and other age-specific curricula provide essential frameworks for skill refinement and knowledge expansion.

Regional Collaboration and Needs Assessment

The Region I Regional Trauma Advisory Committee (RTAC), in collaboration with the Office of EMS and Trauma (OEMS&T), EMS service providers, and EMS educators, is tasked with periodically assessing the training needs of EMS personnel. This process identifies gaps in knowledge or practice, ensuring the development of targeted educational initiatives that address the region's unique challenges. Through these efforts, RTAC aims to foster a robust, responsive training infrastructure that directly contributes to improved patient outcomes.

Competency in Regional Plan and Protocols

All licensed EMS personnel must demonstrate foundational knowledge of the regional trauma plan and the operational framework of the trauma system. This includes:

- **Trauma System Entry Criteria (TSEC):** Familiarity with TSEC is critical for identifying and managing trauma patients within the system.
- **Regional Protocols and Guidelines:** EMS personnel must have a comprehensive understanding of protocols governing interactions with Regional Centers, triage, and destination decisions.

EMS service providers, service medical directors, and initial EMS education programs share the responsibility of ensuring that all personnel achieve and maintain this level of competence. These stakeholders must also emphasize adherence to trauma triage and destination guidelines, reinforcing system-wide consistency and effectiveness.

Resource Development and Training Delivery

To facilitate the implementation of the Regional Trauma Plan and standardize training across the region, the RTAC will develop and disseminate specialized educational resources tailored to the plan's objectives. These resources will address both general and specific competencies required for effective trauma system integration. Additionally, the RTAC offers on-site training sessions upon request, providing flexible and accessible opportunities for skill enhancement.

By prioritizing the ongoing education and training of EMS personnel, the Region I RTAC ensures that the regional trauma system remains prepared to meet the demands of trauma care. These efforts, grounded in collaboration, targeted resource development, and systematic assessment, are integral to achieving a cohesive and high-performing trauma care network.

GEORGIA ARM BAND PROJECT

Leave blank programs go regional

Hospital Care: Integral Component of the Regional Trauma System

Overview of Regional Infrastructure

Region I comprises of 16 acute care hospitals that collectively serve over one million persons. These hospitals are integral to the implementation of the Regional Trauma Plan, an inclusive framework designed to maximize the region's capacity for delivering high-quality trauma care. The system leverages the resources and capabilities of all participating hospitals to ensure that trauma patients receive optimal care, tailored to their specific needs and geographic location. By aligning available resources with patient requirements, the Regional Trauma Plan addresses disparities in access to care while enhancing the efficiency and effectiveness of the trauma system.

Hospitals within the Georgia Trauma System participate on a voluntary basis, classified either as state-designated trauma centers or as non-designated participating hospitals, each fulfilling distinct roles within the system.

Resource Identification: Designated Trauma Centers

Designated trauma centers are verified by the Georgia Office of EMS and Trauma (OEMS&T) according to rigorous standards derived from the American College of Surgeons Trauma Center Verification Standards. The OEMS&T has established clear policies for the designation, re-designation, and regulation of trauma centers, ensuring that these facilities consistently meet high benchmarks for care quality and system integration.
Levels of Designation:

The OEMS&T recognizes four levels of trauma center designation as defined by the American Trauma System (ATS):

- Level I: The most resource-intensive, offering comprehensive trauma care including research and education components.
- Level II-IV: Each level reflects a tiered approach to resource availability and scope of services, with Level II centers serving as critical regional hubs.

Currently, Region I has no Level I trauma center. However, one Level II trauma center (Atrium Health Floyd) is operational, providing advanced trauma care capabilities for the region. Designated trauma centers are integral to the Regional Trauma Plan, as their participation in planning and performance improvement initiatives makes them de facto contributors to the Georgia Trauma System.

Detailed information on designated facilities is provided in Appendix A.

Non-Designated Participating Hospitals

Non-designated participating hospitals are licensed facilities with emergency departments that opt to contribute to the trauma system without seeking formal designation. These hospitals and their associated free-standing Emergency Departments if applicable:

- **Offer varying levels of specialty physician coverage and service lines to treat, stabilize, and admit lower-acuity trauma patients.**
- **Play a crucial role in expanding the reach of the trauma system, particularly in rural or underserved areas where access to designated trauma centers may be limited.**
- **Commit to trauma system participation by agreeing to submit data for inclusion in regional and state-level analyses, supporting system-wide performance improvement.**

While these facilities are not designated trauma centers, their involvement ensures a more inclusive and adaptable trauma care network capable of addressing diverse patient needs.

The hospital component of the Regional Trauma Plan exemplifies an inclusive, tiered approach to trauma care, integrating both designated trauma centers and non-designated participating hospitals. This structure ensures that all available resources are strategically aligned to provide timely, appropriate, and high-quality care for trauma patients across Region I. By fostering voluntary participation and emphasizing resource optimization, the plan enhances system capacity while addressing the region's unique geographic and demographic challenges.

Hospital Component: designated Facilities in Region I and Beyond

Region I Designated Facilities

Region I encompasses a structured network of trauma facilities categorized by levels of designation, reflecting their resources, capabilities, and roles within the trauma system. The lack of a Level I trauma center within the region highlights the strategic reliance on Level II-IV centers to manage trauma cases, with the most critical cases requiring transport to out-of-region facilities.

Designated Facilities in Region I:

- **Level II:**
    - Atrium Health Floyd Medical Center – Rome, Floyd County: Serves as the region's highest-level trauma center, providing comprehensive care for major trauma cases and acting as a referral hub.

- **Level III:**

    - Hamilton Medical Center – Dalton, Whitfield County: Offers advanced trauma care with capabilities for stabilization and management of moderately severe injuries.

    - Piedmont Cartersville Medical Center – Cartersville, Bartow County: Supports the system with robust services for trauma care in a growing urban area.

    - Advent Health Redmond – Rome, Floyd County: Provides trauma services tailored to the needs of the surrounding community, focusing on stabilization and initial treatment.

- **Level IV:**

    - Atrium Health Floyd Polk Medical Center – Cedartown, Polk County: Serves as a key rural trauma facility, providing stabilization services for low-acuity cases and facilitating transfers for higher-level care.

    - Wellstar Paulding – Hiram, Paulding County: Enhances access to trauma care in suburban and rural settings, ensuring timely intervention for less severe cases.

Designated Facilities Outside of Region I

Patients requiring Level I trauma care, are transported to nearby Level I facilities in adjacent regions or states. These centers possess the most extensive resources and expertise for managing the most severe and complex trauma cases.

Level I Centers:

- Erlanger - Chattanooga, Tennessee: Provides comprehensive trauma care with extensive resources for multidisciplinary intervention, research, and education.

- Wellstar Kennestone - Marietta, Cobb County: Serves as a critical referral center for trauma patients from Region I, offering advanced surgical, medical, and rehabilitative services.

- Grady Hospital – Atlanta, Fulton County: Serves as a critical referral center for trauma patients across metro Atlanta and Georgia while offering advances surgical, medical and rehabilitative services.

Level II Centers:

- Wellstar North Fulton (Roswell, Georgia): Supports the regional trauma system with specialized services for complex trauma cases, serving as an accessible option for patients in proximity to its location.

Strategic Implications and Regional Integration

The absence of a Level I trauma center within Region I necessitates strategic collaboration with higher-level centers located outside the region. Efficient inter-regional coordination and streamlined patient transfer protocols are critical to ensuring timely access to definitive care for the most critical cases. Meanwhile, the robust network of Level II-IV facilities within the region plays an essential role in managing moderate-to-low acuity cases, preventing system overload and enhancing overall trauma care capacity.
This multi-tiered system exemplifies a strategic alignment of resources, ensuring that trauma patients receive care tailored to their injury severity and geographic context, while optimizing the region's trauma care network efficiency.

Pediatric Facilities and Specialty Care Centers Available Outside Region I

Pediatric Trauma Centers and Specialty Care Resources

Region I does not host a dedicated pediatric trauma center nor burn care facilities.

Pediatric Trauma Centers:

- Children's Healthcare of Atlanta (CHOA) Arthur M. Blank Hospital (Level I) – Atlanta, DeKalb County: A premier facility offering comprehensive pediatric trauma care, including advanced surgical and critical care capabilities.

- Children's Healthcare of Atlanta Scottish Rite (Level II) – Atlanta, Fulton County: Provides specialized pediatric trauma services with a focus on stabilization and initial treatment for complex cases.

- Children's Hospital of Georgia at Augusta University (Level II) – Augusta, Richmond County: Serves as a regional hub for pediatric trauma, offering advanced interventions and multidisciplinary care.

- Children's Hospital at Erlanger – Chattanooga, Tennessee: Provides comprehensive pediatric trauma care with extensive resources for multidisciplinary intervention, research, and education.

Specialty Burn Care Centers:

- Joseph M. Still Burn Center at Wellstar Cobb Hospital (ABA Verified) – Austell, Cobb County: Provides critical care to severe burns and comprehensive care and management through partnership with JMS Burn Center in Augusta, GA.

- Joseph M. Still Burn Center (ABA Verified) – Augusta, Richmond County: A nationally recognized facility specializing in burn treatment and recovery.

- Walter L. Ingram Burn Center – Grady Memorial Hospital (ABA Verified) – Atlanta, Fulton County: Provides critical burn care services, serving as a key resource for patients with severe burn injuries.

Burn Care Resources and Regional Challenges

We agree with the American Burn Association guidance that beyond mass disasters where adults and children with >20 percent TBSA burn are to be transferred to a burn center rely on the below guidance for initiation of transfers to Burn Centers. [17,18]

	Immediate Consultation with Consideration for Transfer	Consultation Recommendation
Thermal Burns	• Full thickness burns • Partial thickness ≥10% TBSA* • Any deep partial or full thickness burns involving the face, hands, genitalia, feet, perineum, or over any joints • Patients with burns and other comorbidities • Patients with concomitant traumatic injuries • Poorly controlled pain	• Partial thickness burns <10% TBSA* • All potentially deep burns of any size
Inhalation Injury	• All patients with suspected inhalation injury	• Patients with signs of potential inhalation such as facial flash burns, singed facial hairs, or smoke exposure
Pediatrics (≤14 years, or <30 kg)	• All pediatric burns may benefit from burn center referral due to pain, dressing change needs, rehabilitation, patient/caregiver needs, or non-accidental trauma	
Chemical Injuries	• All chemical injuries	
Electrical Injuries	• All high voltage (≥1,000V) electrical injuries • Lightning injury	• Low voltage (<1,000V) electrical injuries should receive consultation and consideration for follow-up in a burn center to screen for delayed symptom onset and vision problems

Pediatric Trauma: Unique Considerations

Pediatric trauma presents distinct physiological and logistical challenges:

- Gaps in Regional Infrastructure: Region I lacks designated pediatric trauma centers, creating a reliance on facilities outside the region, such as CHOA and Children's Hospital at Erlanger. This gap necessitates efficient protocols for rapid stabilization and transport to specialized pediatric facilities.
- System-Level Addressing of Pediatric Needs: While the Georgia Trauma System provides robust frameworks for adult trauma care, pediatric needs are less explicitly defined. This underscores the need for enhanced pediatric-specific guidelines and regional coordination.

The reliance on external pediatric and burn care facilities underscores the importance of robust regional coordination and clear protocols for stabilization, transport, and interfacility communication. Addressing these gaps will require investments in training, infrastructure, and system-wide integration to optimize outcomes for pediatric and burn patients in Region I. These efforts ensure that all patients, regardless of age or injury complexity, receive timely and specialized care.

Trauma System Participation: Ensuring Cohesion and Accountability

24/7 Designated Points of Contact

To maintain operational efficiency and real-time responsiveness within the trauma system, all participating hospitals—whether designated or non-designated—must appoint a dedicated point of contact available 24/7. This individual is tasked with managing status determinations, which include:

- Real-time communication regarding hospital resource availability and system capacity.
- Coordination with EMS and regional centers to facilitate seamless patient transfers.
- Serving as the primary liaison for inter-facility collaboration and crisis management.

This constant availability ensures the integrity of the trauma system by supporting immediate decision-making and mitigating delays in care delivery.

Performance Improvement and Plan Development

The Regional Trauma Advisory Committee (RTAC) incorporates status record reviews of all participating hospitals into its performance improvement processes. These reviews serve as a critical tool for:

- Identifying Gaps: Highlighting inefficiencies or inconsistencies in hospital readiness and response.
- Benchmarking Performance: Establishing data-driven standards for continuous improvement across the region.
- Informing Strategic Adjustments: Using evidence to guide modifications to the Regional Trauma Plan and its operational protocols.

Active participation in performance improvement initiatives is a non-negotiable requirement for all participating hospitals. This involvement ensures that facilities remain accountable to the trauma system's overarching goals of efficiency, quality, and equitable care.

Role of Non-Designated Participating Hospitals

Non-designated hospitals play an essential role in extending the reach and inclusivity of the trauma system. Their participation involves several key commitments:

1. **Trauma System Development Activities:** Engaging in initiatives that enhance system capacity and resource utilization, particularly in underserved or rural areas.

2. **Access to Data Resources:** Gaining access to system-wide data, enabling informed decision-making and fostering collaboration with designated centers.
3. **Public Identification:** Being formally recognized as a participant in the Georgia Trauma System, underscoring their role in the broader network and ensuring transparency.

This participation is particularly critical in regions with geographic or resource constraints, where non-designated hospitals often act as stabilizing facilities before patient transfer to higher-level trauma centers.

The structured participation of all hospitals within the trauma system—both designated and non-designated—ensures a cohesive, well-coordinated network capable of addressing the complexities of trauma care. By mandating 24/7 points of contact, integrating performance improvement measures, and fostering active involvement in system development, the Region I RTAC lays a robust foundation for achieving excellence in trauma outcomes. This inclusive approach maximizes resource efficiency and ensures that the trauma system remains responsive to both patient needs and systemic demands.

Performance Improvement: A Data-Driven Approach to Trauma System Excellence

The Role of Data in Performance Improvement

A robust, data-driven performance improvement program is fundamental to ensuring compliance with the trauma system's standards and achieving continuous enhancement of care delivery across the region. By integrating system-wide data sources, the Regional Trauma Advisory Committee (RTAC) establishes a framework for assessing and improving both the adequacy of the Regional Trauma Plan and the quality of care provided to patients. This iterative process enables the development of evidence-based strategies to uphold optimal standards of care throughout the trauma system.

Key Registries for System Evaluation

The regional performance improvement program relies on three primary registries to evaluate system performance and implement improvements:

1. **Standardized Pre-Hospital Registry (EMS Run Data):** Captures detailed information about pre-hospital interventions, transport times, and adherence to triage and destination protocols.
2. **Trauma Registry Minimum Registry:** Maintained at each trauma center, this dataset consolidates patient-level information on injury patterns, clinical interventions, and outcomes, enabling comprehensive analysis of care quality and system performance.
3. **Archival Data:** Includes historical and regional data curated over time to support longitudinal analysis and trend identification.

These registries collectively provide a foundation for identifying gaps in care, monitoring compliance, and driving system-wide improvements.

Performance Improvement Initiatives and Regional Impact

The RTAC employs data from these registries quarterly to:

- Develop and refine **performance improvement programs** that monitor regional compliance with trauma system standards.
- Evaluate the **effectiveness of destination guidelines** and other components of the Regional Trauma Plan, modifying protocols as necessary based on findings.
- **Audit filters:** The RTAC identifies specific audit filters for performance improvement, ensuring targeted oversight of high-priority areas, such as timeliness of care, outcomes for critically injured patients, and resource utilization.

Each participating hospital, whether designated or non-designated, is required to implement an **internal performance improvement program** that aligns with regional goals. For designated trauma centers, compliance with the **American College of Surgeons Committee on Trauma (ACS-COT)** standards necessitates a structured and continuous effort to enhance the care of injured patients. These standards emphasize a systematic approach to identifying deficiencies, implementing corrective actions, and monitoring the impact of changes.

Regional Trauma Performance Improvement Review

The RTAC has established a **Regional Trauma Performance Improvement Review Team,** mainly composing of clinicians from the region, functioning as a critical oversight body for evaluating system-wide trends and outcomes. This team facilitates the submission and review of specific trauma calls and cases, enabling:

- **Identification of Care Trends:** Systematically analyzing patterns in clinical care and patient outcomes.
- **System Adjustments:** Making informed adjustments to protocols, resource allocation, and training based on observed trends.
- **Ongoing Evaluation:** Conducting continuous assessments across the continuum of care, from pre-hospital response to rehabilitation, to ensure the trauma system meets evolving patient and systemic needs.

The data-driven performance improvement component exemplifies a structured, evidence-based approach to maintaining and enhancing trauma system efficacy. By leveraging comprehensive datasets, fostering regional collaboration, and instituting rigorous review processes, the RTAC ensures the trauma system remains responsive, efficient, and aligned with best practices. This commitment to continuous improvement enhances the quality and timeliness of trauma care, ultimately improving outcomes for all patients served by the system.

Injury Prevention and Outreach: A Strategic Framework for Trauma System Effectiveness

The Role of Injury Prevention in Trauma Systems

A cornerstone of any trauma system is the implementation of programs designed to prevent avoidable injuries and fatalities. These initiatives seek to address both behavioral and environmental risk factors, aiming to reduce the incidence of trauma by fostering community engagement, expanding partnerships, and promoting education. The Regional Trauma Advisory Committee (RTAC), in collaboration with its partners, prioritizes a proactive, evidence-based approach to injury prevention and outreach to mitigate the societal and economic burden of traumatic injuries.

Key Strategies for Effective Injury Prevention

The RTAC employs a **multifaceted strategy** that integrates research, data analysis, and community collaboration to develop and implement impactful injury prevention programs. The core elements of this approach include:

1. **Burden Analysis Through Research and Data Review**

    - Systematic review of regional and national trauma data to quantify the burden of injury.
    - Identification of demographic, geographic, and socioeconomic factors contributing to injury patterns, ensuring tailored and targeted interventions.

2. **Targeted Risk Identification**

    - Analysis of injury data from diverse sources, such as trauma registries, public health records, and EMS datasets, to pinpoint high-risk populations, behaviors, and environments.
    - Prioritization of resources for interventions in areas demonstrating the greatest need and highest risk.

3. **Behavioral and Environmental Risk Mitigation**

    - Development and implementation of strategies aimed at reducing modifiable risk factors. Examples include:
        - Campaigns promoting seatbelt / car seat use, helmet compliance, behavioral health awareness, intimate partner violence and gun safety.
        - Advocacy for environmental safety measures, such as improved road infrastructure and fall prevention in older adults.

- Evaluation of intervention efficacy using measurable outcome metrics to guide program refinement.

4. **Community Collaboration and Capacity Building**

    - Engagement with local stakeholders, including schools, businesses, law enforcement, and public health agencies, to mobilize resources and expertise.
    - Empowering communities through education and training programs, fostering resilience and self-sufficiency in addressing local injury prevention needs.

Integration of Education and Awareness

Education is a critical component of injury prevention, serving to raise awareness and encourage behavioral change. The RTAC collaborates with its partners to deliver targeted educational programs that:

- Inform individuals about the risks associated with specific activities or environments.
- Promote protective behaviors, such as proper use of child safety restraints and adherence to safety protocols by EMS providers.
- Encourage community advocacy for systemic changes that improve safety, such as policy reforms or infrastructure investments.

Injury prevention and outreach are indispensable elements of a high-functioning trauma system. By leveraging data, fostering collaboration, and deploying targeted educational campaigns, the RTAC ensures that prevention efforts are both impactful and sustainable. This strategic framework not only reduces the incidence of trauma but also strengthens community capacity to address risks proactively, aligning with the overarching goal of minimizing preventable injuries and deaths.

Rehabilitation: Integral to Trauma Care and Functional Recovery

Early Initiation of Rehabilitation

Rehabilitation is a critical component of trauma care, beginning on the first day of hospitalization to ensure alignment with the overarching goal of restoring patients to their pre-injury functional status. Early initiation of rehabilitation not only improves patient outcomes but also contributes to the cost-effectiveness of trauma care by reducing the likelihood of long-term disability and the associated socioeconomic burden.

Principles of Rehabilitation in Trauma Care

Effective rehabilitation necessitates a patient-centered approach grounded in the following principles:

1. Preservation of Optimal Functional Recovery
    - Acute care interventions should prioritize strategies that prevent complications, minimize functional decline, and support long-term recovery trajectories.
    - Multidisciplinary collaboration ensures that acute medical treatments align with rehabilitation goals, fostering seamless transitions across phases of care.
    -
2. Early Evaluation of Rehabilitation Needs

    - Every trauma patient should undergo a comprehensive rehabilitation assessment at the earliest opportunity during hospitalization.
    - This evaluation identifies specific needs across physical, cognitive, and psychosocial domains, enabling tailored therapeutic interventions.
    - Early identification of rehabilitation needs reduces delays in initiating therapy, maximizing recovery potential

3. Multidisciplinary Team Involvement

    - Rehabilitation requires the coordinated efforts of an organized multidisciplinary team. This team should include, but is not limited to:
        - Physical therapists.
        - Occupational therapists.
        - Speech-language pathologists.
        - Rehabilitation physicians and nurses.
        - Social workers and case managers.

Team members must possess specialized training in trauma rehabilitation, ensuring evidence-based practices tailored to the unique challenges of trauma recovery.

4. Individualized Therapy Components

    - The assessment process should delineate specific components of therapy required for each patient, such as:

        - Mobility training and strength restoration.
        - Neurocognitive rehabilitation for head injuries.
        - Psychosocial support to address trauma-related emotional and mental health challenges.

    - Individualized care plans should be adaptable, reflecting the evolving needs of the patient throughout the recovery process.

Systemic Implications of Early Rehabilitation

Beyond patient-level benefits, the integration of early rehabilitation into trauma care has broader systemic advantages:

- Cost Reduction: Timely rehabilitation minimizes long-term healthcare costs by preventing complications, reducing readmissions, and promoting independence.
- Outcome Optimization: Early and proactive rehabilitation interventions are associated with shorter hospital stays, improved functional outcomes, and enhanced quality of life for trauma survivors.
- Alignment with Trauma System Goals: Rehabilitation as a standard component of trauma care aligns with the system-wide objective of delivering holistic, high-quality care that addresses the full continuum of patient needs.

Rehabilitation is not merely an adjunct to trauma care but a core element essential to achieving optimal recovery outcomes. By emphasizing early initiation, multidisciplinary collaboration, and individualized therapy, the trauma system ensures that rehabilitation contributes effectively to restoring patients to their pre-injury status. This approach underscores the dual priorities of patient-centered care and system-wide efficiency, reinforcing the value of rehabilitation within the broader trauma care continuum.

DISASTER PREPAREDNESS

NW Georgia EMS D.A.R.T.: Deployment and Activation Framework

Purpose and Structure

The Northwest Georgia Emergency Medical Services Disaster Assistance Response Taskforce (EMS D.A.R.T.) is designed to provide a sustainable and coordinated EMS taskforce for Region I, GEMA Area 6, the state of Georgia, and neighboring states during mass casualty events that exceed local response capacity. This initiative ensures an organized and effective response to large-scale emergencies, leveraging regional collaboration and pre-established protocols.

Taskforce Configuration:

- Each participating EMS service contributes one designated ambulance staffed by a crew of 3–5 personnel (minimum of 3).
- Crews operate as part of one of four strike teams.
- Upon activation, units converge at a pre-determined location specified by the **Strike Team Leader (ST Commander)**. The strike team then proceeds convoy-style to the designated D.A.R.T. staging area for the incident.

Activation Protocol

EMS D.A.R.T. activations are reserved for significant mutual aid requests beyond typical agency capacities, including:

- Support for Georgia Search and Rescue (GSAR) EMS operations.
- Requests from the State Operations Center or Regional Hospital Coalitions.
- Comprehensive D.A.R.T. activations for mass casualty incidents.

Steps for Activation:

1. Initial Contact:
    - Initiated by local EMS directors, EMA directors, coalition facilitators, or 9II centers.
2. Coordination:
    - Contact the Region I EMS Director or the Region I Training Coordinator (RTC) to initiate taskforce mobilization.
    - If the EMS Director or RTC is unavailable, contact the Metro Atlanta Ambulance Service Communications Center at 770-693-8480. The communications center will continue efforts to establish contact with the appropriate regional leaders.
3. Resource Briefing:
    - The Region I EMS Director or their designee will communicate directly with the Incident's EMS Command to obtain a situational briefing. This includes:
        - Resource requirements.
        - The scope and type of activation.
        - Deployment timelines and staging instructions.

Operational Deployment

Upon activation:

- Strike teams assemble at the specified location determined by the ST Commander.
- The teams proceed convoy-style to the event's designated D.A.R.T. Staging Area, ensuring organized and efficient arrival.
- Coordination between strike teams and incident command facilitates resource allocation, ensuring that personnel and equipment are optimally utilized to address the emergency.

The NW Georgia EMS D.A.R.T. exemplifies a structured, scalable, and collaborative approach to managing mass casualty events. By integrating regional resources and establishing clear activation and deployment protocols, the taskforce enhances the region's resilience and capacity to respond to large-scale

emergencies. This model not only supports local agencies during times of crisis but also strengthens inter-agency and interstate collaboration, ensuring timely and effective patient care under extraordinary circumstances.

Glossary of Georgia Trauma System

EMS Region

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

Georgia Trauma Communications Center (GTCC)

A 24/7 facility staffed by personnel with specialized knowledge of Georgia's hospital systems, functions, and protocols. The GTCC coordinates the needs of EMS providers at field incidents with hospital resource availability and capacity across the state.

Georgia Trauma System

The collective framework of regional trauma systems organized to ensure statewide access to high-quality trauma care. Its implementation aims to reduce trauma-related morbidity and mortality across Georgia.

Major Trauma Center

Defined as a Level I or Level II Trauma Center, as determined by the standards of the American College of Surgeons (ACS).

Non-Designated Participating Hospital

An acute care hospital licensed in Georgia with an emergency services department and variable specialty physician coverage. These hospitals are equipped to treat, stabilize, and admit low-acuity trauma patients and have committed to the trauma system by signing a letter of participation.

Non-Participating Hospital

A licensed Georgia hospital that has not committed to the trauma system and is not a designated trauma center.

Participating Hospital

Any trauma center or non-designated participating hospital within the Georgia Trauma System.

Performance Improvement (PI)

A structured, data-driven, and reviewable process aimed at achieving targeted improvements within specific components of the trauma system at regional or state levels.

Primary Triage

The process of determining whether a patient meets the Georgia Trauma System Entry Criteria.

Regional Trauma Advisory Committee (RTAC)

A subcommittee of the Regional EMS Council endorsed by the Georgia Trauma Commission. The RTAC develops, implements, and oversees the Regional Trauma System Plan.

Regional Trauma System

A network of assets, stakeholders, capabilities, and providers organized within a specific trauma service area to enhance the identification and transport of trauma patients to appropriate facilities for definitive care within optimal timeframes.

Regional Trauma System Plan ("Plan")

A document developed by the RTAC to formalize relationships and operations among regional trauma system components.

Regional Trauma System Planning Framework ("Framework")

A guide issued by the Georgia Trauma Commission to assist in the development of regional trauma system plans. The Framework outlines essential components and functions for regional trauma system operations.

Resource Availability Display (RAD)

A computer interface displaying real-time system status for trauma centers and resource availability at participating hospitals. Access is restricted to participating hospitals and the GTCC.

Secondary Triage

A decision-making process that evaluates physiologic, anatomic, mechanism of injury, EMS provider discretion, and co-morbid criteria to determine transport destination recommendations, as facilitated by the GTCC.

Transfer Center

A hospital-based unit responsible for coordinating patient transfers into and out of the facility.

Transport Time

The estimated duration between scene departure and arrival at the destination hospital, accounting for mode of transport, weather, traffic, and other variables.

Trauma Center

A hospital designated by the State Office of EMS & Trauma as a Level I, II, III, or IV trauma facility, based on ACS Committee on Trauma Verification Standards.

Trauma Service Area

A geographic region that incorporates overlapping hospital catchment areas and aligns with statewide EMS regional infrastructure.

Trauma System Entry Criteria

The criteria used in primary triage to determine a patient's entry into the trauma system (see Appendix D).

Trauma System Patient

A trauma patient whose primary triage decision meets the Trauma System Entry Criteria. Such patients are assigned a unique System I.D. number by the GTCC and are formally entered into the Georgia Trauma System.

Appendix A: Regional Overview and Resource Allocation

Region I Overview

Region I of the Georgia Trauma System encompasses a diverse geographic area designed to optimize trauma care delivery. The region serves over one million residents and visitors, leveraging a network of hospitals, EMS agencies, and air medical services to ensure timely and appropriate responses to trauma incidents.

Designated Trauma Centers in Region I

The designated trauma centers in Region I are categorized according to the Georgia Office of EMS & Trauma (OEMS&T) standards, reflecting their resource capabilities and service scope. Currently, Region I includes:

- **Level II Trauma Center:** Atrium Health Floyd Medical Center.
- **Level III Trauma Centers:**
    - Hamilton Medical Center.
    - Piedmont Cartersville Medical Center.
    - AdventHealth Redmond.
- **Level IV Trauma Centers:**
    - Atrium Health Floyd Polk Medical Center.
    - Wellstar Paulding Medical Center.

Non-Designated Participating Hospitals

Several non-designated hospitals within Region I have committed to the Georgia Trauma System. These facilities provide stabilization and care for low-acuity trauma patients while facilitating transfers to higher-level trauma centers when needed.

Resources and Transport Assets

Region I maintains a comprehensive array of ground and air transport resources to support trauma care:

- **Ground EMS Units:** 25 9II EMS agencies with transport capabilities and II non-transporting first responder agencies.
- **Air Medical Services:** Two air ambulance providers operating regionally, with the ability to respond rapidly to remote or critical incidents.

Adjacent Designated Trauma Centers

Patients requiring specialized care beyond the capabilities of Region I facilities may be transported to designated trauma centers outside the region. Key facilities include:

- **Level I Trauma Centers:**
  - Erlanger (Chattanooga, Tennessee).
  - Wellstar Kennestone (Marietta, Georgia).
- **Level II Trauma Center:**
  - Wellstar North Fulton (Roswell, Georgia).

Geospatial Distribution

Region I's trauma system infrastructure reflects the geographical challenges of the area, including rural expanses and urban centers as defined by the Department of Community Health Rural Hospital Organization Assistance Act of 2017. To ensure equitable access to trauma care:

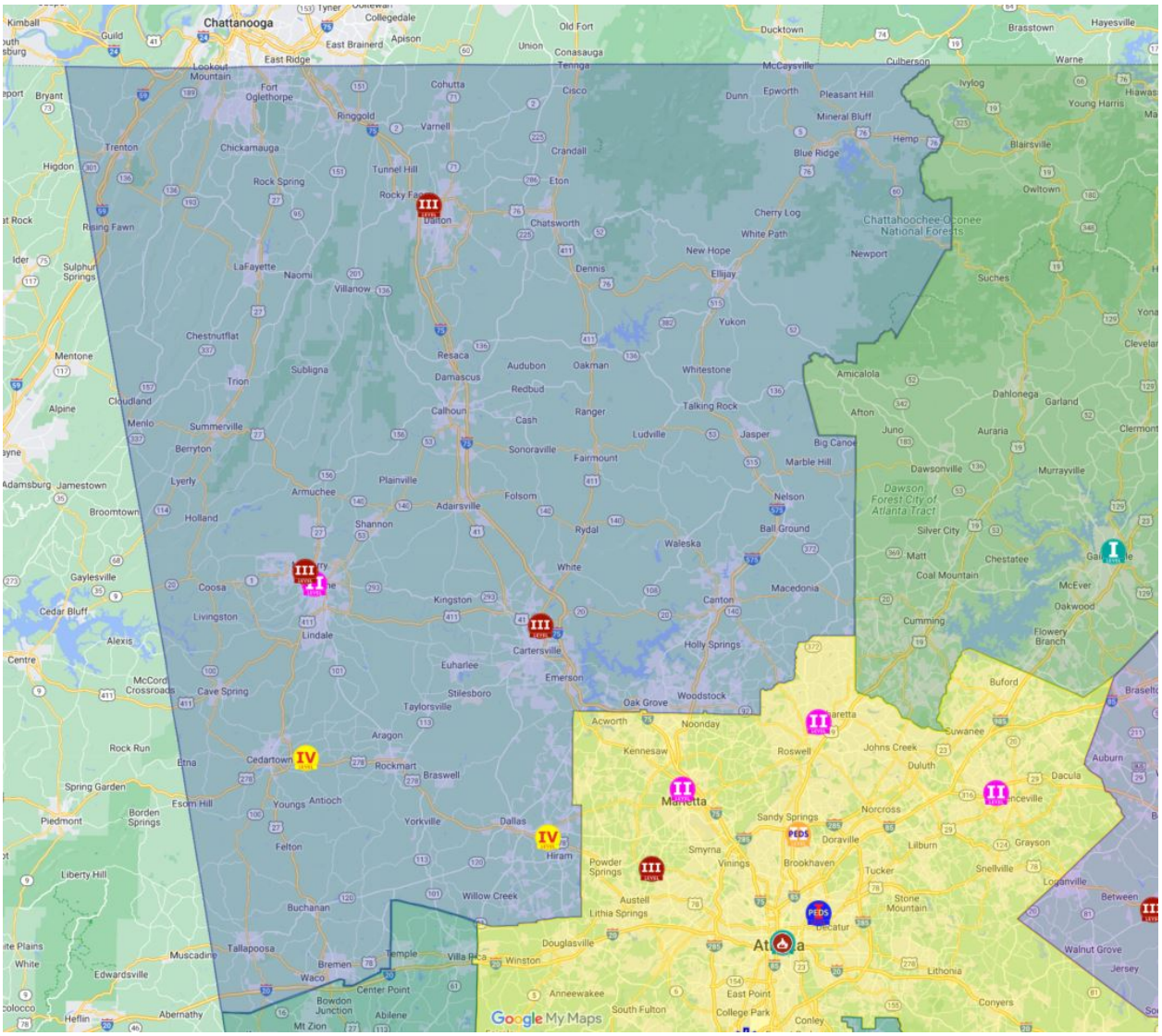
- **Strategic placement of trauma centers** minimizes transport times for critical cases.
- **Integrated EMS and air medical services** enable seamless interfacility transfers.

System Integration and Performance Monitoring

Region I's Regional Trauma Advisory Committee (RTAC) oversees the integration and continuous improvement of trauma care within the region. Performance is evaluated against key metrics, including transport times, patient outcomes, and system readiness, ensuring alignment with the Georgia Trauma System's objectives.

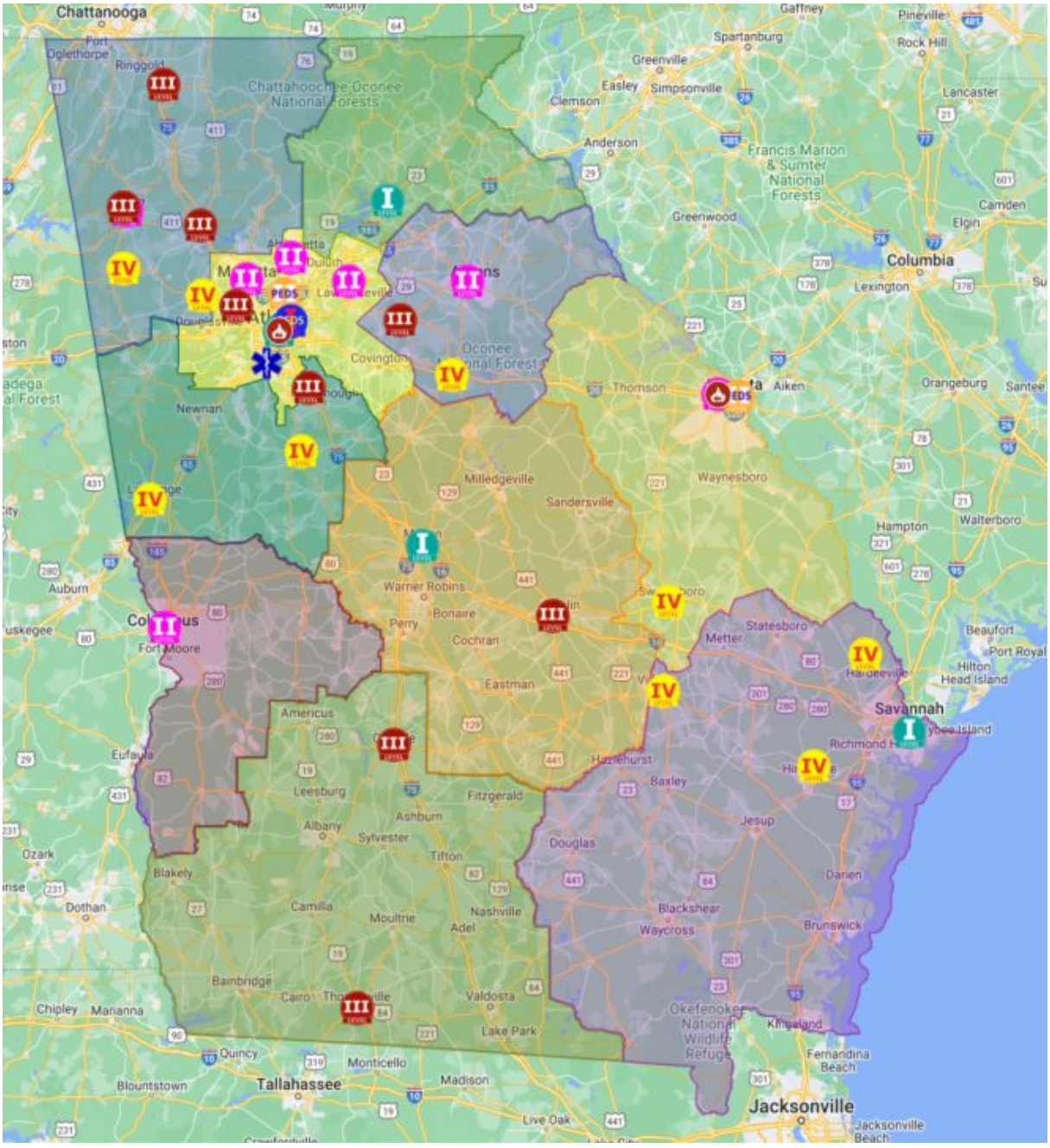
This appendix serves as a detailed resource for understanding the structure, capabilities, and operational dynamics of Region I's trauma system, facilitating informed decision-making and strategic planning across the network.

Region I Trauma Centers



The most recent maps can be found at https://trauma.georgia.gov/trauma-centers

Georgia Trauma Centers

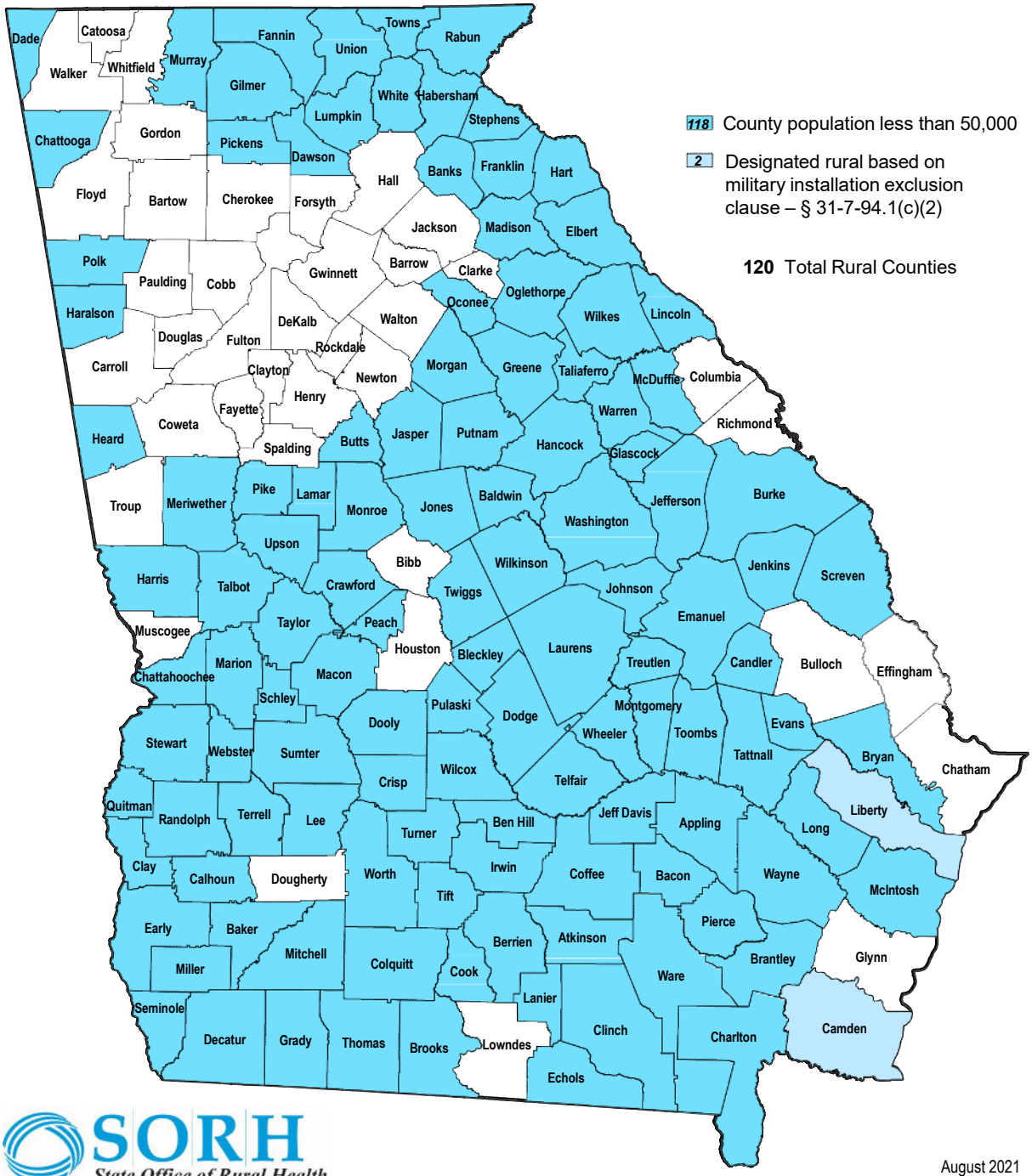


The most recent maps can be found at https://trauma.georgia.gov/trauma-centers

Georgia Rural Counties per Department of Community Health

Georgia Rural Counties

Rural Hospital Organization Assistance Act of 2017



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A Division of the Georgia Department of Community Health

August 2021
https://dch.georgia.gov/sorh

Appendix B: EMS and Transport Resources in Region I

County-Specific EMS Resources

This appendix details the EMS resources available across the counties of Region I, including agency contacts, operational leads, and communications channels. It provides an extensive catalog of capabilities designed to enhance trauma care coordination and response efficiency within the region.

Bartow County

- **Metro Atlanta Ambulance Service**
  Operations Manager: Josh Everett
  Phone: 470-2I7-7364
  Email: Josh.Everett@maas9II.com
  Communications Center: 770-693-8480

- **Bartow Fire (2 Ambulances)**
  EMS Chief: Buck Alday
  Phone: 470-503-740I
  Email: aldayb@bartowcountyga.gov

Catoosa County

- **Puckett EMS**
  Operations Manager: Joe Dunn
  Phone: 423-598-8898
  Email: JosephDunn@puckettems.com

Chattooga County

- **Atrium Floyd EMS**
  Captain: William Channell
  Phone: 770-547-8206
  Email: william.channell@atriumhealth.org
  Communications Center: 706-509-3838

Cherokee County

- **Cherokee County Fire/EMS**
  EMS Chief: Nate Sullivan
  Phone: 678-6I4-9603
  Email: npsullivan@cherokeega.com

Dade County

- **CHI Memorial**
  Director: Dale Johnson
  Phone: 423-42I-8094
  Assistant Director: Jonathan Waller
  Phone: 423-6I9-7477
  Email: jonathan.waller@commonspirit.org

- **Dade County EMS**
  Director: Alex Case
  Phone: 706-657-4627
  Email: acase@dadecounty-ga.gov
  Assistant Director: Kyle Gross
  Phone: 423-503-4789
  Email: kgross@dadecounty-ga.gov

Fannin County

- **Fannin County Fire/EMS**
  Director: Rebecca Huffman
  Phone: 706-632-4755
  Email: bhuffman@fannincountyga.org

- **Blue Ridge Medical Transport**
  Owner: Ryan McDaris
  Phone: 706-633-38I9
  Email: blueridgemedtrans@gmail.com

Floyd County

- **Advent Health Redmond EMS**
  Director: Marty Robinson

Phone: 706-59I-5379
Email: james.m.robinson@adventhealth.com

- **Atrium Health Floyd EMS**
  Captain: William Channell
  Phone: 770-547-8206
  Email: william.channell@atriumhealth.org

Gilmer County

- **Gilmer County Fire/EMS**
  EMS Chief: Will Sergent
  Phone: 706-455-8523
  Email: wsergent@gilmercounty-ga.gov

Paulding County

- **Metro Atlanta Ambulance Service**
  Operations Manager: Karen Robinson
  Phone: 404-597-5540
  Email: karen.robinson@maas9II.com
  Communications Center: 770-693-8480

Air Medical Resources in Region I

1. **AirLife Georgia – Jasper**
2. **Life Force – Blue Ridge and Calhoun**

Air Medical Resources Outside Region I

1. **AirLife Georgia – Gainesville and Kennesaw**
2. **Air Evac – Carrollton**
3. **Children's Healthcare – Atlanta**
4. **Life Force – Cleveland, Tennessee**
5. **Survival Flight – Rainbow City, Alabama**

Appendix C: Region I Pre-Hospital Destination Guidelines

Indications for Trauma Transport

Trauma patients meeting any of the outlined triage criteria must be transported to the closest appropriate trauma center. If extended ground transport times are anticipated, air transport should be considered. For patients with unmanageable airways or uncontrolled hemorrhage, immediate transport to the nearest appropriate hospital is required.

Trauma Triage Criteria

Physiologic Criteria

Patients meeting any of the following criteria should be transported to the highest-level trauma center available (Level I or II):

- **Glasgow Coma Scale (GCS) ≤ I3.**
- **Systolic blood pressure < 90 mmHg.**
- **Respiratory rate < I0 or > 29 breaths per minute (or < 20 breaths per minute for infants under one year).**

Anatomical Criteria

Patients with the following injuries should be transported to a Level I or II trauma center:

- **Penetrating injuries to the head, neck, torso, or groin associated with energy transfer.**
- **Flail chest.**
- **Two or more proximal long-bone fractures.**
- **Crushed, de-gloved, or mangled extremities.**
- **Amputations proximal to the wrist or ankle.**
- **Pelvic fractures (as indicated by a positive pelvic movement exam).**
- **Open or depressed skull fractures.**
- **Paralysis.**

Note on Pelvic Fractures:
If isolated pelvic fractures occur without significant mechanism of injury or physiologic criteria, agency protocols should determine hospital destination.

Mechanism of Injury
Patients with significant mechanisms of injury should be transported to the closest appropriate trauma center:

- **Falls:**
  - **Adults: > 20 feet (approximately two stories).**
  - **Children: > I0 feet or two to three times the child's height.**

- **High-Risk Auto Crashes:**
  - **Intrusion: > I2 inches at the occupant site or > I8 inches at any site.**
  - **Ejection from a vehicle.**
  - **Death in the same passenger compartment.**
  - **Vehicle telemetry indicating high injury risk.**

- **Auto vs. Pedestrian/Bicycle:**
  - **Patient thrown, run over, or with an impact > 20 mph.**

- **Motorcycle Crashes:**
  - **Speed > 20 mph.**

For patients meeting mechanism criteria alone, EMS providers should consult medical control or refer to agency protocols for destination determination.

Special Considerations

- **Age:**
  - **Older adults (55+): Increased risk of injury/death.**
  - **Children: Preferentially transported to pediatric-capable trauma centers.**

- **Burns:**
  - **Transport to burn centers for isolated burns without trauma mechanisms.**
  - **Combination of burns and trauma (≥I5% partial/full thickness): Transport according to injury severity.**

- **Other Factors:**
  - **Anticoagulation/bleeding disorders.**
  - **Time-sensitive extremity injuries (e.g., fractures with neurovascular compromise).**
  - **Pregnancy > 20 weeks.**
  - **EMS provider judgment considering extrication time, patient history, and specific injury mechanisms.**

Transport Procedures

Direct Ground Transport

If extended ground transport is not anticipated:

1. **Provide appropriate care.**
2. **Establish early communication with the receiving trauma center.**
3. **Initiate transport within I0 minutes of scene arrival.**

Air Transport

Consider air transport if:

- **The patient meets clinical triage criteria and can be delivered to an appropriate trauma center faster than by ground.**
- **Ground transport availability is insufficient or would leave the local community without coverage.**
- **The patient requires a higher level of care than ground EMS can provide, and air transport can arrive sooner.**

Ground Transport with Extended Time

If air transport is unavailable or delayed:

1. **Provide appropriate care.**
2. **Establish early communication with the receiving center.**
3. **Initiate transport to the closest appropriate hospital or trauma center.**

Geographical and Resource Constraints

If direct transport to a Level I or II trauma center is unfeasible due to geography or resource limitations:

- **Provide stabilization.**
- **Establish communication with the receiving trauma center.**
- **Use air transport if feasible, prioritizing rapid delivery to appropriate care.**

Patients not meeting triage criteria should be transported to the nearest medical facility following local EMS protocols.

Additional Notes: Pre-Hospital Trauma Transport Guidelines

Unmanageable Airway or Uncontrolled Hemorrhage

- All patients with an **unmanageable airway** or **uncontrolled hemorrhage** must be transported to the closest hospital emergency department to ensure rapid stabilization.

Traumatic Cardiac Arrest

- For patients in **traumatic cardiac arrest** with detectable electrical cardiac activity:
    - Transport to a designated trauma center is preferred if the transport time differs by less than I0 minutes compared to the closest hospital.
    - Otherwise, prioritize transport to the closest hospital emergency department.

Obstetric Patients

- Obstetric patients (> 20 weeks gestation) who do not meet trauma criteria should be transported to the closest hospital equipped with obstetrical resources, ensuring specialized care.

Mechanism of Injury Without Physiologic/Anatomic Criteria

- If a patient meets **mechanism of injury criteria** but not physiologic or anatomic criteria, EMS providers should:
    - Contact **medical control** to confirm the most appropriate destination.
    - Refer to agency-specific protocols for guidance.

Air vs. Ground Transport

- Ground ambulances should not delay transport excessively while awaiting air transport:
    - If air transport is delayed and the patient is ready for transport, initiate ground transport.
    - Alternatively, reassign the helicopter landing zone to align with the ongoing transport route.

Patient's Right to Choose Destination

- Under **Georgia law**, patients have the right to choose their hospital destination. In cases where the patient is a minor or deemed incompetent, this right extends to the parent or legal guardian.

Use of Medical Control

- EMS providers are encouraged to contact **medical control** to:
    - Address concerns regarding patient care decisions.
    - Confirm the most appropriate receiving facility.
    - Evaluate the necessity and appropriateness of air transport.

Appendix D: National Guidelines for Field Triage of Injured Patients

National Guideline for the Field Triage of Injured Patients

RED CRITERIA
High Risk for Serious Injury

Injury Patterns	Mental Status & Vital Signs
• Penetrating injuries to head, neck, torso, and proximal extremities • Skull deformity, suspected skull fracture • Suspected spinal injury with new motor or sensory loss • Chest wall instability, deformity, or suspected flail chest • Suspected pelvic fracture • Suspected fracture of two or more proximal long bones • Crushed, degloved, mangled, or pulseless extremity • Amputation proximal to wrist or ankle • Active bleeding requiring a tourniquet or wound packing with continuous pressure	**All Patients** • Unable to follow commands (motor GCS < 6) • RR < 10 or > 29 breaths/min • Respiratory distress or need for respiratory support • Room-air pulse oximetry < 90% **Age 0–9 years** • SBP < 70mm Hg + (2 x age in years) **Age 10–64 years** • SBP < 90 mmHg or • HR > SBP **Age ≥ 65 years** • SBP < 110 mmHg or • HR > SBP

Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system

YELLOW CRITERIA
Moderate Risk for Serious Injury

Mechanism of Injury	EMS Judgment
• High-Risk Auto Crash – Partial or complete ejection – Significant intrusion (including roof) • >12 inches occupant site OR • >18 inches any site OR • Need for extrication for entrapped patient – Death in passenger compartment – Child (age 0–9 years) unrestrained or in unsecured child safety seat – Vehicle telemetry data consistent with severe injury • Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.) • Pedestrian/bicycle rider thrown, run over, or with significant impact • Fall from height > 10 feet (all ages)	**Consider risk factors, including:** • Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact • Anticoagulant use • Suspicion of child abuse • Special, high-resource healthcare needs • Pregnancy > 20 weeks • Burns in conjunction with trauma • Children should be triaged preferentially to pediatric capable centers **If concerned, take to a trauma center**

Patients meeting any one of the YELLOW CRITERIA WHO DO NOT MEET RED CRITERIA should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highest-level trauma center)

Appendix E:

Reference:

1. Daugherty J, Zhou H, Sarmiento K, Waltzman D. Differences in State Traumatic Brain Injury–Related Deaths, by Principal Mechanism of Injury, Intent, and Percentage of Population Living in Rural Areas — United States, 2016–2018. *MMWR Morbidity and Mortality Weekly Report*. 2021;70(41):1447-1452. doi:10.15585/mmwr.mm7041a3
2. QuickStats: Injury Deaths* as a Percentage of Total Deaths, by Age Group — National Vital Statistics System, United States, 2019. *MMWR Morbidity and Mortality Weekly Report*. 2021;70(31)doi:10.15585/mmwr.mm7031a3
3. FINAL REPORT OF THE JOINT COMPREHENSIVE STATE TRAUMA SERVICES STUDY COMMITTEE (2006).
4. Peterson C, Luo F, Florence C. State-Level Economic Costs of Fatal Injuries — United States, 2019. *MMWR Morbidity and Mortality Weekly Report*. 2021;70(48):1660-1663. doi:10.15585/mmwr.mm7048a2
5. Alharbi RJ, Shrestha S, Lewis V, Miller C. The effectiveness of trauma care systems at different stages of development in reducing mortality: a systematic review and meta-analysis. *World Journal of Emergency Surgery*. 2021;16(1)doi:10.1186/s13017-021-00381-0
6. Galvagno Jr SM, Thomas S, Stephens C, et al. Helicopter emergency medical services for adults with major trauma. *Cochrane Database of Systematic Reviews*. 2013.
7. Moore L, Champion H, Tardif PA, et al. Impact of Trauma System Structure on Injury Outcomes: A Systematic Review and Meta-Analysis. *World Journal of Surgery*. 2017;42(5):1327-1339. doi:10.1007/s00268-017-4292-0
8. National Hospital Ambulatory Medical Care Survey: 2021 Emergency Department Summary Tables (2021).
9. Peek-Asa C, Zwerling C, Stallones L. Acute Traumatic Injuries in Rural Populations. *American Journal of Public Health*. 2004;94(10):1689-1693. doi:10.2105/ajph.94.10.1689
10. Holmquist LS, O'Neal JP, Swienton RE, Harris CA. The Role of Veterinarians in Mass Casualty Disasters: A Continuing Need for Integration to Disaster Management. *Frontiers in Public Health*. 2021;9doi:10.3389/fpubh.2021.644654
11. Jarman MP, Curriero FC, Haut ER, Pollack Porter K, Castillo RC. Associations of Distance to Trauma Care, Community Income, and Neighborhood Median Age With Rates of Injury Mortality. *JAMA Surgery*. 2018;153(6)doi:10.1001/jamasurg.2017.6133
12. MacKenzie EJ, Rivara FP, Jurkovich GJ, et al. A National Evaluation of the Effect of Trauma-Center Care on Mortality. *New England Journal of Medicine*. 2006;354(4):366-378. doi:10.1056/NEJMsa052049
13. Hu W, Dong Q, Huang B. Correlations between road crash mortality rate and distance to trauma centers. *Journal of Transport & Health*. 2017;6:50-59. doi:10.1016/j.jth.2017.05.005
14. Chiu WC, Powers DB, Hirshon JM, et al. Impact of trauma centre capacity and volume on the mortality risk of incoming new admissions. *BMJ Military Health*. 2022;168(3):212-217. doi:10.1136/bmjmilitary-2020-001483
15. Muttalib F, Tillmann B, Ernst G, et al. Mortality Among Severely Injured Adolescents Admitted to Pediatric vs Adult Trauma Centers. *JAMA Network Open*. 2024;7(12)doi:10.1001/jamanetworkopen.2024.50647

16. Goldstick JE, Cunningham RM, Carter PM. Current Causes of Death in Children and Adolescents in the United States. *New England Journal of Medicine*. 2022;386(20):1955-1956. doi:10.1056/NEJMc2201761
17. Potin M, Sénéchaud C, Carsin H, et al. Mass casualty incidents with multiple burn victims: Rationale for a Swiss burn plan. *Burns*. 2010;36(6):741-750. doi:10.1016/j.burns.2009.12.003
18. Disaster Management and the ABA Plan. *Journal of Burn Care & Rehabilitation*. 2005;26(2):102-106. doi:10.1097/01.Bcr.0000158926.52783.66