Georgia Region 3

Emergency Medical Services Regional Trauma Plan

Updated August 10, 2023

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Mission Statement

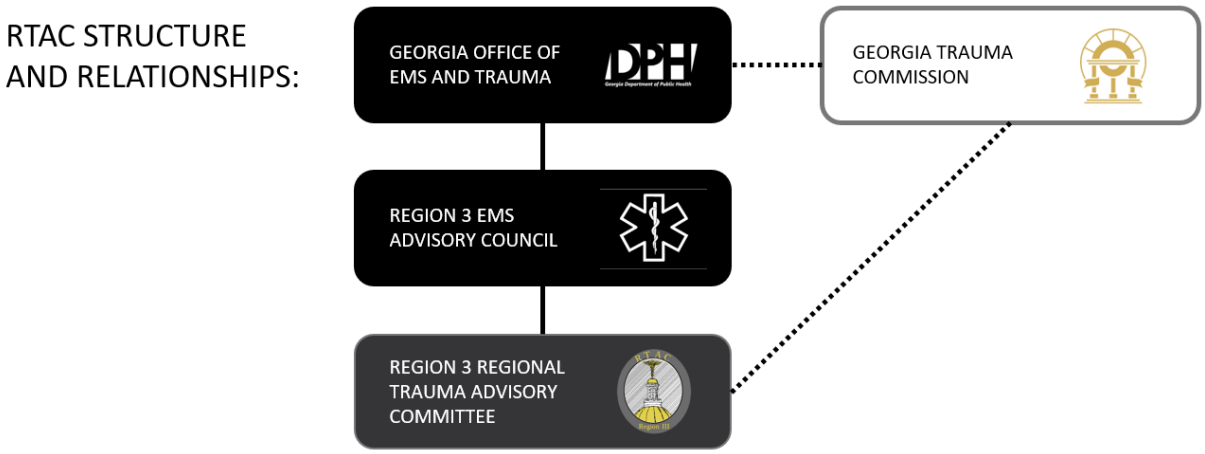
To promote a comprehensive and collaborative Trauma System that will meet the needs of critically injured patients through evidence-based medicine and ongoing quality improvement.

Vision Statement

To provide a comprehensive and unified Trauma System, including adult and pediatric trauma and burn care, delivering top quality care and serving as a leader for the State of Georgia.

Authority and Reporting Structure

The Region 3 Regional Trauma Advisory Committee (RTAC) reports to the Region 3 Emergency Medical Services (EMS) Advisory Council and works collaboratively with the Region 3 EMS Council, the Georgia Office of EMS and Trauma (OEMS&T), and the Georgia Trauma Commission (GTC). The OEMS&T is the regulatory subdivision of the Georgia Department of Public Health that is directly responsible for administration of the statewide EMS system. The GTC is designed to establish, maintain, and administer a trauma center network across the state to match resources with need and oversee the flow of funds for system improvement. The RTAC has joint reporting responsibility to the GTC and the region's EMS Council (Figure 1).



Regional EMS Council

In accordance with the designation made by the Board of Health pursuant to Georgia Code Section 31-11-3(a), a Regional EMS Advisory Council (REMSAC) shall serve as the local coordinating entity in each EMS Region. The Council shall function under the authority of the Georgia Department of Public Health Rules and Regulations Chapter 511-9-2-.04 and the Official Code of Georgia Annotated Section 31-11-3. Pursuant to DPH Rule 511-9-2-.04 (1), the Department of Public Health designated the Council as the local coordinating entity for EMS Region 03. The EMS Council serves as a liaison between the Department of Public Health and regional EMS partners. The purpose is to facilitate, improve, and maintain a quality EMS system in the region and serves as the local coordinating entity for regional emergency response.

Region 3 RTAC

Based on EMS Rules & Regulations 511-9-2-.02 (ttt), the Regional Trauma Advisory Committee or RTAC means a trauma-specific multidisciplinary, multiagency advisory group that is a committee of the Regional EMS Advisory Council for a given EMS Region. The purpose of the RTAC is to develop and maintain the Regional Trauma System Plan and to monitor trauma system performance and improvement activities.

Duties of the RTAC include, but are not limited to the following: enhance Injury Prevention, by monitoring high incident areas and proposing solutions and follow-up plans to specific agencies, monitor component compliance with the Regional Trauma System Plan, analyze system performance using data specified in the data-driven performance improvement component, evaluate regional trauma training needs, act as a forum for regional trauma issues to providers and consumers within the trauma care continuum, work with hospitals on the use of transfer agreements, proper use of diversion, emergency department “wall time” and holding patterns, etc., identify additional Trauma Center and Trauma System capacity needs within the respective Region, support non-designated participating hospital to be brought up to Trauma Center designation status as determined, and assist EMS Agencies with the development of mutual aid agreements and activities ensure region-wide EMS coverage at all times.

Overview

Trauma poses a serious health concern for the citizens of Georgia and, in line with the national Mission Zero mandate, setting the goal of zero preventable deaths, Georgia is committed to providing optimal, evidence-based care for the injured patient. Our goal is to address all stages of care, from injury prevention, optimizing time to definitive care, providing optimal inpatient and outpatient resources, and working to prevent re-injury.

The Georgia Trauma Quality Improvement Program (GQIP) is a collaborative database within the national Trauma Quality Improvement Program (TQIP) that provides demographic, in hospital, and outcomes data on the most severely injured trauma patients treated at trauma centers across the state of Georgia. Based on GQIP data, the most common mechanisms of trauma in the state are falls (45.3%), motor vehicle trauma (22.3%), and firearm injury (7.8%). Overall mortality amongst patients that qualify for GQIP is 8.2%, with the highest mortality in patients with severe traumatic brain injury (48.1%), followed by elderly blunt trauma (27.7%). The vast majority of patients are discharged to home (69.7%) after trauma, proportionally higher than the national average, with smaller numbers discharged to skilled nursing facilities (6.8%), inpatient rehabilitation (10.3%), and long-term care facilities (1.1%). Based on regional data for the pediatric trauma population in Region 3, the most common mechanism of injury is falls (45%), followed by motor vehicle collision (27%). The most common cause of mortality in the pediatric population is child abuse (36%), followed by motor vehicle collision (32%), and firearm injury (16%).

Region 3 is a diverse region composed of eight counties with a population that includes both urban and rural settings. The region covers approximately 4% of the landmass for the state of Georgia, and includes approximately 4.2 million people, equating to approximately 39% of the total state population. Region 3 contains five (5) adult, and two (2) pediatric trauma centers, as well as one (1) verified burn center and one (1) non-verified burn center. There are 17 EMS transport agencies with additional support through City and County Fire Departments providing transport within the region. The region is home to many popular destinations and focal points for the state including Hartsfield-Jackson Atlanta International Airport, Dobbins Air Reserve Base, Mercedes-Benz Stadium, Georgia State University, Georgia Tech University, Emory University, Georgia International Convention Center, Georgia World Congress Center, Six Flags over Georgia, Whitewater Water Park, and Stone Mountain Park. Despite our diversity, we have prioritized communication and collaboration to match resources with

patients in need across our eight counties: Clayton, Cobb, Dekalb, Douglas, Fulton, Gwinnett, Newton, and Rockdale (Figure 2).

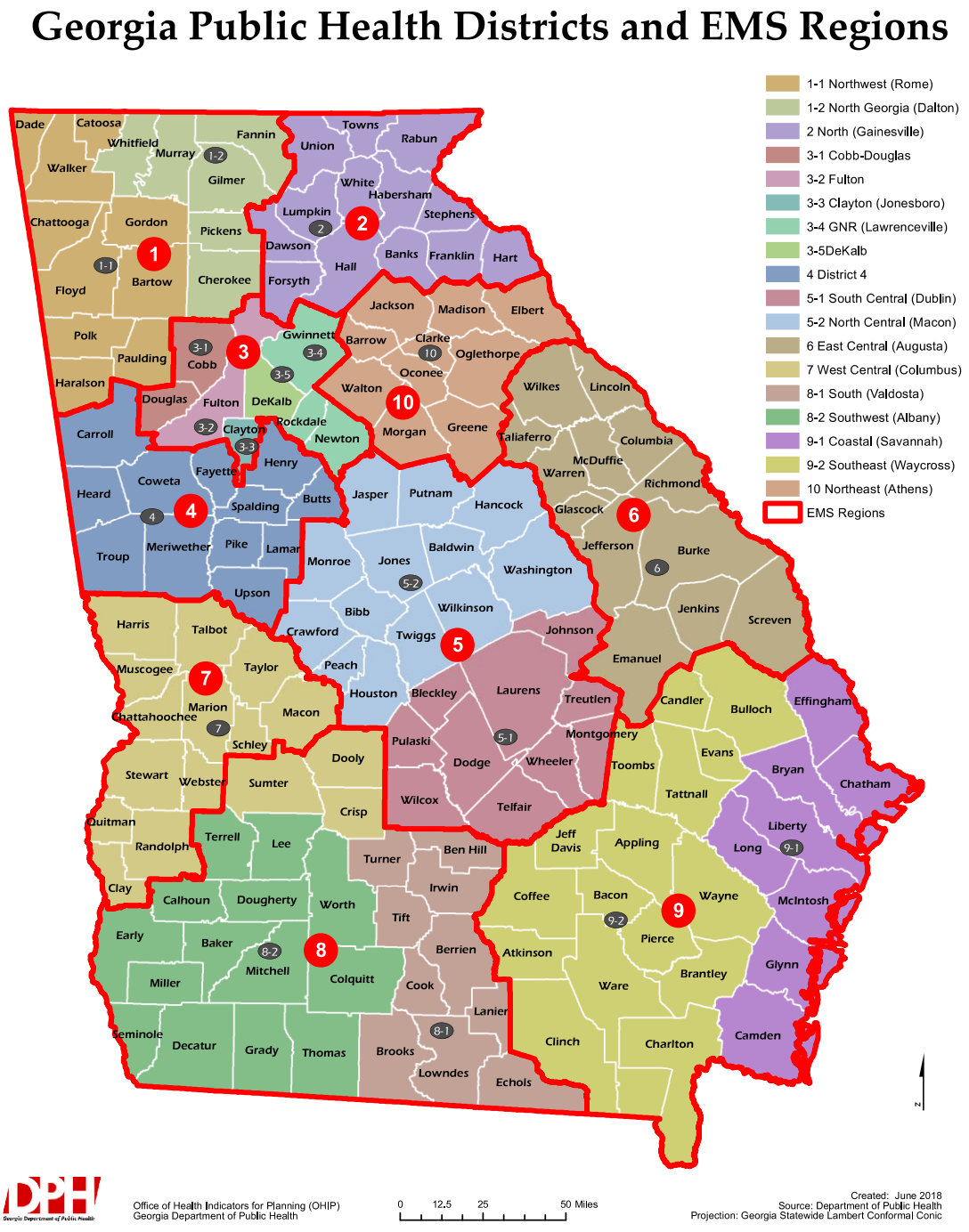


Figure 2: Georgia RTAC Regions and respective counties.

Membership

The Region 3 RTAC membership is open to all healthcare providers in the region regardless of affiliation with Trauma or Non-Trauma designated centers. Participation in quarterly meetings is open to all members of the RTAC, minimum participation is as follows:

- At least one representative from each designated Trauma Center in the region is expected.
- All Adult and Pediatric Trauma and Burn Medical Directors or their designee are expected.
- All Adult and Pediatric Trauma and Burn Program Managers or their designee are expected.
- Participation from non-trauma designated centers is encouraged.
- At least one representative from each EMS zone provider in the region is expected.
- At least one representative from Fire Departments providing EMS is encouraged.
- Participation from private EMS providers is encouraged.

Quorum: the quorum constitutes 50% of the voting membership of the regional committee.

Executive Committee

The RTAC Chair presides over the RTAC meetings, sets the agenda, and facilitates discussion amongst committee members. The Chair is a voting member of the Region 3 EMS Council. The Vice-Chair performs the duties of the Chair when the Chair is absent from a meeting. The Secretary determines if a quorum is present, maintains meeting minutes, and distributes them to the membership. The Secretary works with the Coordinator to maintain records and disseminate information to the RTAC constituents.

Prehospital

Pre-hospital providers are typically the first providers of care to the injured patient and have a tremendous impact on outcomes based upon indicators such as response time, care provided, and transport to the most appropriate facility. Placing the right patient, in the right place, at the right time, by the right means is critical to optimize outcome for injured patients. The pre-hospital providers are charged with delivering stabilizing care and triaging patients to the most appropriate center within the system, optimizing under and over triage in order to support the health and resources of the overall trauma system.

Region 3 is served by multiple EMS ground and air agencies, including capabilities for pediatric, burn, and critical care transport (table 1). Improved survival of severely injured trauma patients at designated trauma centers underscores the importance of on-scene triage decisions. Trauma patients are triaged based on the National Guideline for the Field Triage of Injured Patients criteria (figure 3) to one of the regions five adult or two pediatric trauma centers. Non-trauma, Acute Care Hospitals in the region contribute to the trauma system by receiving patients outside of these criteria. EMS patient handoff is standardized across Region 3 Trauma Centers to follow the “MIST “ (figure 4) format and ensure complete and concise delivery of on-scene and transport data. Adult and Pediatric Trauma and Burn guidelines for care delivered in the field are determined by each agency with a goal of standardization across the region. Utilization of ground vs air transport is at the discretion of the individual agency based on local resources and weather conditions.

The Georgia Coordinating Center (GCC), established in 2019, acts to coordinate the use of emergency rooms by ground ambulance services, providing situational awareness for EMS regarding emergency room capacity and traffic. The GCC also utilizes the National Guideline for the Field Triage of Injured Patients criteria to direct patients to the appropriate center.

Table 1: Region 3 EMS and Transport Agencies by County

County	Transport Agency	Non-Transport Agency
Clayton	Clayton County Fire and Emergency Services	
	Forest Park Department of Fire and Emergency Services	
	Morrow Fire Department	
Cobb	Metro Atlanta Ambulance Service	Austell Fire Department
	Puckett EMS	Cobb County Fire Department
		Marietta Fire Department
		Smyrna Fire Department
Dekalb	American Medical Response - DeKalb	Decatur Fire Department
	DeKalb County Fire and Rescue	Emory EMS Medical First Responders
		Stone Mountain Fire Department
Douglas	Douglas County Fire Department	
Fulton	American Medical Response - North Fulton	Alpharetta Fire Department
	Atlanta Fire Rescue	Chattahoochee Hills Fire Department
	Grady EMS - Central and South Fulton	College Park Fire Department
	Hapeville Fire Department	Fairburn Fire Department
		Johns Creek Fire Department
		Milton Fire Department
		Mountain Park Fire Department
		Palmetto Fire Department
		Roswell Fire Department
		Sandy Springs Fire Department
		South Fulton Fire Department
		Union City Fire Department
Gwinnett	Gwinnett County Fire & Emergency Services	
Newton	National EMS	Covington Fire Department
		Newton County Fire Department
Rockdale	National EMS	Rockdale County Fire Department
Pediatric Transport		
	Children's Healthcare of Atlanta Transport Services	
Air Transport		
	Air Evac - Gwinnett	
	Air Methods - Kennesaw	
	Air Methods - Oxford	
	Children's Healthcare of Atlanta Transport Services	

Figure 3: National Guideline for the Field Triage of Injured Patients criteria used by ground EMS and the GCC for patient triage in Region 3.

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

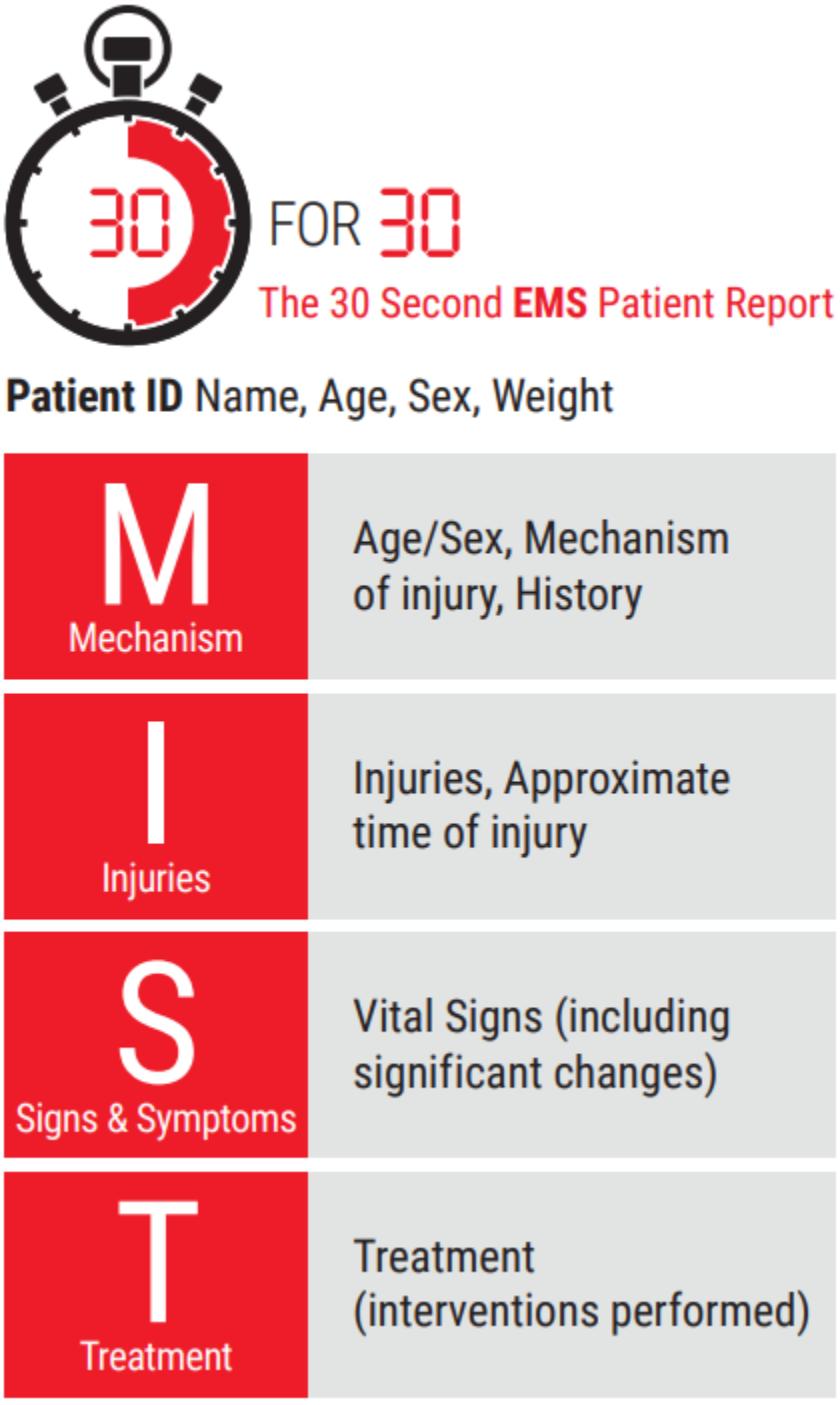
Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system

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)

Figure 4: Mechanism, Injuries, Signs & Symptoms, Treatment (MIST) format for EMS patient report.



Trauma & Burn Centers

The Region 3 Trauma System is inclusive of all hospitals, trauma and non-trauma, within the region. Hospitals participate in the regional system on a voluntary basis, and it is the collaboration and communication between centers that supports the high volume of trauma in this region.

Designated Trauma Centers

Georgia trauma centers are designated by the State OEMS&T with additional designation by the American College of Surgeons (ACS), Committee on Trauma Verification Committee. Trauma Centers will be required to have ACS verification to be eligible for GTC allocated funding for Level I and II centers by June 2023, and June 2025 for Level III centers. There are four designations of trauma center with Level I being the most, and Level IV, the least resource intensive (figure 5).

Figure 5: Overview characteristics of Trauma Centers based on level of designation.

TABLE 3. Characteristics of Trauma Centers

Level	Criteria
I	• Regional resource center expected to manage large numbers of seriously injured patients • Admit ≥1,200 trauma patients or have ≥240 admissions with ISS ≥16 per year • Attending trauma surgeon participates in major resuscitations in ED, present at operative procedures, and actively involved in critical care of all seriously injured patients (24-h in-house availability) • Immediate availability of board-certified emergency physicians, general surgeons, anesthesiologists, neurosurgeons, and orthopedic surgeons • Maintain a surgically directed critical care service • Participate in resident training • Be a leader in education and outreach activities • Conduct trauma research
II	• Regional resource center expected to manage large numbers of seriously injured patients • Same standards for provision of clinical care without the volume requirements • No requirement for resident training, education, outreach, trauma research, or surgically directed critical care service
III	• Capability to initially manage the majority of injured patients • Transfer agreements with Level I or II trauma centers for seriously injured patients • Continuous general surgical coverage
IV	• Often serve rural regions and supplement care within a larger trauma system • Initial evaluation and assessment of injured patients, with expected transfer of many patients to higher-level trauma centers • Transfer agreements with higher-level trauma centers • 24-h emergency coverage by a physician or midlevel provider • Frequently lack continuous surgical coverage

From Resources for the Optimal Care of the Injured Patient, Committee on Trauma, American College of Surgeons, 2014. There is variation in state-to-state definitions and designations of trauma centers. There are separate processes and criteria for pediatric trauma centers.

ISS, Injury Severity Score.

Based on prehospital criteria, each trauma center has a triage process to ensure appropriate resource allocation. Traumas that are activated as level 1 traumas within a center require the highest resource allocation. Baseline criteria for level 1 activations are standardized by the ACS Committee on Trauma and may be augmented by individual centers based on local/regional over- and undertriage analysis (figure 6). Most centers have a two -or three-tiered system, with level 2 or 3 traumas requiring a lower resource allocation than a level 1. Appropriateness of triage is reviewed regularly through the hospital quality improvement process and reported during the verification process.

Region 3 has five adult trauma centers including one Level I (Grady Health System), three Level II centers (Northside Hospital Gwinnett, Wellstar Kennestone Hospital, and Wellstar North Fulton Hospital), and one Level III center (Wellstar Cobb Hospital). There are two Pediatric trauma centers in the Region, one Level I (Children's Hospital of Atlanta at Egleston) and one Level II (Children's Hospital of Atlanta at Scottish Rite). Region 3 has two adult and pediatric burn centers (Grady Health System, Wellstar Cobb Hospital).

Figure 6: Minimum requirements for highest level activation of trauma patients within a trauma center.

Definition and Requirements

In all trauma centers, the criteria for tiered activations must be clearly defined. For the highest level of activation, the following eight criteria must be included:

1. Confirmed blood pressure less than 90 mm Hg at any time in adults, and age-specific hypotension in children
2. Gunshot wounds to the neck, chest, or abdomen
3. GCS less than 9 (with mechanism attributed to trauma)
4. Transfer patients from another hospital who require ongoing blood transfusion
5. Patients intubated in the field and directly transported to the trauma center
6. Patients who have respiratory compromise or are in need of an emergent airway
7. Transfer patients from another hospital with ongoing respiratory compromise (excludes patients intubated at another facility who are now stable from a respiratory standpoint)
8. Emergency physician's discretion

Table 2: Georgia Region 3 Designated Trauma Centers with capabilities.

Georgia Region 3 Designated Trauma Centers	
Grady Health System **Fulton County**	ACS Verification: Level 1 State Verification: Level 1 Burn Capabilities: yes, all ages Pediatric Capabilities: >14 years Replant Capabilities: yes ECMO Capabilities: no
Northside Hospital Gwinnett **Gwinnett County**	ACS Verification: Level 2 State Verification: Level 2 Burn capabilities: no Pediatric Capabilities: >14 years Replant Capabilities: no ECMO Capabilities: yes
Wellstar Kennestone Hospital **Cobb County**	ACS Verification: Level 2 State Verification: Level 2 Burn capabilities: no Pediatric Capabilities: ≥ 15 years Replant Capabilities: no ECMO Capabilities: yes
Wellstar North Fulton **Fulton County**	ACS Verification: Level 2 State Verification: Level 2 Burn capabilities: no Pediatric Capabilities: ≥ 15 years Replant Capabilities: no ECMO Capabilities: no
Wellstar Cobb Hospital	ACS Verification: no State Verification: Level 3 Burn capabilities: ≥ 1 year Pediatric Capabilities: ≥ 15 years Replant Capabilities: no ECMO Capabilities: no

Table 3: Georgia Region 3 Designated Pediatric Trauma Centers with capabilities.

Georgia Region 3 Designated Pediatric Trauma Center	
Children's Healthcare of Atlanta at Egleston **Dekalb County**	ACS Verification: Level 1 State Verification: Level 1 Burn capabilities: no Adult Capabilities: < 21 years Replant Capabilities: yes ECMO Capabilities: yes
Children's Healthcare of Atlanta at Scottish Rite **Fulton County**	ACS Verification: Level 2 State Verification: Level 2 Burn capabilities: no Adult Capabilities: < 21 years Replant Capabilities: yes ECMO Capabilities: no

Non-designated Centers:

- Piedmont Atlanta
- Northside Duluth
- Southern Regional
- Emory Midtown
- Emory Johns Creek
- Emory University
- Emory Decatur
- Emory St. Josephs
- Atlanta VA
- Emory Hillandale
- Piedmont Eastside
- Piedmont Eastside South
- Northside Atlanta
- Wellstar Douglas
- CHOA Hughes Spalding
- Piedmont Newton
- Emory University Ortho and Spine

Disaster Preparedness

Mass casualty events can easily overwhelm a trauma system. As such, understanding the surge capacity of the participating trauma and non-trauma centers in the region is critical to efficient and effective patient distribution. In most mass casualty events, typically 7-10% of patients are critically injured and require Trauma Center services. The goal of triage is to place these critically injured patients at the trauma designated centers and distribute lesser injured patients to the regional partners. The Regional Coordinating Hospital (RCH) has created a mass communication group for area hospitals. The Region D RCH is Grady Health System, and the Region N RCH is Wellstar Kennestone Hospital.

Disaster management is initially coordinated on the local level with local EMS and Fire. When resources are exhausted, the responding agencies may request mutual aid from surrounding departments. The local Emergency Management Agency (EMA) will maintain situational awareness and coordination of emergency support functions. Regional EMS communication organization is ongoing to create a coordinated communication system to optimize resource allocation in Region 3.

Hospital communication between centers, including providers and administration, is coordinated through the RCH and key information is distributed as needed. The RCH collaborates and coordinates with the EMA, state public health, and other Emergency Support Function 8 entities.

A prehospital decision tool has been established with the intent of distributing trauma patients to appropriate centers based on injury acuity and hospital capacity. In the setting of a disaster, the GCC will assist the RCH to distribute patients to trauma and non-trauma hospitals according to the plan.

Education

The Region 3 RTAC is dedicated to providing educational assistance to the region's community partners, including citizens, pre-hospital providers, and hospital professionals. Additionally, trauma centers in the region collaborate to support each other's educational needs. The educational courses range from nationally recognized courses supported by national organizations to programs created in response to identified performance improvement opportunities at the trauma centers themselves.

Multiple email distribution lists, the Georgia OEMS website, and the Regional 3 RTAC website are utilized to advertise the educational opportunities. Region 3 RTAC engages with the Georgia Committee for Trauma Excellence and the Georgia Trauma Commission to address any education needs/requests received with the region.

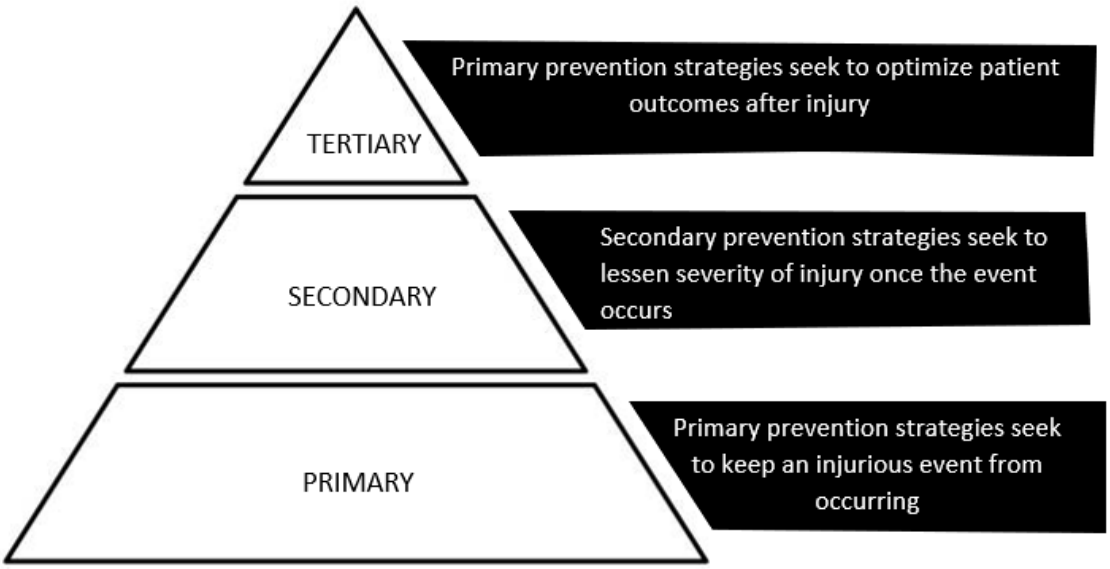
Supported ongoing offerings include, but are not limited to (please refer to website for calendar):

- Basic Life Support
- Advanced Cardiac Life Support
- Stop the Bleed
- Rural Trauma Team Development Course
- Advanced Trauma Life Support
- Advanced Surgical Skills for Exposure in Trauma
- Basic Endovascular Skills for Trauma
- Emergency Nursing Pediatric Course
- Trauma Nursing Core Course
- Advanced Trauma Care for Nursing
- Active Shooter Training
- Pre-Hospital Trauma Life Support
- Tactical Emergency Casualty Care
- Fundamentals for Critical Care
- Advanced Burn Life Support
- Pediatric Fundamental Critical Care Support
- Pediatric Advanced Life Support
- Trauma Informed Care
- Grand Rounds

Injury Prevention and Outreach

One of the fundamental objectives of any trauma system is the development or programs to prevent trauma-related injuries and fatalities. Prevention and outreach initiatives attempt to reduce environmental and behavioral risk factors by reaching communities via increased interdisciplinary collaborations. Individuals and their communities are motivated to safeguard themselves against harm using educational and awareness-raising approaches. The Region 3 RTAC and its collaborating partners want to strengthen regional capacity to deliver injury prevention and outreach programs. A tiered strategy consisting of primary, secondary, and tertiary injury prevention programs allows the trauma system to minimize injury incidence, morbidity, and mortality (figure 7).

Figure 7: Primary, Secondary, and Tertiary Injury Prevention



Ongoing Outreach Activities include (please refer to website for full list and calendar):

- Blood Drives
- Shattered Dreams
- BINGOcize®
- Matter of Balance
- Safe Driving Summits
- Car seat safety training
- Child abuse prevention course
- Trauma Symposia
- Injury Prevention Fairs
- Trauma Awareness Month Activities (May)
- National Gun Violence Awareness Month Activities (June)
- Fall Prevention Awareness Month Activities (Sept)

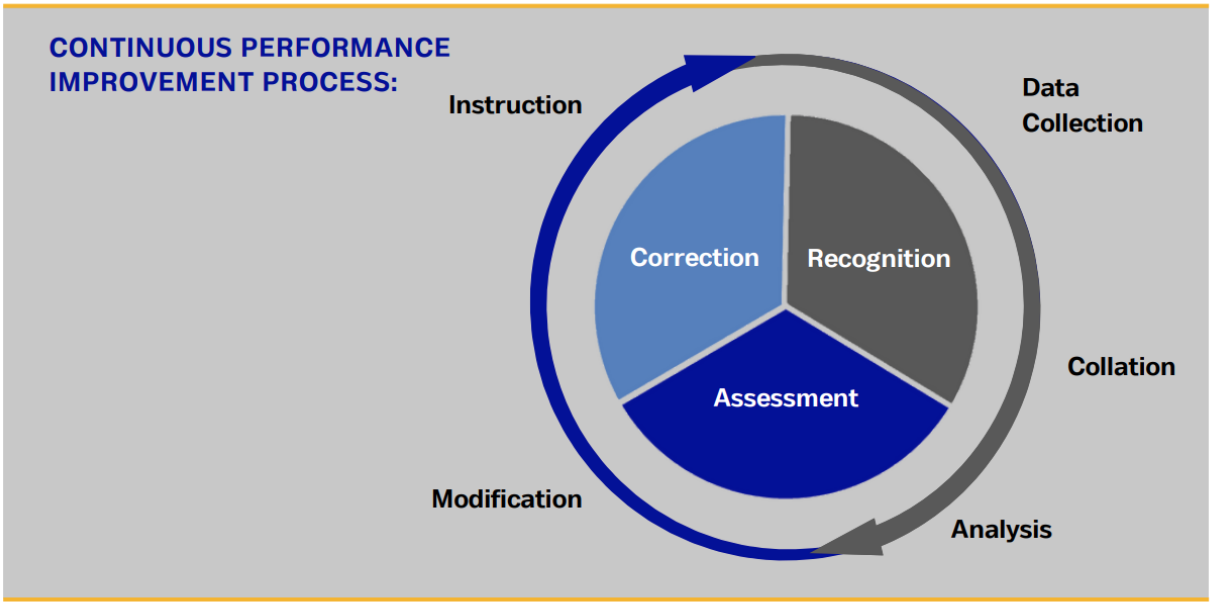
Resources include (refer to website for full list and contact information):

- **Trauma Recovery Center:** Provides free integrated mental health and case management services to victims of firearm injury, physical assault, sexual assault, intimate partner violence, and human trafficking. With support from the Criminal Justice Coordinating Council, victims ages 5 and older and their families from Dekalb and Fulton counties are eligible for these services.
- **IVYY:** The Interrupting Violence in Youth and Young Adults (IVYY) Program is a hospital-based violence intervention program at Grady Hospital. The objective of the program is to reduce recurrent injury and retaliatory behaviors in individuals and structurally vulnerable communities by providing evidence-based, trauma-informed, integrated case management using trained violence prevention professionals. This program, which serves survivors and their families, is at the core of a city-wide ecosystem aimed at violence reduction.
- **Community Care Team:** Team out of Clayton County that does initial intake, personal and home assessment to identify needs and risks through a referral process. Provides hospital transport as needed.
- **Cobb Safety Village:** Teams out of Cobb County that provides education and injury prevention such as firearm prevention, car seat safety, fire safety education, to participants of all ages including professional and public education.
- **Cobb Cares Team:** Team designed to provide home risk assessments and interventions.
- **Grady Mobile Integrated Health:** Team that assess barriers to care and addresses needs including readmission prevention, assisting high utilizers of 911, and home assessments.
- **Safe Kids:** National coalition aimed to reduce traffic injuries, drownings, falls, burns, and poisonings. Activities vary by county.
- **Injury Free Coalition for Kids:** National program for injury prevention focused on hospital and community-based programs.

Process Improvement

Currently Process Improvement efforts are Agency and Center specific. The newly developed EMS Subcommittee will address Agency data and call trends to identify opportunities for integration into education and injury prevention. Trauma center data is currently analyzed through the Georgia TQIP collaborative on the state level. Additionally, each center performs process improvement activities accordingly to their internal PIPS plan. The Region 3 RTAC supports a quarterly PIPS case presentation focused on relevant opportunities for improvement. The newly developed Process Improvement Subcommittee is a multidisciplinary team of trauma system stakeholders tasked with identifying opportunities and implementing action plans to drive regional and system improvements.

Figure 8: Continuous Performance Improvement Process.



Source: *Resources for Optimal Care of the Injured Patient 2014, Committee on Trauma, American College of Surgeons.*