

# Oklahoma City Regional Trauma Plan

## Region 8



**Developed by the Regional Planning Committee**

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## OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

# Region 8 Trauma Plan

### TABLE OF CONTENTS

I	Goals / Purpose	1
II	Mission Statement	1
III	Region Description	1
IV	911 Capabilities	1
V	Trauma Priority Categorization	1
VI	Categorization of Hospitals	2
	B. Region 8 Trauma Rotation On-Call Facility System	3
VII	Trauma Center Program	4
VIII	Trauma Team	4
IX	Criteria for Activation of the Trauma Team	4
X	Inter-Facility Transfers	5
XI	Description of Emergency Medical Service (EMS)	5
XII	Trauma Referral Center – TReC	5
XIII	Procedure for Selection of Hospital Destination	6
XIV	Procedure for Monitoring Hospital Status and Capability	7
XV	Helicopter Utilization Protocol	7
XVII	Diversion	9
Appendix A	Oklahoma Model Trauma Triage Algorithm	
Appendix B	Trauma Transfer and Referral Center (TReC)	
Appendix C	Hospital Standards Oklahoma Administrative Code	
Appendix D	EMResource™ Usage	
Appendix E	Advanced Life Support Assistance Protocol	

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## I. GOALS/ PURPOSE

- A. Assure trauma patients are stabilized and transported to the closest, appropriate hospital facility with the available resources and capacity to provide definitive care in a timely fashion.
- B. Support the Trauma Triage and Transport Guidelines to effectively reduce trauma morbidity and mortality.
- C. Match a facility's resource with each trauma patient's needs to ensure optimal and cost effective care is achieved.
- D. This plan will not conflict with any rules and/or regulations that are in place now or may be written or changed in the future.

## II. MISSION STATEMENT

In support of the statewide system, create a regional system of optimal care for all trauma patients, to ensure the right patient goes to the right place, receiving the right treatment, in the right amount of time.

## III. REGION DESCRIPTION

Region 8 consists of Oklahoma County and its contiguous communities.

## IV. 911 CAPABILITIES

Enhanced 911 serves region 8. Infrastructure is now in place for Wireless E-911 to incorporate E-911 to cell phones. Wireless E-911 is currently being implemented.

## V. TRAUMA PRIORITY CATEGORIZATION

All injured patients must be identified and transported/transferred to the facility that provides the appropriate care based on the clinical needs of the patient. This should be done in a timely fashion with specific attention focused on preserving the highest level of care for major trauma patients. A three-tiered system designed to determine the appropriate hospital destination for all injured patients considers injury severity, severity risk, time and distance from injury to definitive care, and available resources to meet the region's specific needs.

Three trauma triage priorities are used in determining the appropriate destination for patients.

### A. Priority I Trauma Patients:

These are patients with blunt or penetrating injury causing physiological abnormalities or significant anatomical injuries. These patients have time sensitive injuries requiring the resources of a Level I or "On-Call Facility". These patients should be directly transported to a Level I or

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## OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

“On-Call Facility” for treatment but may be stabilized at a Level III or Level IV facility, if needed, depending on location of occurrence and time and distance to the higher- level trauma center. If needed these patients may be cared for in a Level III facility if the appropriate services and resources are available.

### B. **Priority II Trauma Patients:**

These patients are those that have potentially time sensitive injuries because of a high-energy event or single system injury. These patients do not have physiological abnormalities or significant anatomical injuries and can be transported to a trauma facility with the resources to perform a complete trauma evaluation and medical screening and can care for their injuries.

### C. **Priority III Trauma Patients:**

These patients are without physiological instability, altered mentation, neurological deficit, or significant anatomical or single system injury that has been involved in a low energy event. These patients should be treated at the nearest treating facility or the patient’s hospital of choice.

## VI. **CATEGORIZATION OF HOSPITALS**

### A. Hospital Providers in Region 8 include:

1. Level I: OU Medical Center (OUMC)
2. Level II: None
3. By

Levels:

#### Level III:

- a. Deaconess Hospital
- b. Integris Baptist Medical Center
- c. Integris Health Edmond
- d. Integris Southwest Medical Center
- e. Mercy Health Center, Inc.
- f. Midwest Regional Medical Center (MRMC)
- g. St. Anthony

#### Hospital Level IV:

- a. Community Hospital

### 4. Rehabilitation Hospitals:

- a. Edmond Specialty Hospital
- b. Specialty Hospital of Midwest City
- c. Valir Rehabilitation Hospital of OKC
- d. J.D. McCarty Center for Children with Developmental Disabilities

### 5. General Medical Surgical Hospitals that are Not Trauma Classified:

- a. McBride Clinic Orthopedic Hospital, LLC
- b. Oklahoma Center for Orthopedic & Multi-specialty Surgery

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## **OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN**

- c. Oklahoma Spine Hospital, LLC
  - d. Orthopedic Hospital
  - e. The Children's Center
  - f. Kindred Hospital – Oklahoma City
  - g. Lakeside Women's Hospital
  - h. Northwest Surgical Hospital
  - i. Oklahoma Heart Hospital
  - j. Renaissance Women's Center of Edmond
  - k. Select Specialty Hospital - Oklahoma City
  - l. Select Specialty Hospital – Oklahoma City, East Campus
  - m. Surgical Hospital of Oklahoma, LLC
  - n. Summit Medical Center, LLC
6. Psychiatric Hospitals  
Cedar Ridge Hospital (Psychiatric) in OKC

### **B. Region 8 Trauma Rotation On-Call Facility System**

1. Hospitals participating in the Region 8 Trauma Rotation On-Call Facility System are:
  - a. Integris Baptist Medical Center, Inc.
  - b. Integris Southwest Medical Center
  - c. Mercy Health Center, Inc.
  - d. OU Medical Center
  - e. St. Anthony Hospital

The On-Call schedule is posted daily to the EMResource™ computer as a document. Additionally the EMResource™ computer posts the On-Call hospital as an FYI alert daily at the top of the Oklahoma West screen.

2. On Call Facility Requirements: (Refer to Call Schedule)
  - a. When “on call”, each hospital will provide orthopedics, neurosurgery, general surgery, facial trauma, hand trauma, and anesthesia....or arrange coverage through hospital transfer agreements.
  - b. This schedule is for unassigned, Priority 2 patients with single-system injury, or at risk for injury but currently stable, picked up by EMSA in its service area or transported into the metropolitan area from other regions of the State. As of September 1, 2013 and until further notice, isolated Priority 1 neurologically-injured patients transported directly by EMS within or into the OKC region will go to OUMC.

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- c. In order to maintain accurate statistics for patient transfers into Region 8 and to comply with inter facility triage and transfer criteria, all requests to the on-call hospital or physicians for the transfer of unassigned injured patients should be referred and managed through TReC.
- d. Each hospital will provide care for established patients, stable patients that have requested the facility, or patients arriving to their ED even on the date they are not the designated on-call hospital if they have the capability to do so.
- e. It is understood that the other hospitals may have to provide back-up coverage for a designated hospital.
- f. The On Call Facility will serve as a backup should the Level I Facility become overwhelmed or incapacitated.

### **VII. TRAUMA CENTER PROGRAM**

Each hospital shall provide the level of Trauma Services for which the facility is licensed in accordance with the Hospital Standards Oklahoma Administrative Code (OAC) 310:667 (See Appendix C). It is important to incorporate all facilities in trauma planning and implementation, as well as, in the planning of transfer protocols.

### **VIII. TRAUMA TEAM**

The team approach is optimal in the care of the multi- injured patient. The trauma center must have a written policy for notification and mobilization of an organized trauma team (in a Level I, "On-Call" Facility, or Level III facility) or to the extent that one is available (Level IV facility). The Trauma Team may vary in size and composition when responding to trauma activation. The physician leader or the advanced practice clinician on the trauma team will have preferably completed ATLS certification and is responsible for directing all phases of the resuscitation in compliance with ATLS protocol. Suggested composition of the trauma team can be found in the current version of "Resources for Optimal Care of the Injured Patient by the Committee on Trauma, American College of Surgeons".

The required Trauma Physician Specialties are defined in the Hospital Standards Oklahoma Administrative Code (OAC) 310:667 (See Appendix C).

### **IX. CRITERIA FOR ACTIVATION OF THE TRAUMA TEAM**

Activation of the trauma system per hospital operations should occur for Priority I and Priority II patients in accordance with the Oklahoma Triage and Transport Algorithm (See Appendix A).

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## X. INTER-FACILITY TRANSFERS

In an effort to optimize patient care and deliver the trauma patient to the most appropriate destination, rapid assessment of the patient is imperative. When a trauma patient arrives at a destination hospital the trauma team will be activated in accordance with the hospital operating procedures for Priority I and Priority II patients and the patient will have an immediate medical screening completed. Depending upon the screening and the needs of the patient any of the following may occur:

- A. The Priority I patient will be stabilized, admitted if appropriate, or transferred to the designated Trauma Center.
- B. The Priority II patient will be stabilized and then admitted to that facility, or transferred to the Level II rotation, or other facility of choice.
- C. The Priority III patient will be stabilized and treated, then transferred if necessary to the facility of choice, or discharged to home with appropriate follow-up instructions.

It is the expectation that facilities with the capability and capacity to treat patients at their facility will not initiate a transfer.

## XI. DESCRIPTION OF EMERGENCY MEDICAL SERVICE (EMS)

A. EMS Providers within Region 8 include:

1. EMSA - EMSA Western Division is the largest EMS provider in the State of Oklahoma, covering Oklahoma County and small portions of Logan and Canadian Counties, EMSA provides exclusive paramedic ambulance service to Oklahoma City and surrounding cities. The service area is approximately 900 square miles.
2. Midwest Regional Medical Center EMS - Midwest Regional Emergency Medical Service (EMS) is the oldest and largest hospital-based ambulance service in Oklahoma. It is a paramedic level service, providing emergency response to Midwest City, Del City, Choctaw, Nicoma Park, Luther, Spencer, Hickory Hills, Harrah, Jones, Newalla, Moore, Forest Park, and Southwest Lincoln County. The service area is approximately 240 square miles.
3. Samaritan EMS serving on Tinker Air Force Base

## XII. TRAUMA REFERRAL CENTER (TReC)

The Trauma Transfer and Referral Centers were created by statute (Senate Bill 1554, 2004) and they were implemented on July 1, 2005. The purpose of TReC is to ensure that trauma patients transported or transferred to facilities in Region 7 or 8 are transported to the facility that provides the appropriate level of care based on the clinical needs of

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the patient. This should be done in a timely fashion with specific attention focused on preserving the highest level of care for major trauma patients. Contact information for TReC (Appendix B).

Statewide training sessions were held throughout June 2005 to orient all providers to the use of TReC.

Ambulances entering Region 8 are required to call into TReC prior to entering Region 8 in order to ensure appropriate destination. Likewise, hospitals may call TReC for assistance in identifying the appropriate destination for their trauma patients. TReC will provide information on resource utilization to the OSDH that will be available to the Region 8 RTAB for Quality Improvement purposes.

### XIII. PROCEDURE FOR SELECTION OF HOSPITAL DESTINATION

It is recognized that some patients have needs that can only be met at specific destination hospitals. Thus, a trauma patient will often benefit from transfer directly to an appropriate hospital with the capabilities and capacity to provide definitive trauma care. This care may not necessarily be at the closest or patient preferred facility and this must be taken into account when treating the patient.

Rapid pre-hospital recognition and appropriate triage of trauma patients using the Oklahoma Model Trauma Triage and Transport Guidelines is essential in determining the appropriate selection of Priority I, II, and III trauma patient hospital destination (Appendix A).

#### These Destinations are:

##### A. Within the EMSA service area:

1. Priority I adult and pediatric patient trauma destination = OUMC.
2. Priority II unassigned adult trauma destination = communitywide on call facility.
3. Priority II pediatric patient trauma destination = The Children's Hospital at OUMC
4. Priority III adult and pediatric trauma destination = facility of patient preference or closest appropriate facility.
5. Priority II pediatric and adult single system **hand injuries** will be transported to the on call facility as assigned by the trauma call rotation committee.

##### B. Within Midwest Regional Medical Center EMS service area:

1. Priority I adult and pediatric trauma destination = OUMC.
2. Priority II unassigned adult destination = MRMC or community wide on call facility based on time/distance constraints.
3. Priority II unassigned pediatric trauma patient destination = The Children's Hospital at OUMC

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4. Priority III adult and pediatric trauma destination = facility of patient preference or closest appropriate facility.
5. Priority II pediatric and adult single system hand injuries will be transported to the on call facility as assigned by the trauma call rotation committee.

### **C. Burn Patients**

Refer to Triage & Transport Guidelines – Oklahoma Model Trauma Triage Algorithm.

### **D. Discretionary Patients**

Adult trauma patients may be determined to be priority I or priority II if clinical suspicion of significant injury and heightened by any single or particularly a combination of the following patient attributes:

1. Age >55;
2. Anticoagulation and bleeding disorders;
3. Time Sensitive extremity injury;
4. End – stage renal disease requiring dialysis
5. Pregnancy > 20 weeks.

## **XIV. PROCEDURE FOR MONITORING HOSPITAL STATUS AND CAPABILITY**

### **A. EMResource**

The EMResource Administrator at the Oklahoma State Department of Health will generate reports from the EMResource™ for use in monitoring hospital status related to destination. These reports will be made available to the Region 8 CQI Committee as requested. Any problems and/or trends identified through review of this data will be addressed by the CQI committee directly with the provider and if necessary through referral to the appropriate state level committee. (Appendix D)

### **B. QI Indicators**

A set of QI Indicators has been developed for use in monitoring hospital status and appropriateness of destination. The Region 8 CQI Committee will monitor these indicators. Any problems and/or trends through review of the indicators will be addressed by the CQI committee directly with the provider and if necessary through referral to the appropriate state level committee.

## **XV. HELICOPTER UTILIZATION PROTOCOL**

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Purpose - Appropriate utilization of air ambulance resources by Region 8 providers.

Medical literature to date demonstrates no significant survival benefit utilizing medical helicopter transport for patients in densely populated, urban settings. The Oklahoma State Department of Health and the University Of Oklahoma Department Of Emergency Medicine EMS Section provide the following information regarding the clinically appropriate utilization of medical helicopters to maximize patient benefit and protect the safety of patients, aeromedical professionals, and ground EMS professionals.

### A. "No Fly" Patient Conditions

Medical helicopter utilization rarely affects outcome in already moribund patients or in the converse, stable patients without apparent serious illness/injury. A medical helicopter should NOT be utilized for the following patients:

1. Medical or Traumatic Cardiac Arrest without Return of Spontaneous Circulation;
2. Trauma Patients with minimal traumatic injury, without apparent risk of life/limb loss;
3. Patients with stable vital signs and without signs of serious illness/injury.

### B. "No Fly" Zones

Medical helicopter utilization is very rarely indicated within an approximate 30 minute radius of an appropriate destination hospital unless there are extenuating circumstances. These extenuating circumstances include the following:

1. Hazardous or impassible road conditions resulting in significant ground transport delays for seriously injured or ill patients;
2. Multiple casualty incidents with high numbers of red/priority 1 patients, overwhelming available ground EMS units;
3. A combination of lengthy extrication and extended ground transportation (traffic conditions, weather conditions) of a priority 1 or priority 2 patient at the lead EMS professional's careful discretion.

### PROTOCOL 14F: Helicopter EMS (HEMS) Considerations, cont. Medical Helicopter Utilization:

At incidents greater than 30 minutes from the appropriate destination hospital, the decision to activate a medical helicopter response should be based upon an EMS professional's assessment of the patient's clinical condition, factoring in apparent and/or suspected illness or injury, mechanisms of injury – if applicable, anticipated scene time, and anticipated ground transport time to an appropriate destination hospital (eg. cardiac catheterization capable hospital or trauma center). Medical helicopters should not be activated until an EMS professional or medically-trained law enforcement officer has assessed the patient.

### C. Further utilization concepts include:

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1. EMS professionals on scene may elect to activate a medical helicopter if flight time to the incident, flight scene time, and return flight time would still allow a critical patient to arrive at an appropriate destination hospital significantly faster by air.
2. If ground EMS transport capability is not on scene and a decision is being factored as to ground or air transport, the on scene EMS professionals should first request an ETA for the ground transport unit. If the on scene EMS professionals then judge transport time by ground will be detrimental to the patient clinical condition, a medical helicopter response can be activated. This decision should be communicated to ground EMS agency to keep all responding apparatus crews aware of scene and patient dynamics.
3. If uncertain whether medical helicopter activation is in the best interest of the patient, contact online medical control, (OLMC) at the anticipated destination hospital for consultation and determination of transport mode and destination.
4. The primary determinant of helicopter transport mode is to achieve getting the critical patient to the most appropriate definitive care hospital in the shortest amount of time. The medical helicopter to be utilized is the medical helicopter appropriate for the patient's needs and closest to the incident location.

### **D. Cancellation of Medical Helicopter Activation:**

An EMS professional may cancel a medical helicopter response after being activated if patient condition significantly improves or deteriorates to meet —no fly criteria. Keep in mind, though, that once a medical helicopter is responding to the scene, it is generally unwise to cancel that response. EMS professionals should avoid requesting a medical helicopter response, canceling the response, and then having to request the helicopter again. Such a situation prolongs scene time and helicopter response time in addition to conveying indecisive patient care.

### **E. Landing Zone:**

Appropriate fire or law enforcement personnel will be responsible for establishing and maintaining a safe landing zone.

## **XVI. DIVERSION**

In the event OUMC is on divert for Priority I trauma patients, the “On Call” Facility will be the adult Priority I trauma patient destination.

In the event the “On Call” Facility is on diversion, the resources of the metropolitan area Level III facilities as identified on EMResource™ will determine appropriate Priority II patient destination.

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# Appendix A

## Oklahoma Trauma Triage Algorithm

# TRAUMA PATIENT TRIAGE DEFINITIONS

## Trauma Triage

Since patients differ in their initial response to injury, trauma triage is an inexact science. Current patient identification criteria does not provide 100% percent sensitivity and specificity for detecting injury. As a result, trauma systems are designed to over-triage patients in order not to miss a potentially serious injury. Under-triage of patients should be avoided since a potentially seriously injured patient could be delivered to a facility not prepared to manage their injury. Large amounts of over-triage is not in the best interest of the Trauma System since it will potentially overwhelm the resources of the facilities essential for the management of severely injured patients.

## Priority 1 Trauma Patients

These are patients with high energy blunt or penetrating injury causing physiological abnormalities or significant single or multisystem anatomical injuries. These patients have time sensitive injuries requiring the resources of a designated Level I, Level II, or Regional Level III Trauma Center. These patients should be directly transported to a Designated Level I, Level II, or Regional Level III facility for treatment but may be stabilized at a Level III or Level IV facility, if needed, depending on location of occurrence and time and distance to the higher level trauma center. If needed these patients may be cared for in a Level III facility if the appropriate services and resources are available.

### Physiological Compromise Criteria:

Hemodynamic Compromise-Systolic BP <90 mmHg

Other signs that should be considered include:

- Sustained Tachycardia
- Cool diaphoretic Skin

Respiratory Compromise-RR<10 or >29 Breaths/Minutes

Or <20 in infant <1 year

Altered Mentation-of trauma etiology- GCS <14

### Anatomical Injury Criteria

Penetrating injury of head, neck, chest/abdomen, or extremities proximal to elbow or knee.

Amputation above wrist or ankle.

Paralysis or suspected spinal fracture with neurological deficit.

Flail chest.

Two or more obvious proximal long bone fractures (upper arm or thigh).

Open or suspected depressed skull fracture.

Unstable pelvis or suspected pelvic fracture.

Tender and/or distended abdomen.

Burns associated with Priority I Trauma

Crushed, degloved, or mangled extremity

## Priority 2 Trauma Patients

These are patients with potentially time sensitive injuries due to a high energy event (positive mechanism of injury) or with a less severe single system injury but currently with no physiological abnormalities or significant anatomical injury.

### I. Significant Single System Injuries

Neurology: Isolated head trauma with transient loss of consciousness or altered mental status but currently alert and oriented.

Orthopedic: Single proximal and distal extremity fractures (including open) from high energy event, isolated joint dislocations-knee, hip, elbow, shoulder without neurovascular deficits, and unstable joint (ligament) injuries without neurovascular deficits.

Maxillofacial trauma: Facial lacerations; such as those requiring surgical repair, isolated open facial fractures or isolated orbit trauma with or without entrapments, or avulsed teeth.

# TRAUMA PATIENT TRIAGE DEFINITIONS

## High Energy Event

Patient involved in rapid acceleration deceleration events absorb large amounts of energy and are at an increased risk for severe injury despite normal vital signs on their initial assessment. Five to fifteen percent of these patients, despite normal vital signs and no apparent anatomical injury on initial evaluation, will have a significant injury discovered after a full trauma evaluation with serial observations. Determinates to be considered are direction and velocity of impact and the use of personal protection devices. Motor vehicle crashes when occupants are using personal safety restraint devices may not be considered a high-energy event. Personal safety devices will often protect the occupant from absorbing high amounts of energy even when the vehicle shows significant damage. High Energy Events:

Ejection of the patient from an enclosed vehicle

Auto/pedestrian or auto/bike or motorcycle crash with significant impact (> 20 mph) impact with the patient thrown or run over by a vehicle.

Falls greater than 20 feet for adult, >10 feet for pediatric or distance 2-3 times height of patient

Significant assault or altercations

High risk auto crash

- The following motor vehicle crashes particularly when the patient has not used personal safety restraint devices:

- Death in the same passenger compartment

- Rollover

- High speed auto crash

- Compartment intrusion greater than 12 inches at occupant site or >18 inches at any site

- Vehicle telemetry data consistent with high risk injury.

## Medic Discretion

Since trauma triage is an inexact science and patients differ in their response to injury, clinical judgment by the medic at the scene is an extremely important element in determining the destination of all patients. If the medic is concerned that a patient may have a severe injury which is not yet obvious, the patient may be upgraded in order to deliver that patient to the appropriate level Trauma Center. Paramedic suspicion for a severe injury may be raised by but not limited to the following factors:

Age greater than 55

Age less than 5

Extremes of environment

Patient's previous medical history such as:

- Anticoagulation or bleeding disorders
- End stage renal disease on dialysis

Pregnancy (>20 weeks)

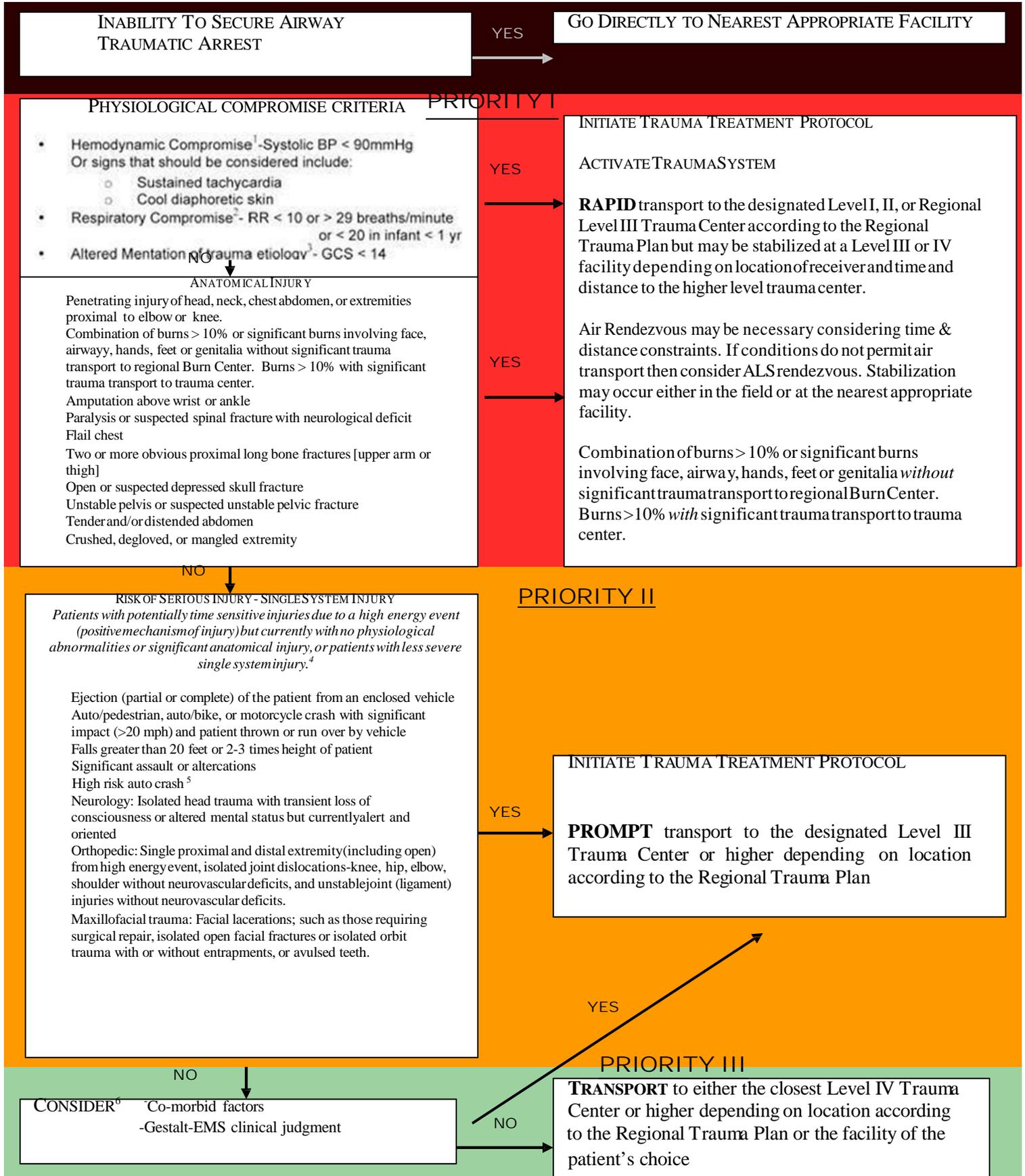
## **Priority 3 Trauma Patients**

These patients are without physiological abnormalities, altered mentation, neurological deficit, or a significant single system injury that has been involved in a low energy event. These patients should be treated at the nearest treating facility or the patient's hospital of choice.

Example: Same level falls with extremity or hip fracture.

# ADULT PRE-HOSPITAL TRIAGE AND TRANSPORT GUIDELINES

## Oklahoma Model Trauma Triage Algorithm



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**ADULT PRE-HOSPITAL  
TRIAGE AND TRANSPORT GUIDELINES**  
Oklahoma Model Trauma Triage Algorithm

1. In addition to hypotension: pallor, tachycardia or diaphoresis may be early signs of hypovolemia
2. Tachypnea (hyperventilation) alone will not necessarily initiate this level of response.
3. Altered sensorium secondary to sedative-hypnotic will not necessarily initiate this level of response.
4. High Energy Event signifies a large release of uncontrolled energy. Patient is assumed injured until proven otherwise, and multisystem injuries may exist. Determinants to be considered by medical professionals are direction and velocity of impact, use of personal protection devices, patient kinematics and physical size and the residual signature of energy release (e.g. Major vehicle damage). Motor vehicle crashes when occupants are using personal safety restraint devices may not be considered a high energy event because the personal safety restraint will often protect the occupant from absorbing high amounts of energy.
5. The following motor vehicle crashes particularly when the patient has not used personal safety restraint devices:
  - a. Death in the same passenger compartment
  - b. Rollover
  - c. High speed auto crash
  - d. Compartment intrusion greater than 12 inches at occupant site or > 18 inches at any site
  - e. Vehicle telemetry data consistent with high risk of injury
6. Since trauma triage is an inexact science and patients differ in their response to injury, clinical judgment by the medic at the scene is an extremely important element in determining the destination of all patients. If the medic is concerned that a patient may have a severe injury which is not yet obvious, the patient may be upgraded in order to deliver that patient to the appropriate level Trauma Center. EMS provider suspicion for a severe injury may be raised by but not limited to the following factors:

Age greater than 55

Age less than 5

Extremes of environment

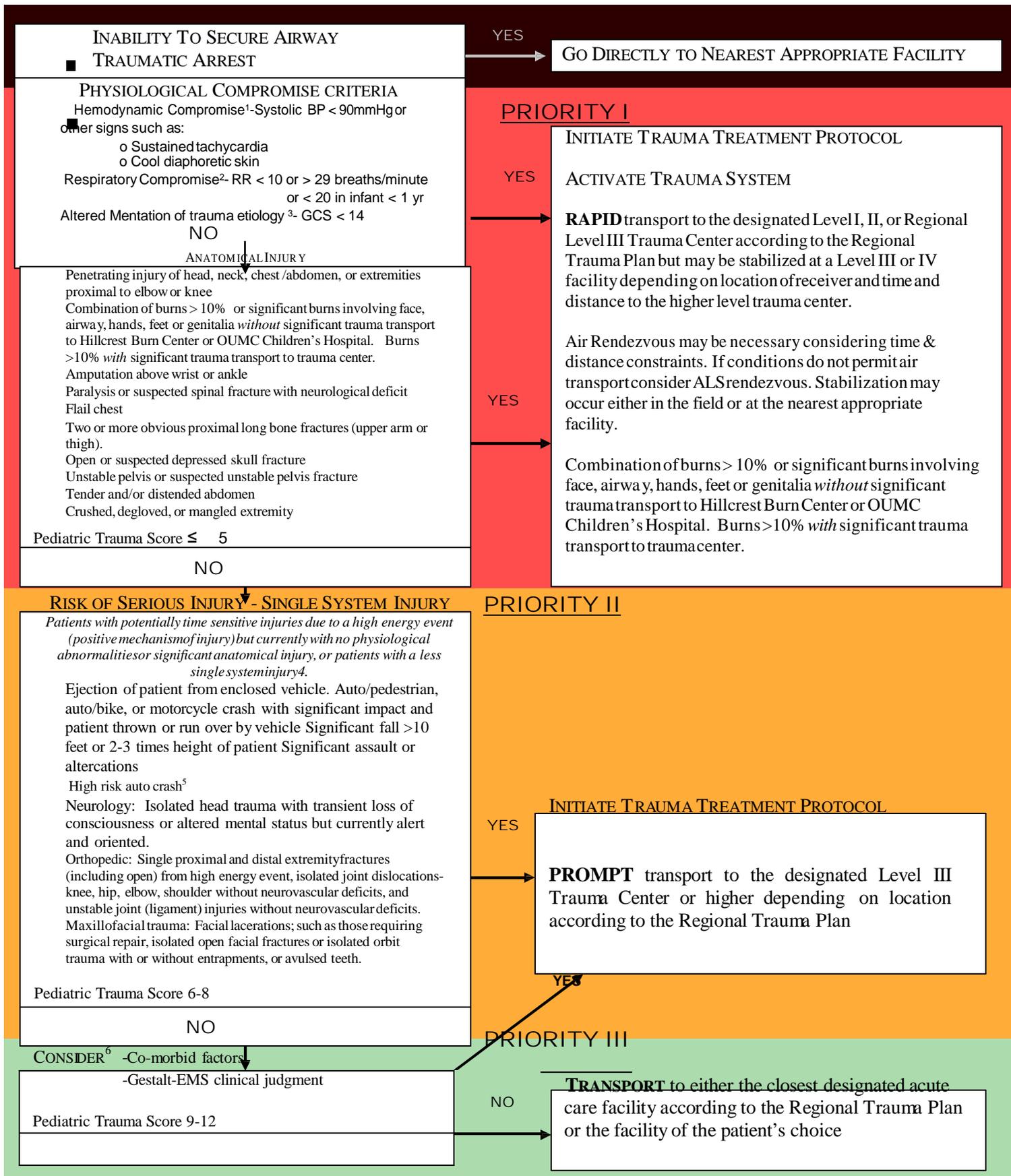
Patient's previous medical history such as:

- Anticoagulation or bleeding disorders
- End state renal disease on dialysis

Pregnancy (>20 weeks)

# PEDIATRIC (≤ 16 YEARS) PRE-HOSPITAL TRIAGE AND TRANSPORT GUIDELINES

## Oklahoma Model Trauma Triage Algorithm



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## **PEDIATRIC ( $\leq 16$ YEARS) PRE-HOSPITAL TRIAGE AND TRANSPORT GUIDELINES**

### Oklahoma Model Trauma Triage Algorithm

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Age greater than 55

Age less than 5

Extremes of environment

Patient's previous medical history such as:

- Anticoagulation or bleeding disorders
- End state renal disease on dialysis

Pregnancy ( $>20$  weeks)

**PEDIATRIC (≤ 16 YEARS) PRE-HOSPITAL  
TRIAGE AND TRANSPORT GUIDELINES**  
Oklahoma Model Trauma Triage Algorithm

<b>Pediatric Trauma Score (PTS)</b>				
<b>Components</b>	<b>+2</b>	<b>+1</b>	<b>-1</b>	<b>Score</b>
Weight	>20 kg (44 lb)	10-20 kg (22-44 lb)	< 10 kg (< 22 lb)	
Airway	Patent *	Maintainable ^	Unmaintainable #	
Systolic (cuff) Or BP (pulses)	> 90 mm Hg Radial	50-90 mm Hg Femoral/Carotid	< 50 mm Hg None palpable	
CNS	Awake, no LOC	Obtunded Some LOC †	Comatose, unresponsive	
Fractures	None	Closed (or suspected)	Multiple open or closed	
Wounds	None	Minor	Major ‡, Burns or penetrating	
<b>TOTAL</b>	<b>Range – 6 to +12</b>			

Score: Possible Range –6 to +12, decreasing with increasing injury severity.

Generally:

- 9 to 1 = minor trauma
- 6 to 8 = potentially life threatening
- 0 to 5 = life threatening
- < 0 = usually fatal

\* No assistance required.

^ Protected by patient but constant observation required for position, patency, or O<sub>2</sub> administration

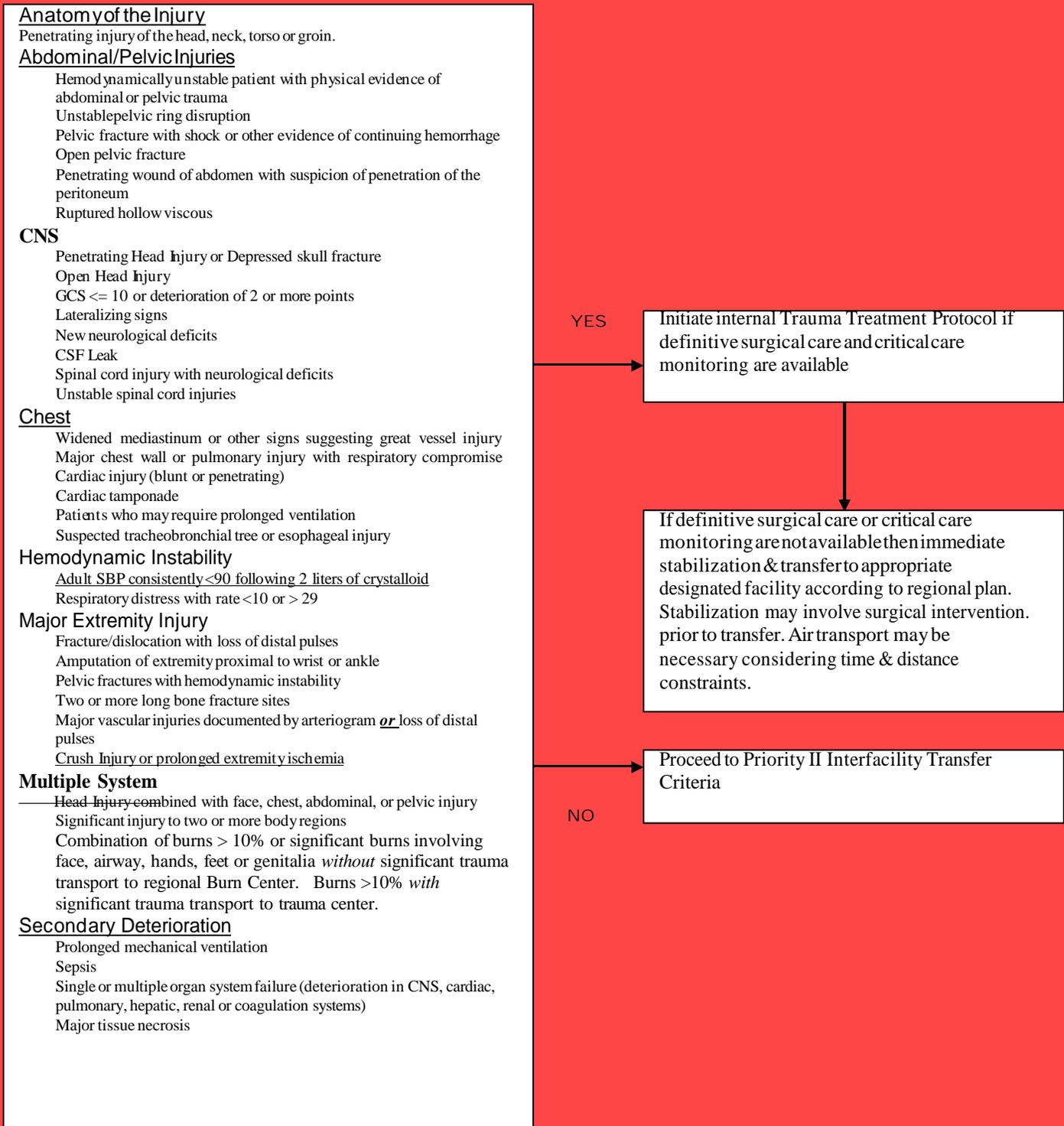
# Invasive techniques required for control (e.g., intubation).

† Responds to voice, pain, or temporary loss of consciousness.

‡ Abrasions or lacerations

# ADULT INTERFACILITY TRIAGE AND TRANSFER GUIDELINES Oklahoma Model Trauma Triage Algorithm

## PRIORITY I



**ADULT INTERFACILITY  
TRIAGE AND TRANSFER GUIDELINES  
Oklahoma Model Trauma Triage Algorithm**

PRIORITY II

**Abdominal/Pelvic Injuries**

~~Stable pelvic fractures~~

- Hemodynamically stable isolated abdominal trauma
  - o diffuse abdominal pain/tenderness
  - o seat belt contusions
  - o visceral injuries
- Hemodynamically stable isolated solid organ injuries

**CNS**

- Head injury with GCS > 10
- Head injury with Transient loss of consciousness < 5 min
- Head injury with Transient neurological deficits
- Spinal cord injury without neurological deficits

**Chest**

- Isolated Chest Trauma- pain, mild dyspnea
- Rib fractures, sternal fractures, pneumothorax, hemothorax *without* respiratory compromise
- Unilateral pulmonary contusion without respiratory compromise

**Co morbid**

- Age < 5 or > 55
- Known cardiac, respiratory or metabolic disease
- Pregnancy
- Immunosuppression
- Bleeding disorder or anticoagulants

**Major Extremity Injury**

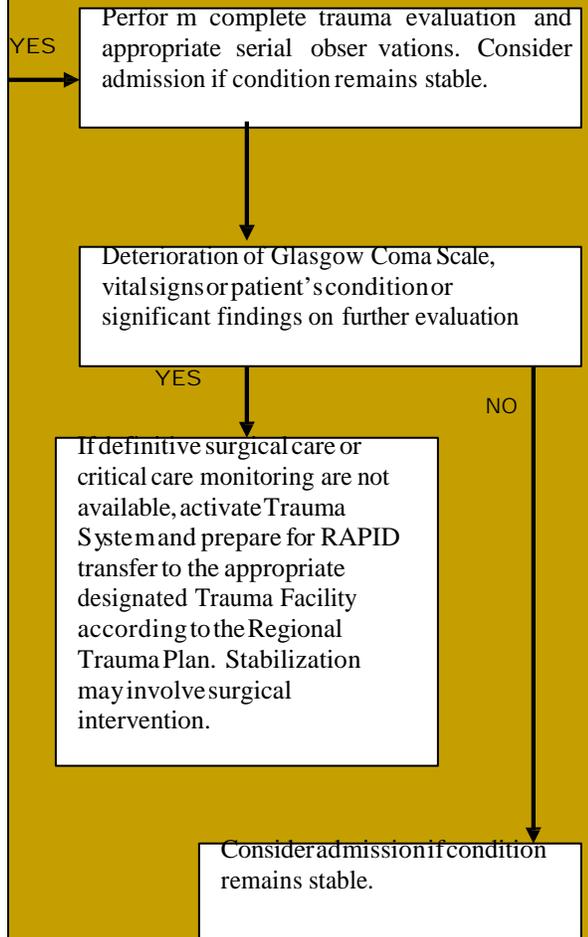
- Single proximal extremity fractures, including open
- Distal extremity fractures, including open
- Isolated joint dislocations- knee, hip, elbow, shoulder without neurovascular deficits
- Unstable joint (ligament) injuries without neurovascular deficits
- Degloving injuries without evidence of limb threatening injury

**Mechanism**

- Ejection of patient from enclosed vehicle
- Adult auto/pedestrian, auto/bike, or motorcycle crash with significant impact and patient thrown or run over by vehicle
- Falls greater than 20 feet
- Significant assault or altercations
- Other “high energy” events based on Paramedic discretion<sup>4</sup>, e.g.: patients involved in motor vehicle crashes with significant vehicular damage and not using personal safety restraint devices

**Other**

- Isolated open facial fractures
- Isolated orbit trauma with or without entrapments, without visual deficits



NO

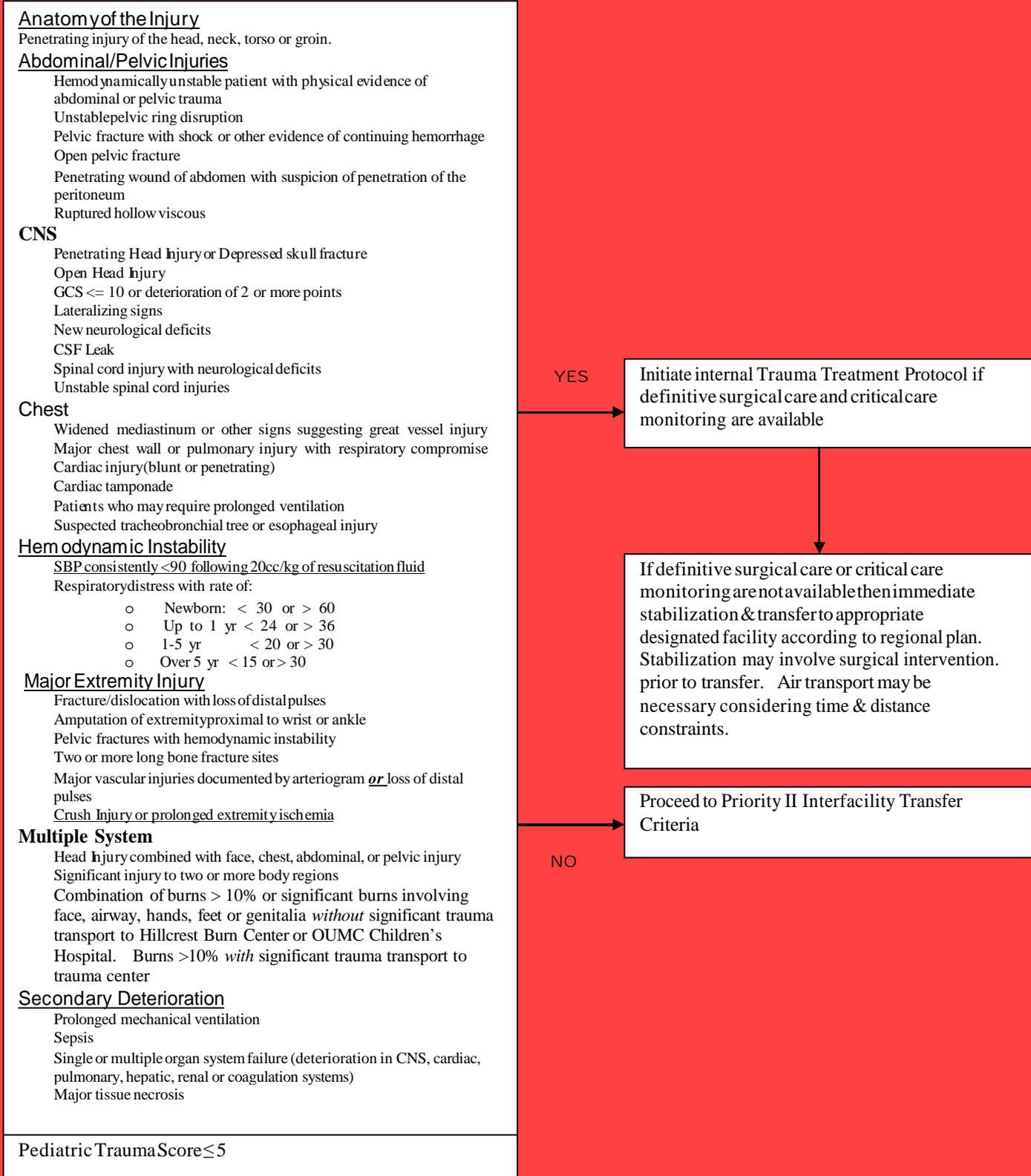
**Priority III**

Perform appropriate emergency department evaluation. Consider discharge or admit if condition remains stable.

Deterioration of Glasgow Coma Scale, vital signs or patient's condition or significant findings on further evaluation. Initiate Trauma Treatment Protocol- Activate Trauma System and prepare for RAPID transfer to the appropriate designated Trauma Facility according to the Regional Trauma Plan if definitive surgical care and critical care monitoring are not available.

# Pediatric Interfacility Triage and Transfer Guidelines Oklahoma Model Triage Algorithm

## PRIORITY I



# Pediatric Interfacility Triage and Transfer Guidelines Oklahoma Model Triage Algorithm

## PRIORITY II

### Abdominal/Pelvic Injuries

- Stable pelvic fractures
- Hemodynamically stable isolated abdominal trauma
  - o diffuse abdominal pain/tenderness
  - o seat belt contusions
  - o visceral injuries
- Hemodynamically stable isolated solid organ injuries

### CNS

- Head injury with GCS > 10
- Head injury with Transient loss of consciousness < 5 min
- Head injury with Transient neurological deficits
- Spinal cord injury without neurological deficits

### Chest

- Isolated Chest Trauma- pain, mild dyspnea
- Rib fractures, sternal fractures, pneumothorax, hemothorax *without* respiratory compromise
- Unilateral pulmonary contusion without respiratory compromise

### Co morbid

- Known cardiac, respiratory or metabolic disease
- Pregnancy
- Immunosuppression
- Bleeding disorder or anticoagulants

### Major Extremity Injury

- Single proximal extremity fractures, including open
- Distal extremity fractures, including open
- Isolated joint dislocations-knee, hip, elbow, shoulder without neurovascular deficits
- Unstable joint (ligament) injuries without neurovascular deficits
- Degloving injuries without evidence of limb threatening injury

### Mechanism

- Ejection of patient from enclosed vehicle
- Auto/pedestrian, auto/bike, or motorcycle crash with significant impact and patient thrown or run over by vehicle
- Falls greater than 20 feet
- Significant assault or altercations
- Other “high energy” events based on Paramedic discretion<sup>4</sup>, e.g.: patients involved in motor vehicle crashes with significant vehicular damage and not using personal safety restraint devices

### Other

- Isolated open facial fractures
- Isolated orbit trauma with or without entrapments, without visual deficits

Pediatric Trauma Score 6-8

YES Perform complete trauma evaluation and appropriate serial observations. Consider admission if condition remains stable.

Deterioration of Glasgow Coma Scale, vital signs or patient’s condition or significant findings on further evaluation

YES

NO

If definitive surgical care or critical care monitoring are not available, activate Trauma System and prepare for RAPID transfer to the appropriate designated Trauma Facility according to the Regional Trauma Plan. Stabilization may involve surgical intervention.

Consider admission if condition remains stable.

NO

## Priority III

Perform appropriate emergency department evaluation. Consider discharge or admit if condition remains stable.

Pediatric Trauma Score 9-12

Deterioration of Glasgow Coma Scale, vital signs or patient’s condition or significant findings on further evaluation: Initiate Trauma Treatment Protocol- Activate Trauma System and prepare for RAPID transfer to the appropriate designated Trauma Facility according to the Regional Trauma Plan if definitive surgical care and critical care monitoring are not available.

## APPENDIX B

# TRANSFER REFERRAL CENTER TReC

OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN



*Trauma Referral Center*

Telephone  
(888) 658-7262  
or (866) 778-7262

For questions, issues, or concerns, please contact: Emergency  
Systems

Phone 405-271-4027, Fax 405-271-4240

Approved by RPC: 3/7/07

Approved by RTAB: 3/13/07

Amended and consolidated: 03/2008, 05/2011

Approved by OTSIDAC: 08/02/06

# APPENDIX C

## HOSPITAL STANDARDS

May be accessed at  
[www.ok.gov/health/protective\\_health](http://www.ok.gov/health/protective_health)  
Protective Health Services  
Medical Facilities

Approved by RPC: 3/7/07

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## APPENDIX D

### EMResource™ UTILIZATION

Approved by RPC: 3/7/07

Approved by RTAB: 3/13/07

Amended and consolidated: 03/2008, 05/2011

Approved by OTSIDAC: 08/02/06

# OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

## EMResource™ Usage

### I. Introduction

For several years EMResource™ has served as a tool for hospitals to display their diversion status in Oklahoma City. Although diversion is still a feature on the EMResource™, we are going to ask that you look at EMResource™ as a communication tool capable of demonstrating resource availability, health alerts and disaster notifications. EMResource™ is now a vital tool that can better enable communication in both routine daily circumstances and during disasters. EMResource™'s ability to serve this function is limited by the use of the system by providers.

### II. Usage Requirements

Within Region 8 all providers are required of to comply with the guidelines established by the State EMResource™ Joint Advisory Committee and/or the Oklahoma State Department of Health in the EMResource™ Manual. In the event that the EMResource™ Manual is updated, the revisions to the EMResource™ Manual override the requirements in this document.

Specific usage requirements include but are not limited to:

#### A. Contact Information

1. Each provider is responsible to maintain accurate contact information on the EMResource™.
2. Hospitals shall post the telephone number they wish other providers to use when calling patient referrals or reports in this area of Resource™.

#### B. Provider Status

Each hospital is required to maintain current status on the EMResource™ so that their capabilities or capacity can be readily accessed by other hospitals, EMS agencies and the Trauma Transfer and Referral Center.

Critical Concept: Emergency Departments and Hospitals are considered open unless posted otherwise on EMResource™ .

#### 1. Emergency Department Status

- a. This is the specific status of the Emergency Department and is the only status appropriate for diversion of pre-hospital transports. The current ED Status categories are: Open, Total ED Divert, Trauma Divert, CT Divert, ED select, Forced Open, and Closed.
- b. If a facility has not updated their status on the EMResource™ their attempt to divert may be overridden by the pre-hospital provider or the Trauma Transfer and Referral Center.

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## OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

### 2. Hospital Status

- a. This status is specific to the inpatient capability/capacity and is only appropriate for diverting inter-facility transfer patients. The current Hospital Status categories are: Open, Caution, and Closed.
- b. If a facility has not updated their status on the EMResource™ their attempt to divert may be overridden by the Trauma Transfer and Referral Center.

Critical Concept: Emergency Departments and Hospitals are considered open unless posted otherwise on EMResource™ .

### 3. Provider Resource Availability

This status is for displaying hospital specialty coverage on a real time basis. A customized list of eight specialties has been developed to meet the needs of Oklahoma. The status categories for these coverage areas are:

- a. Yes – Coverage is currently available.
- b. No – Coverage is not currently available.
- c. N/A – This service is not offered at this facility.

### 4. Air Ambulance Status

This status is for displaying the current status/availability of Air Ambulances. The status categories for this status are:

- a. Available – the aeromedical resource is currently ready and able to respond to emergency calls.
- b. Call for Status – current conditions necessitate those providers in need of aeromedical transport call to determine resource availability because:
  - 1) The aeromedical resource may already be dispatched to a call or be on standby.
  - 2) Local weather conditions may temporarily impact the ability of this aeromedical resource to respond.
  - 3) This aeromedical resource may be temporarily unavailable due to routine service or fueling.
- c. Not Available – the aeromedical resource is currently unable to respond in a timely manner.
- d. In Region 8 the air ambulances are required to keep their most accurate status current. They may not leave their status as “call for status” at all times.

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Approved by OTSIDAC: 08/02/06

## OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

### C. System Alerts

1. Providers in Region 8 are required to maintain EMResource™ in a manner that enables them to receive alerts in a timely manner. It is suggested that all providers maintain a computer specifically for EMResource™ use 24 hours a day.
2. If a provider is unable to maintain a computer with EMResource™ displayed 24 hours a day the provider is expected to work with the regional EMResource™ administrator to arrange the delivery of all System Alerts to the text enabled device of designated staff responsible to share the alert information with other on-duty staff.

### D. Data Reporting

Providers in Region 8 are required to participate in reporting data supported by the EMResource™ application. This reporting requirement includes but is not limited to:

1. Hospital Daily Report of bed capacity and ED volume;
2. EMS Daily Report of resources and volume;

## III. Monitoring

Appropriate use of EMResource™ will be enforced in the region through the QI process

- A. The CQI committee will routinely review reports from the Trauma Transfer and Referral Center on diversion of patients and compare the patient diversion list with the list of facility diversion hours generated from the EMResource™.
- B. The CQI committee will review all cases referred to them for inappropriate use of EMResource™ in any of the listed categories.
- C. The regional and/or state EMResource™ administrator will perform periodic drills using EMResource™ and monitor appropriateness of provider response. Reports of these drills will be provided to the RTAB CQI committee who will address problems/trends directly with the provider and if necessary through referral to the appropriate state level committee.

The CQI committee will work with these providers to come into compliance with EMResource™ usage requirements. If these attempts fail the cases will be referred to the State QI committee for further action.

## IV. Summary

EMResource™ is a vital communication tool that provides the capability of real time communication among trauma system participants. This ability is limited by provider use of the system. Region 8 supports use of this tool.

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Approved by RTAB: 3/13/07

Amended and consolidated: 03/2008, 05/2011

Approved by OTSIDAC: 08/02/06

# Appendix E

## Advanced Life Support Assistance Protocol

Approved by RPC: 3/7/07  
Approved by RTAB: 3/13/07  
Amended and consolidated: 03/2008, 05/2011  
Approved by OTSIDAC: 08/02/06

# OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

## ALS INTERCEPT PROTOCOL FOR REGION 8

### **Purpose:**

To provide guidelines to Emergency Medical Services personnel on when to request Advanced Life Support (ALS) assistance from neighboring ambulance services.

### **Policy:**

The following will apply to ensure that BLS/ALS assistance requests are managed appropriately. ALS Assist is defined as any request for an air or ground advanced life support unit to respond to and/or intercept with an EMS Unit for the purpose of providing an advanced level of patient care. A licensed Intermediate or Paramedic level of care should provide ALS Assist.

ALS Assist/intercept requests should be made in any situation where the EMS provider has determined that the patient may be unstable or has life-threatening injuries or illness. Medics should refer to the Oklahoma Trauma Triage and Transportation guidelines for classification of the patient.

### **Procedure:**

1. Consideration must be given as to the location of the EMS unit, and anticipated location of intercept. The decision to request ALS should be made immediately.
2. The location of the intercept shall be decided as soon as possible.
3. Only if it is deemed to be in the best interest of the patient should the patient be transferred from a BLS unit to a ground ALS unit.
4. The ALS provider should be licensed at the Intermediate or Paramedic level or an Air Ambulance.
5. BLS and ALS personnel may elect to request air medical support based on the Regional Trauma Plan. BLS personnel need not wait for an assessment prior to requesting air medical support. Landing zone selection and security shall be coordinated with local resources. Transportation to the closest most appropriate medical facility shall not be inordinately delayed while waiting for air support.
6. A full verbal patient care report shall be given to the ALS personnel upon arrival and a full patient care report will be left with the patient at the hospital.

Approved by RPC: 3/18/14

Approved by RTAB: 4/08/14

Approved by OTERAC: 06/04/14

# OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

## GLOSSARY OF TERMS

**Assigned Patient:** An established patient of a facility, or a stable patient who has requested a specific facility.

**Definitive Care:** Completed therapy; end point at which all treatment required at the time has occurred.

**On-Call Facility:** When “on call”, the facility will provide orthopedics, neurosurgery, general surgery, facial trauma, hand trauma, and anesthesia....or arrange coverage through hospital transfer agreements. This is for unassigned, Priority 2 patients with single-system injury, or at risk for injury but currently stable, picked up by EMSA in its service area or transported into the metropolitan area from other regions of the State.

**Unassigned Patient:** A patient with no preference for facility destination, or no pre-existing relationship with a facility.

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Approved by RTAB: 4/08/14  
Approved by OTERAC: 06/04/14