REGION 6 TRAUMA PLAN

Developed by the RTAB Central Regional Planning Committee

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Pre-hospital Trauma Destination Component

I. GOALS/PURPOSE

The goals of the regional trauma destination plan are to:

A. Assure trauma patients are transported to the most appropriate facility with the available resources and capacity to provide 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 resources with each trauma patient's need to ensure optimal and cost effective care is achieved; and
D. This plan will not conflict with any rules and/or regulations that are in place now, that may be written, or changed in the future. In the event new rules and/or regulations are considered, the RTAB should be included in that dialogue prior to implementation.

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 in the right amount of time.

III. DESCRIPTION

Region 6 consists of the central portion of Oklahoma and includes the following counties: Canadian, Cleveland, southeastern Kingfisher, Lincoln, Logan, McClain, and Pottawatomie.

It is serviced by twelve (12) ambulance services and two (2) Level III trauma hospitals. There are seven (7) Level IV trauma hospitals, of which three (3) are designated as Critical Access Hospitals. There is one (1) hospital in the region without a trauma designation.

IV. 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.
It is imperative that all pre-hospital and hospital medical providers use this system and language. Three trauma triage priorities are used in determining the appropriate destination for patients. It is noted that all of region 6 will adopt the use of these priorities and include them in their internal training processes.

A. **Priority 1 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 level II Trauma Center. These patients should be directly transported to a Level I or Level II 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 2 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 3 Trauma Patients:**
These patients are without physiological instability, altered mentation, neurological deficit, or significant anatomical or single system injuries that have been involved in a low energy event. These patients should be treated at the nearest facility or the patient's hospital of choice.

V. CATEGORIZATION OF HOSPITALS

A. Hospital Providers in Region 6 include:
1. Level I: None
2. Level II: None
3. Level III:
   a. INTEGRIS Canadian Valley Hospital (Yukon)
   b. Norman Regional (Norman)
4. Level IV
   a. CHG Cornerstone Hospital of Oklahoma – Shawnee (This facility functions as a Long Term Acute Care Facility.)
   b. Mercy Hospital Logan County, Inc. (Guthrie)
   c. Prague Community Hospital (Prague)
   d. Purcell Municipal Hospital (Purcell)
   e. Stroud Regional Medical Center (Stroud)
   f. SSM Health St. Anthony Hospital – Shawnee
5. General Medical Surgical Hospitals that are not Trauma Classified:

VI. DESCRIPTION OF EMS SERVICES

Region 6 is an area that encompasses six (6) counties and covers approximately 4261.5 square miles. It is served by twelve (12) ambulance services.

A. Ground Ambulance Services:

1. Canadian County:
   Two (2) Paramedic services cover the Region 6 portion of Canadian County with seven (7) total units of which an average of two (2) are routinely staffed, covering 1,210 square miles of the county.
2. Cleveland County:
   Cleveland County is served by one (1) Intermediate service and one (1) Paramedic service. The Intermediate services covers the southern 96 square miles of the county with three total ambulances, two (2) of which are routinely staffed, and the Paramedic service covers the Norman and Moore areas with twenty (20) ambulances.
3. Lincoln County:
   Lincoln county is 1,090 square miles covered by one (1) Paramedic service and two (2) Basic service. There are nine (9) total ambulances, of which six (6) are routinely staffed.
4. Logan County (including southeastern Kingfisher County):
   Logan County is covered by two (2) Basic ambulances services with nine (9) units, of which six (6) are routinely staffed, that cover 406 square miles of these counties.
5. McClain County:
   One (1) Intermediate and one (1) Paramedic Service cover McClain County with eight (8) units, of which six (6) are routinely staffed, covering 825 square miles of the county.
6. Pottawatomie County:
   One (1) Paramedic ambulance service covers Pottawatomie County with ten (10) units, of which six (6) are routinely staffed, covering 825 square miles of the county.

For all of Region 6, there are a total of 66 ground units of which 23 are routinely staffed.

B. There are no Rotor Wing Air Ambulance services ***based*** in Region 6.

Air Ambulance services ***accessible*** to Region 6 are:

1. Air Evac Lifeteam – Ada
2. Air Evac Lifeteam – Cushing
3. Air Evac Lifeteam – Kingfisher
4. Air Evac Lifeteam – Stillwater
5. Air Kids One
6. Mediflight – Chickasha
7. Mediflight – Seminole
8. Mediflight – Stillwater
9. Survival Flight – OKC
10. Tulsa Life Flight – Tulsa

VII. TReC – TRAUMA REFERRAL CENTER

The Trauma Referral Center was created by statute (Senate Bill 1554, 2004), and it was implemented on July 1st, 2005. The purpose of the center 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 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.

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

Ambulances from Region 6 are required to call into the center prior to entering Region 7 or 8 in order to ensure appropriate destination. Likewise, hospitals may call the center for assistance in identifying the appropriate destination for their trauma patients.

The center will provide information on resource utilization to the OSDH that will be available to the Region 6 RTAB for Quality Improvement purposes.

VIII. 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 transport directly to an appropriate hospital with the capability 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 1, 2, and 3 trauma patient hospital destinations.

These destinations are:

ALL PATIENTS:

A. Those patients with a traumatic arrest or the inability to secure an airway should be transported to the trauma-designated facility closest to the traumatic event.
B. It should be noted that any priority 1 or 2 trauma patient that needs immediate stabilization may be transported to the trauma-designated facility closest to the traumatic event in an effort to expedite care.
C. Patient preference, as well as time and distance, will be considered for most Priority 2 and 3 trauma patients.

D. All trauma patients should be directly transported to the closest trauma designated facility with the capability and capacity to provide definitive care for the patient based on injury type and severity.

General Trauma Patients

A. Priority 1 adult and pediatric trauma patients that meet the state-approved trauma criteria should be transported to OU Medicine via the appropriate method of transport. For Priority 2 adult and pediatric trauma patients transported into Region 8 from the south, Norman Regional Hospital may be utilized. For those patients outside of an area 30 minutes from OU Medicine, air transport should be considered, as defined in Section IX, as soon as possible to ensure rapid transport to the appropriate facility.

   If air transport is unavailable, ground transport and/or ALS intercept can be utilized for transport. In the event there will be an excessive time delay for transport, the patient may be taken to the closest trauma designated facility for stabilization.

B. Priority 2 adult and pediatric patients
   All priority 2 pediatric patients that are transferred and transported into Region 8 shall now be taken to The Children's Hospital at OUMC.
   a. In **Pottowatomie County**, Priority 2 trauma patients will be transported to whichever is closest:
      i. Norman Regional (Porter Campus), or
      ii. The closest Level III in Region 8 using the Trauma Referral Center.
   b. In **Lincoln County**, Priority 2 trauma patients will be transported to whichever is closest:
      i. Stillwater Medical Center, or
      ii. The closest Level III in Region 7 or 8 using the Trauma Referral Center.
   c. In **Logan County**, Priority 2 trauma patients will be transported to whichever is closest:
      i. St. Mary's Regional Medical Center or INTEGRIS Bass Baptist Health Center in Enid,
      ii. Stillwater Medical Center, or
      iii. The closest Level III in Region 8 using the Trauma Referral Center.
   d. In **Canadian County**, Priority 2 trauma patients will be transported to INTEGRIS Canadian Valley Hospital or the closest Level III or higher facility in Region 6 or 8 using the Trauma Referral Center.
   e. In **McClain County**, Priority 2 trauma patients will be transported to the closest Level III or higher facility with the capability and capacity for definitive care:
      i. Grady Memorial Hospital Authority in Chickasha, or
      ii. Norman Regional (Porter Campus), or
      iii. The closest Level III in Region 8 using the Trauma Referral Center, or
      iv. Mercy Hospital Ada.

f. In **Cleveland County**, Priority 2 trauma patients will be transported to:
   i. Norman Regional (Porter Campus), or
   ii. The closest Level III in Region 6 or 8 using the Trauma Referral Center.

Neurological Trauma Patients

A. Priority 1 and 2 adult and pediatric trauma patients should be transported directly to the appropriate facility in Region 6, 7, or 8 via use of the Trauma Referral Center.
B. Priority 3 adult and pediatric trauma patients should be transported to the closest trauma designated or patient preference facility in Region 6.

Burn Patients

A. Adults: Refer to Triage and Transport Guidelines – Oklahoma Model Trauma Triage Algorithm.
B. Pediatric patients <16 years: Refer to Triage and Transport Guidelines – Oklahoma Model Trauma Triage Algorithm.

IX. PROCEDURE FOR MONITORING HOSPITAL STATUS AND CAPABILITY

A. EMResource™

The MERC coordinator will generate reports from the EMResource™ for use in monitoring hospital status related to destination. These reports will be provided periodically to the OSDH and made available to the Region 6 CQI Committee. 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.

B. CQI Indicators

A set of CQI Indicators shall be developed for use in monitoring hospital status and appropriateness of destination. The Region 6 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.

X. HELICOPTER UTILIZATION PROTOCOL

Purpose: Appropriate utilization of air ambulance resources by Region 6 providers.

A. "No Fly" Conditions

1. Helicopter utilization is seldom indicated for patients without a chance for survival or without serious injury. The following are other situations in which an air ambulance should not be used:
   a. Patients at a location where time and distance constraints make air transport to the closest appropriate medical facility for the patient's injury more time consuming should be transported by ground. This is when ground transport is expected to take less than 30 minutes.

b. Priority 3 patients should be transported by ground ambulance.
c. Cardiac arrest without return of spontaneous circulation in the field.

B. <u>"Fly" Conditions</u>
1. The following conditions warrant the use of an air ambulance:
   a. Priority 1 trauma patients that are being transported to a facility in which time and distance constraints make air transport more efficient.
   b. Priority 2 trauma patients that are being transported to a facility with a ground transport time greater than 30 minutes, based on lack of local resources.
2. The following are conditions that warrant the use of an air ambulance even when the patient is within 30 minutes of a medical facility:
   a. The closest trauma designated facility is not appropriate for the patient's injury
   b. Hazardous or impassable road conditions resulting in significant delays for ground transportation.
   c. There are multiple patients of a serious nature requiring rapid transport, overwhelming available ground units.
   d. Based on information available, the lead rescuer determines a lengthy rescue is required and transportation by ground would extend and delay definitive care.
   e. The closest available medical helicopter will be utilized, with consideration given to air response time to the scene, to improve survival of all patients being transported to a definitive care facility.
3. After the responders have initially treated the patient using standard protocol and the patient is ready for transport, the responders should proceed to the closest pre-existing landing area (PELA site) or to the nearest treating facility if the patient's condition warrants.
4. Early Activation / Standby: When a dispatch center or ground ambulance service receives a call that meets the following criteria, it is recommended that the air ambulance be "early activated" or placed on ground standby:
   a. Significant mechanism of injury as defined in the Trauma Triage Algorithm, or
   b. Multiple patients, or
   c. The responding crew's index of suspicion.

   **** NOTE: If an air ambulance is requested by anyone other than the local EMS agency, then the air ambulance will establish communication with the local EMS agency immediately. ****

C. <u>Landing Zone Parameters</u>:
1. Free of wires, trees, signs, poles, vehicles, and people;
2. Landing zone is flat, smooth, and clear of debris;
3. The landing zone should be at least 100 x 100 square feet in size;

4. The landing zone should be well defined at night without lights pointed towards the helicopter;
5. The area should be secured and free of all loose debris as well as clear of all unauthorized personnel;
6. The helicopter should not be approached unless escorted or directed by the aircrew, and care should be taken to avoid the tail rotor;
7. The landing zone should remain clear and secure for at least one minute after departure for safety reasons.

D. Training: Landing zone training should be accomplished by all ambulance services on an annual basis. Each individual ambulance service can contact an air ambulance service for this training.

E. EMTALA: There are concerns regarding air utilization and rendezvous with a local ground transport at a helipad upon a medical facility's property. This is addressed in Appendix B.

XI. DIVERSION

A. Guidelines to determine the possible need for Emergency Department divert are:
   1. The Emergency Department cannot handle additional emergencies based on the lack of professional personnel; or
   2. Maximum capacity of the Emergency Department has been met; or
   3. The hospital does not have the capability to care for the patient.

B. Compliance:
   1. If a hospital goes on Emergency Department divert, then the MERC or his/her designee will make re-evaluation, on a 2-hour basis, for continuation.
   2. The MERC or his/her designee has the authority at any time to deny or discontinue Emergency Department divert based upon the needs of the community.
   3. The MERC or his/her designee also has the authority to place ambulance services on a rotating basis to avoid over-saturation of any one given facility.
   4. Update of the EMResource™ will be made accordingly.
   5. All providers are to update their status on the EMResource™ every 24 hours. All EMS providers will utilize the Trauma Referral Center to prevent re-routing related to diversion status of hospital in Regions 7 and 8. The Level III hospitals within Region 6 should be utilized when geographically appropriate prior to transporting into Region 7 or 8 if possible. If the Level III facility is unable to accept the patient, the Trauma Referral Center will be contact.

Inter-Facility Trauma Destination Component

I. General Purpose

A well-designed trauma program within the hospital is crucial to the success of providing optimal care to the trauma patient in Region 6. A written commitment on behalf of the entire facility devoted to the organization of trauma care is vital. Therefore, all hospital in Region 6 shall establish criteria for the activation of their respective trauma systems. These criteria shall be clearly noted in each institution's trauma policy. The following is intended to serve only as a general guideline for the hospitals as each hospital is unique.

II. Level III Trauma Hospital

A. A Level III Trauma Center is an acute care facility with the commitment, medical staff, personnel, and specialty training necessary to provide initial resuscitation of the trauma patient. It shall establish and maintain a hospital trauma service with a trauma service director which can also be the emergency services director. Patients will remain in the Level III trauma hospital unless the medical needs of the patient require secondary transfer. The decision to transfer a patient rests with the physician attending the trauma patient. All Level III trauma centers will work collaboratively with other trauma facilities to develop transfer protocols and a well-defined transfer sequence.

B. A team approach is optimal in the care of the injured patient. Policies should be in place describing the roles of all personnel on the trauma team. The composition of the trauma team in any hospital will depend on the characteristics of that hospital and its resources. For the Level III trauma hospital, the suggested composition of the trauma team for severely injured patients may include:

1. Emergency Physician
2. Emergency Charge RN
3. Emergency RN
4. Laboratory
5. Radiology
6. Respiratory Therapy

C. The Level III trauma center must have an emergency department staffed so those trauma patients are assured immediate and appropriate initial care. An emergency medicine physician who is deemed competent in the care of the trauma patient shall be available 24 hours per day. This emergency physician must be in-house 24 hours/day, immediately available at all times, capable of evaluating trauma patients, and providing initial resuscitation. The emergency physician will provide team leadership and care for the trauma patient until the arrival of the surgeon in the resuscitation area. The emergency department must have established standards and procedures to ensure immediate and appropriate care for the adult and pediatric trauma patient. The medical director for the department must

participate in the trauma PI process. There should be an adequate number of RNs staffed for the trauma resuscitation area in-house 24 hours/day.

D. The Level III trauma center must also have published on-call schedules and have the following medical specialists immediately available 24 hours/day to the injured patient:
    1. General Surgery notification of the on-call surgeon and compliance with these criteria and their appropriateness must be documented and monitored by the PI process;
    2. Anesthesia must be promptly available with a mechanism to ensure notification of the on-call anesthesiologist; and
    3. Emergency services, with a designated physician director.
E. A surgical team must be on-call with a well-defined mechanism to expedite transfer to the operating room if the patient condition warrants.
F. Clinical support services such as Respiratory Therapy personnel and Radiological technicians shall be available 24 hours/day to meet the immediate needs of the trauma patient. Written policy should exist delineating the prioritization/availability of the CT scanner for trauma patients. The use of Tele-radiology is acceptable.
G. Within the Level III trauma hospital, clinical laboratory services shall have the following services available in-house 24 hours/day:
    1. Access to a community central blood bank and adequate storage facilities;
    2. Sufficient quantities of blood and blood products should be maintained at all times. Blood typing and cross-match capabilities must be readily available;
    3. Standard analysis of blood, urine, and other body fluids including:
        a. Microbiology,
        b. Blood gas and pH determinations,
        c. Alcohol screening is required and drug screening is highly recommended, and
        d. Coagulation studies.
    4. A Level III trauma facility shall have the following:
        a. Written transfer agreements with other providers as a transferring facility, and
        b. A helipad.

III. Level IV Trauma Hospital

A. Level IV trauma centers are generally licensed, small, rural facilities with commitment to the resuscitation of the trauma patient and written transfer protocols in place to assure those patients who require a higher level of care are appropriately transferred. A Level IV trauma facility shall have an emergency services department with an emergency physician or a licensed mid-level practitioner and nursing personnel on-duty 24 hours/day. A registered nurse not designated as a physician extender shall be immediately available to respond to the emergency department from within the hospital.
B. Again, the team approach is optimal in the care of the multiple injured patients. The Level IV trauma center must have a written policy for notification and mobilization of an organized

trauma team to the extent that one is available. The trauma team may vary in size and composition. The physician leader or licensed mid-level practitioner on the trauma team is responsible for directing all phases of the resuscitation. Suggested composition of the trauma team includes, if available:

1. Physicians or licensed mid-level practitioners,
2. Emergency RN,
3. Laboratory, and
4. Radiology.

C. The emergency department of a Level IV trauma center must be staffed so trauma patients are assured immediate and appropriate initial care. A system must be developed to assure early notification on the on-call practitioner. An adequate number of nurses must be available in-house 24 hours/day. The nurse may perform other patient care activities within the hospital when not needed in the ED.

D. The Level IV trauma facility shall have the following clinical services available for immediate consultation via a communications system:

1. General surgery,
2. Infectious disease,
3. Neurosurgery,
4. OB0GYN, and
5. Oral/maxillofacial surgery.

E. The Level IV trauma center must have written transfer agreements with other trauma facilities in the region. A policy must be in place to facilitate and expedite the transfer sequence to assure the most appropriate care is rendered. Agreements should be in place so that all facilities will work together to implement the Trauma Transfer Guidelines. These guidelines indicate which patients should be considered for transfer and what procedures to follow to ensure the most expedient safe transfer of the patient.

IV. Criteria for activation of the Trauma Team

A. Immediate activation of the trauma system (Full Team Resuscitation) should occur when you have:

1. Glasgow Coma Scale (GCS) < 10;
2. Systolic Blood Pressure < 90 mmHg;
3. Respiratory Rate , 10 or > 30/min;
4. RTS < 11;
5. PTS < 9;
6. Penetrating injury to the head, neck, torso, or extremities above the elbows or knees;
7. Flail chest;
8. Two or more proximal long bone fractures;
9. Pelvic fracture;

10. Limb paralysis;
11. Amputation proximal to the wrist or ankle;
12. Body surface burns > 5% (second or third degree) or burns associated with other traumatic or inhalation injury;
13. Trauma transfer that is intubated or receiving blood; or
14. Children under 12 with any of the historical flats outlined below:
    a. Ejection from vehicle;
    b. Death in same passenger compartment;
    c. Extrication time greater than 20 minutes;
    d. Rollover MVC;
    e. High speed auto crash greater than 40 MPH;
    f. Auto deformity greater than 20 inches of external damage or intrusion into the passenger compartment greater than 12 inches;
    g. Pedestrian thrown or run over; or
    h. Motorcycle crash greater than 20 MPH or separation of rider from bike.

V. Inter-facility Transfers

In an effort to optimize the 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 (either PARTIAL or FULL), and the patient will undergo immediate medical screening. Depending upon the screening results and the needs of the patient, any of the following may occur:

A. The Priority 1 or Priority 2 time-sensitive patient will be stabilized and then transferred to the most appropriate facility in Region 7 or 8 utilizing the Trauma Referral Center (TReC);
B. The Priority 2 patient that is not time sensitive will be stabilized and then admitted to that facility when care needed is within the scope of the facility, or transferred to the most appropriate facility utilizing the TReC; or
C. The Priority 3 patient will be stabilized and:
    1. Admitted, or
    2. Transferred to their facility of choice, or
    3. Treated and discharged to home with appropriate instructions for their injury.

It is recommended that the transfer of Priority 1, Priority 2, or Priority 3 trauma patients follow the same routing as the Pre-Hospital Destination Plan when possible. However, the TReC may be contacted to expedite location of the most appropriate facility. Once the need for transfer is recognized, diagnostic tests should be limited to decrease time at the transferring facility. This is an effort to provide optimal care in the most appropriate amount of time for the trauma patient. Upon stabilization of the patient, transport should be by the quickest means of

transport available. It is, however, the expectation that facilities with the capability and capacity to treat patients at their facility will not initiate a transfer. As always, the patient's choice of facility will be considered when the injuries are not of a time sensitive nature.

VI. EMResource™ Usage

A. 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.

B. Usage Requirements

Within Region6, all providers are required 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:

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

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

   a. Emergency Department Status
      i. 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.
      ii. 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 Referral Center.

b. Hospital Status
   i. 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.
   ii. If a facility has not updated their status on the EMResource™, their attempt to divert may be overridden by the Trauma Referral Center.
   iii. Critical Concept: Emergency Departments and Hospitals are considered open unless posted otherwise on EMResource™.

c. 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:
   i. Yes – Coverage is currently available
   ii. No – Coverage is not currently available
   iii. N/A – This service is not offered at this facility.

d. Air Ambulance Status

   This status is for displaying the current status/availability of Air Ambulances. The status categories for this status are:
   i. Available – The aeromedical resource is currently ready and able to respond to emergency call.
   ii. Call for Status – Current conditions necessitates that provider in need of aeromedical transport call to determine resource availability because:
      i. The aero-medical resource may already be dispatched to a call or be on standby;
      ii. Local weather conditions may temporarily impact the ability of this aeromedical resource to respond; or
      iii. This aeromedical resource may be temporarily unavailable due to routine service or fueling.
   iii. Not Available – The aeromedical resource is currently unable to respond in a timely manner.

   In Region 6, 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.

3. System Alerts
   a. Providers in Region 6 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™ 24 hours a day.
   b. 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 delivery of all System Alerts to the text enabled device of designated staff responsible to share the alert information with other on-duty staff.

4. Data Reporting

Providers in Region 6 are required to participate in reporting data supported by the EMResource™ application. This reporting requirement includes, but is not limited to:

a. Hospital Daily Report of bed capacity and ED volume;
b. EMS Daily Report of resources and volume.

C. Monitoring

a. Appropriate use of EMResource™ will be enforced in the region through the CQI process.
b. The CQI committee will routinely review reports from the Trauma Referral Center on diversion of patients and compare the patient diversion list with the list of facility diversion hours generated from the EMResource™.
c. The CQI committee will review all cases referred to them for inappropriate use of EMResource™ in any of the listed categories.
d. 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 to work with these providers to come into compliance with EMResource™ usage requirements. If these attempts fail, the cases will be referred to the State CQI committee for further action.

D. 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 6 supports use of this tool through adoption of these requirements.

Regional Continuous Quality Improvement Activities

Every licensed hospital and ambulance service is to participate with the Continuous Quality Improvement process. Participation in the process will be demonstrated by meaningful responses to committee correspondence, and with respectful consideration being given to the recommendations made by the committee. Those who do not participate with the CQI committee process will be subject to the schedule of escalation outlined in Appendix E.

Appendix A

Oklahoma Trauma Patient Definitions and Triage Algorithms

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 do not provide 100% percent sensitivity and specificity for detecting injury. As a result, trauma systems are designed to over-triage patients in order to not 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 per minute
or <20 in infant <1 year of age
Altered Mentation of trauma etiology – GCS <14

Anatomical Injury Criteria

Penetrating injury of the head, neck, chest/abdomen, or extremities proximal to elbow of 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 1 Trauma
Crushed, degloved, or mangled extremity

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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.

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 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 but not limited to the following factors:

- Age greater than 55
- Age less than 5
- Extremes in environment
- Patient's previous medical history such as:
  - Anticoagulation or bleeding disorders
  - End stage renal disease or 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 levels fall with extremity or hip fracture.

ADULT PRE-HOSPITAL

TRIAGE AND TRANSPORT GUIDELINES

Oklahoma Model Trauma Triage Algorithm

INABILTY TO SECURE AIRWAY
TRAUMATIC ARREST

YES → GO DIRECTLY TO NEAREST APPROPRIATE FACILITY

PRIORITY I

PHYSIOLOGICAL COMPROMISE CRITERIA

Hemodynamic Compromise [1]—Systolic BP <90 mmHg
Or signs that should be considered include:
Sustained tachycardia
Cool diaphoretic skin

Respiratory Compromise [2] — RR <10 or >29 breaths/min
or <20 in infant < 1 yr

Altered Mentation of trauma etiology [3] — GCS <14

YES →

INITIATE TRAUMA TREATMENT PROTOCOL
ACTIVATE TRAUMA SYSTEM

RAPID transport to the designated Level I, II, or Regional Level III Trauma Center according to the Regional Trauma Plan but may stabilized at a Level III or IV facility depending on location of receiver and time and distance to the higher level trauma center.

Air Rendezvous may be necessary considering time and distance constraints. If conditions do not permit air transport then consider ALS rendezvous. Stabilization may occur either in the field or a the nearest appropriate facility.

NO ↓

ANATOMICAL INJURY

Penetrating injury of head, neck, chest, abdomen or extremities proximal to elbow or knee.
Combination of burns > 10% or significant burns involving face, airway, hands, feet or genitalia without significant trauma transport to Regional Burn Center. Burns >10% with significant trauma transport to trauma center.
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 unstable pelvic fracture
Tender and/or distended abdomen
Crushed, degloved, or mangled extremity

YES →

Combinations of burns >10% or significant burns involving face, airway, hands, feet or genitalia *without* significant trauma transport to Regional Burn Center. Burns >10% *with* significant trauma transport to trauma center.

PRIORITY II

NO ↓

RISK OF SERIOUS INJURY—SINGLE SYSTEM INJURY

Patients with potentially time sensitive injuries due to a high energy event (positive mechanism of injury) but currently with no physiological abnormalities or significant anatomical injury or patients with less severe single system injuries [4].

Ejection (partial or complete) of the patient from an enclosed vehicle auto/pedestrian, auto/bike, or motorcycle crash with significant impact (>20 mph) and patient thrown or run over by vehicle.
Falls greater than 20 feet or 2-3 times height of patient
Significant assault or altercations
High risk auto crash [5]
Neurology: Isolated head trauma with transient loss of consciousness or altered mental status but currently alert and oriented
Orthopedic: Single proximal and distal extremity (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.

YES →

INITIATE TRAUMA TREATMENT PROTOCOL

PROMPT transport to the designated Level III Trauma Center or higher depending on location according to the Regional Trauma Plan

YES →

PRIORITY III

NO ↓

CONSIDER[6] - Co-morbid factors
- Gestalt—EMS clinical judgement

NO →

TRANSPORT to either the closet Level IV Trauma Center or higher depending on location according to the Regional Trauma Plan or facility of the patients choice

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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 restraint 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

INABILTY TO SECURE AIRWAY
TRAUMATIC ARREST

YES →

GO DIRECTLY TO NEAREST APPROPRIATE FACILITY

PRIORITY I

PHYSIOLOGICAL COMPROMISE CRITERIA

Hemodynamic Compromise [1]—Systolic BP <90 mmHg
Or signs that should be considered include:
Sustained tachycardia
Cool diaphoretic skin

Respiratory Compromise [2] — RR <10 or >29 breaths/min
or <20 in infant < 1 yr

Altered Mentation of trauma etiology [3] — GCS <14

YES →

INITIATE TRAUMA TREATMENT PROTOCOL
ACTIVATE TRAUMA SYSTEM

RAPID transport to the designated Level I, II, or Regional Level III Trauma Center according to the Regional Trauma Plan but may stabilized at a Level III or IV facility depending on location of receiver and time and distance to the higher level trauma center.

Air Rendezvous may be necessary considering time and distance constraints. If conditions do not permit air transport then consider ALS rendezvous. Stabilization may occur either in the field or a the nearest appropriate facility.

NO ↓

ANATOMICAL INJURY

Penetrating injury of head, neck, chest, abdomen or extremities proximal to elbow or knee.
Combination of burns > 10% or significant burns involving face, airway, hands, feet or genitalia without significant trauma transport to Regional Burn Center. Burns >10% with significant trauma transport to trauma center.
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 unstable pelvic fracture
Tender and/or distended abdomen
Crushed, degloved, or mangled extremity

Pediatric Trauma Score ≤ 5

YES →

Combinations of burns >10% or significant burns involving face, airway, hands, feet or genitalia *without* significant trauma transport to Regional Burn Center. Burns >10% *with* significant trauma transport to trauma center.

NO ↓

PRIORITY II

RISK OF SERIOUS INJURY—SINGLE SYSTEM INJURY

Patients with potentially time sensitive injuries due to a high energy event (positive mechanism of injury) but currently with no physiological abnormalities or significant anatomical injury or patients with less severe single system injuries [4].

Ejection (partial or complete) of the patient from an enclosed vehicle auto/pedestrian, auto/bike, or motorcycle crash with significant impact (>20 mph) and patient thrown or run over by vehicle.
Falls greater than 20 feet or 2-3 times height of patient
Significant assault or altercations
High risk auto crash [5]
Neurology: Isolated head trauma with transient loss of consciousness or altered mental status but currently alert and oriented
Orthopedic: Single proximal and distal extremity (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.

Pediatric Trauma Score 6-8

YES →

INITIATE TRAUMA TREATMENT PROTOCOL

PROMPT transport to the designated Level III Trauma Center or higher depending on location according to the Regional Trauma Plan

NO ↓

PRIORITY III

CONSIDER[6] - Co-morbid factors
- Gestalt—EMS clinical judgement

Pediatric Trauma Score 9-12

NO →

TRANSPORT to either the closet Level IV Trauma Center or higher depending on location according to the Regional Trauma Plan or facility of the patients choice

YES ↗

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PEDIATRIC (≤16 YEARS) 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 restraint 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

Pediatric Trauma Score (PTS)				
Components	+2	+1	-1	Score
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 mmHg Radial	50-90 mmHg Femoral/Carotid	<50 mmHg 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	
TOTAL			Range -6 to +12	

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

Generally:

9 to 12 = 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_2 administration
# Invasive techniques required for control (e.g. intubation)
† Responds to voice, pain, or temporary loss of consciousness
‡ Abrasions or lacerations

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ADULT INTERFACILITY

TRIAGE AND TRANSFER GUIDELINES

Oklahoma Model Trauma Triage Algorithm

Anatomy of the Injury

Penetrating injury of the head, neck, torso or groin.

Abdominal/Pelvic Injuries

- Hemodynamically unstable patient with physical evidence of abdominal or pelvic trauma
- Unstable pelvic ring disruption
- Pelvic fracture with shock or other evidence of continuing hemorrhage
- Open pelvic fracture
- Penetrating wound of abdomen with suspicion of penetration of the peritoneum
- Ruptured hollow viscous

CNS

- Penetrating Head Injury or Depressed skull fracture
- Open Head Injury
- GCS <= 10 or deterioration of 2 or more points
- Lateralizing signs
- New neurological deficits
- CSF Leak
- Spinal cord injury with neurological deficits
- Unstable spinal cord injuries

Chest

- Widened mediastinum or other signs suggesting great vessel injury Major chest wall or pulmonary injury with respiratory compromise Cardiac injury (blunt or penetrating)
- Cardiac tamponade
- Patients who may require prolonged ventilation
- Suspected tracheobronchial tree or esophageal injury

Hemodynamic Instability

- SBP consistently <90 following 20cc/kg of resuscitation fluid
- Respiratory distress with rate <10 or >29

Major Extremity Injury

- Fracture/dislocation with loss of distal pulses Amputation of extremity proximal to wrist or ankle Pelvic fractures with hemodynamic instability
- Two or more long bone fracture sites
- Major vascular injuries documented by arteriogram ***or*** loss of distal pulses
- Crush Injury or prolonged extremity ischemia

Multiple System

- Head Injury combined with face, chest, abdominal, or pelvic injury
- Significant injury to two or more body regions
- Combination of burns > 10% or significant burns involving face, airway, hands, feet or genitalia *without* significant trauma transport to regional Burn Center. Burns >10% *with* significant trauma transport to trauma center.

Secondary Deterioration

- Prolonged mechanical ventilation
- Sepsis
- Single or multiple organ system failure (deterioration in CNS, cardiac, pulmonary, hepatic, renal or coagulation systems)
- Major tissue necrosis

PRIORITY I

YES → Initiate internal Trauma Treatment Protocol if definitive surgical care and critical care monitoring are available

↓

If definitive surgical care or critical care monitoring are not available then immediate stabilization and transfer to appropriate designated facility according to regional plan. Stabilization may involve surgical intervention prior to transfer. Air transport may be necessary considering time and distance constraints.

NO → Proceed to Priority II Interfacility Transfer Criteria

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ADULT INTERFACILITY
TRIAGE AND TRANSGER GUIDELINES
Oklahoma Model Trauma Triage Algorithm

Abdominal/Pelvic Injuries
- Stable pelvic fractures
- Hemodynamically stable isolated abdominal trauma
  - diffuse abdominal pain/tenderness
  - seat belt contusions
  - 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

Comorbid
- Age <5 or > 55
- Known cardiac, respiratory or metabolic disease
- Pregnancy
- Immunosupression
- 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 discretion4, 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

PRIORITY II

YES →

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

↓

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

YES ↓

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.

NO ↓

Consider admission if condition remains stable.

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.

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PEDIATRIC (≤16 YEARS) INTERFACILITY
TRIAGE AND TRANSFER GUIDELINES
Oklahoma Model Trauma Triage Algorithm

Anatomy of the Injury

Penetrating injury of the head, neck, torso or groin.

Abdominal/Pelvic Injuries

- Hemodynamically unstable patient with physical evidence of abdominal or pelvic trauma
- Unstable pelvic ring disruption
- Pelvic fracture with shock or other evidence of continuing hemorrhage
- Open pelvic fracture
- Penetrating wound of abdomen with suspicion of penetration of the peritoneum
- Ruptured hollow viscous

CNS

- Penetrating Head Injury or Depressed skull fracture
- Open Head Injury
- GCS <= 10 or deterioration of 2 or more points
- Lateralizing signs
- New neurological deficits
- CSF Leak
- Spinal cord injury with neurological deficits
- Unstable spinal cord injuries

Chest

- Widened mediastinum or other signs suggesting great vessel injury Major chest wall or pulmonary injury with respiratory compromise Cardiac injury (blunt or penetrating)
- Cardiac tamponade
- Patients who may require prolonged ventilation
- Suspected tracheobronchial tree or esophageal injury

Hemodynamic Instability

- SBP consistently <90 following 20cc/kg of resuscitation fluid
- Respiratory distress with rate of:
  - Newborn <30 or >60
  - Up to 1 yr <24 or >36
  - 1-5 yr <20 or >30
  - Over 5 yr <15 or >30

Major Extremity Injury

- Fracture/dislocation with loss of distal pulses Amputation of extremity proximal to wrist or ankle Pelvic fractures with hemodynamic instability
- Two or more long bone fracture sites
- Major vascular injuries documented by arteriogram ***or*** loss of distal pulses
- Crush Injury or prolonged extremity ischemia

Multiple System

- Head Injury combined with face, chest, abdominal, or pelvic injury
- Significant injury to two or more body regions
- Combination of burns > 10% or significant burns involving face, airway, hands, feet or genitalia *without* significant trauma transport to regional Burn Center. Burns >10% *with* significant trauma transport to trauma center.

Secondary Deterioration

- Prolonged mechanical ventilation
- Sepsis
- Single or multiple organ system failure (deterioration in CNS, cardiac, pulmonary, hepatic, renal or coagulation systems)
- Major tissue necrosis

Pediatric Trauma Score <5

PRIORITY I

YES → Initiate internal Trauma Treatment Protocol if definitive surgical care and critical care monitoring are available

↓

If definitive surgical care or critical care monitoring are not available then immediate stabilization and transfer to appropriate designated facility according to regional plan. Stabilization may involve surgical intervention prior to transfer. Air transport may be necessary considering time and distance constraints.

NO → Proceed to Priority II Interfacility Transfer Criteria

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PEDIATRIC (≤16 YEARS) INTERFACILITY
TRIAGE AND TRANSGER GUIDELINES
Oklahoma Model Trauma Triage Algorithm

Abdominal/Pelvic Injuries
- Stable pelvic fractures
- Hemodynamically stable isolated abdominal trauma
  - diffuse abdominal pain/tenderness
  - seat belt contusions
  - 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

Comorbid
- Age <5 or > 55
- Known cardiac, respiratory or metabolic disease
- Pregnancy
- Immunosupression
- 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 discretion4, 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

PRIORITY II

YES →

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

↓

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

YES ↓

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.

NO ↓

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.

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Appendix B

EMTALA Clarification

Approved by OTSIDAC February 1, 2006
Revised by RTAB April 21, 2009; February 03, 2010; May 18, 2011

I. EMTALA Regarding Helipad Usage

There have been some concerns of possible EMTALA violations when using a hospital's helipad to transfer a patient from a ground ambulance to an air ambulance. The following two (2) circumstances will not trigger EMTALA. (Excerpt from the State Operations Manual, Appendix V – Interpretive Guidelines – Responsibilities of Medicare Participating Hospitals in Emergency Cases)

A. The use of a hospital's helipad by local ambulance services or other hospitals for the transport of individuals to tertiary hospitals located throughout the state does not trigger an EMTALA obligation for the hospital that has the helipad on its property when the helipad is being used for the purpose of transit as long as the sending hospital conducted the Medical Screening Exam (MSE) prior to transporting the individual to the helipad for medical helicopter transport to a designated recipient hospital. The sending hospital is responsible for conducting the MSE prior to transfer to determine if an Emergency Medical Condition (EMC) exists and implementing stabilizing treatment or conducting an appropriate transfer. Therefore, if the helipad serves simply as a point of transit for individuals who have received an MSE performed prior to the transfer to the helipad, the hospital with the helipad is not obligated to perform another MSE prior to the individuals continued travel to the recipient hospital. If, however, while at the helipad the individuals' condition deteriorates, the hospital at which the helipad is located must provide another MSE and stabilizing treatment within its capacity if requested by medical personnel accompanying the individual.

B. If as part of the EMS protocol, EMS activates helicopter evacuation of an individual with a potential EMC, the hospital that has the helipad does not have an EMTALA obligation if they are not the recipient hospital, **unless a request** is made by EMS personnel, the individual, or a legally responsible person acting on the individuals behalf for the examination or treatment of an EMC.

II. EMTALA EMERGENCY DEPARTMENT DEFINITIONS & DESCRIPTIONS

Situations may occur in which patients are diverted to other healthcare facilities provided EMTALA is followed.

Emergency Medical Treatment and Active Labor Act ("EMTALA") refers to Sections 1866 and 1867 of the Social Security Act, 42 U.S.C. Section 1395dd, which obligates hospitals to provide medical screening, treatment, and transfer of individuals with emergency medical conditions or women in labor. It is also referred to as the "anti- dumping" statute and COBRA.

Emergency Medical Condition:

A. A medical condition manifesting itself by acute symptoms of sufficient severity (including severe pain, psychiatric disturbances, and/or symptoms of substance abuse)

- such that the absence of immediate medical attention could reasonably be expected to result in:

1. Placing the health of the individual or, with respect to a pregnant woman, the health of a woman and her unborn child in serious jeopardy;
2. Serious impairment of bodily functions, or
3. Serious dysfunction of any bodily organ or part; or

B. With respect to a pregnant woman who is having contractions:
   1. That there is inadequate time to affect a safe transfer to another hospital before delivery; or
   2. That transfer may pose a threat to the health or safety of the woman or the unborn child.

Capacity means the ability of the hospital to accommodate the individual requesting examination or treatment of the transferred individual. Capacity encompasses number and availability of qualified staff, beds, equipment, and the hospital's past practices of accommodating additional patients in excess of its occupancy limits.

- Such as Emergency Department beds are filled, patients are backed up in the Emergency Department waiting room, and there are no other beds or personnel available to provide appropriate care for the patients.

Capabilities of a medical facility or main hospital provider means the physical space, equipment, supplies, and services (e.g. trauma care, surgery, intensive care, pediatrics, obstetrics, burn unit, neonatal unit, or psychiatry), including ancillary services available at the hospital. The capabilities of the hospital's staff mean the level of care that the hospital's personnel can provide within the training and scope of their professional licenses. For off-campus departments, the capability of the hospital as a whole is included. The obligations of the hospital provider must be discharged within the hospital as a whole. However, the hospital is not required to locate additional personnel or staff to off-campus departments to be on-call for possible emergencies.

Under no circumstances will an Emergency Department patient who has an emergency medical condition be transferred to another facility because of inability to pay for services or based on any illegal form of discrimination (national origin, race, gender, religion, etc.). Prior to any Emergency Department transfer, the Emergency Department staff will comply fully with EMTALA. A transfer form is to be used for patients who are transferred to a different acute care facility.

If a patient Comes to the Hospital Property or Premises and has an emergency medical condition, the hospital must provide either: (a) further medical examination and treatment, including hospitalization, if necessary, as required to stabilize the medical condition within the capabilities of the staff and facilities available at the hospital; or (b) a transfer to another more appropriate or specialized facility.

Comes to the Hospital Property or Premises, with respect to an individual presenting for examination and treatment for what may be an emergency medical condition, means that the individual is on the hospital property and premises. An individual in a non-hospital owned ambulance on hospital property or premises is considered to have come to the hospital's Emergency Department.

Appendix C

Advanced Life Support Intercept Protocol

Approved by OTSIDAC February 1, 2006
Revised by RTAB April 21, 2009; February 03, 2010; May 18, 2011

Central Oklahoma Region 6 Trauma Plan

ALS INTERCEPT PROTOCOL FOR REGION 6

I. 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.

II. Procedure:

A. 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.
B. The location of the intercept shall be decided as soon as possible.
C. 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.
D. The ALS provider should be licensed at the Intermediate or Paramedic level or an Air Ambulance.
E. 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.
F. 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 OTSIDAC February 1, 2006
Revised by RTAB April 21, 2009; February 03, 2010; May 18, 2011

Appendix D

Interfacility Transfer Agreements

Approved by OTSIDAC February 1, 2006
Revised by RTAB April 21, 2009; February 03, 2010; May 18, 2011

Inter-facility Transfer Agreements

The Oklahoma Central Regional Trauma Advisory Board has developed a regional resource list for reciprocal transfers returning to the region (See appendix E.) Hospitals should have a policy and transfer agreements in place in accordance with the OSDH Hospital Standard 310:667-59-9 (4B) which states: *The facility shall have a transfer agreement with a hospital capable of providing trauma care for severely injured patients. This agreement shall include reciprocal provisions requiring the facility to accept return transfers of patients at such time as the facility has the capability and capacity to provide needed care. Reciprocal agreements shall not incorporate financial provisions for transfers.*

Central Oklahoma Region 6 Trauma Plan

Type	FacilityName	County	Phone	Mailing Address	City State Zip
Ambulatory Surgery Center	Guthrie Surgical Center	Logan	(405) 282-9000	324 East Oklahoma Avenue	Guthrie, OK
Mental Health Ctr	Central OK Community Mental Health	Cleveland	(405) 360-5100	909 East Alameda	Norman, OK
Home Care Agency	CareTeam of OKC	Cleveland	(405) 364-5273	3625 W Main #108	Norman, OK
Home Care Agency	Caring Hearts Services, Inc.	Cleveland	(405) 213-7327	330 W. Gray St., Ste 100-5	Norman, OK
Home Care Agency	Caring Hearts Services, Inc.	Logan	(405) 282-3402	1310 E. Oklahoma Avenue	Guthrie, OK
Home Care Agency	Doctors Park Home Health	Pottawatomie	(405) 878-4753	2205 North Kickapoo, Suite 2	Shawnee, OK
Home Care Agency	Encompass Home Health of Central OK	Cleveland	(405) 447-8700	213 NW 48th Avenue	Norman, OK
Home Care Agency	Gentiva Health Services	Lincoln	(918) 968-9543	408 South 8th Avenue	Stroud, OK
Home Care Agency	HealthBack of Purcell	McCurtain	(405) 527-0027	519 W. Delaware	Purcell, OK
Home Care Agency	Heartland Home Health Care & Hospice	Pottawatomie	(405) 214-6441	3700 N. Kickapoo, Ste. 104	Shawnee, OK
Home Care Agency	Home Instead Senior Care	Cleveland	(405) 310-2756	320 West Main St Suite E	Norman, OK
Home Care Agency	Homecare Clinicians of Norman OK	Cleveland	(405) 312-6643	1800 North Interstate 35,	Norman, OK
Home Care Agency	Hometown Quality Care, Inc	Pottawatomie	(405) 598-0776	301 West Walnut	Tecumseh, OK
Home Care Agency	Legend Care Pharmacy	Cleveland	(405) 321-5300	2330 McKown Dr Ste B	Norman, OK
Home Care Agency	Lifecare Oklahoma Personal Services	Cleveland	(405) 573-5990	226 W. Gray, Ste.200	Norman, OK
Home Care Agency	Lifecare Oklahoma, Inc.	Cleveland	(405) 329-4545	226 W. Gray, Ste. 200	Norman, OK
Home Care Agency	Logan Medical Center Home Health	Logan	(405) 282-9406	324 North 19th Street	Guthrie, OK
Home Care Agency	Loving Care In-Home Health Services	Cleveland	(405) 872-1515	312 East Cherry Street	Noble, OK
Home Care Agency	Park View Hospital Home Health	Canadian	(405) 262-6877	2315 Park View Drive	El Reno, OK
Home Care Agency	Prairie View Home Health, Inc.	Lincoln	(405) 258-0035	1206 Manvel Avenue	Chandler, OK
Home Care Agency	Synergy HomeCare, LLC	Cleveland	(405) 310-4020	2405 Westport	Norman, OK
Hospice, Class A	Angelic Family Hospice, L.L.C.	Pottawatomie	(405) 275-8300	421 North Beard	Shawnee, OK
Hospice, Class A	Heartland Hospice Services, LLC	Pottawatomie	(405) 214-6442	3700 N. Kickapoo Street,	Shawnee, OK
Hospice, Class A	Hospice by Loving Care	Cleveland	(405) 579-8565	1100 N. Porter, Suite 104	Norman, OK
Hospice, Class A	Hospice by Loving Care	Cleveland	(405) 872-1515	312 Cherry Street	Noble, OK
Hospice, Class	Lifecare Oklahoma Hospice,	Cleveland	(405) 329-2290	226 W. Gray, Ste 200	Norman, OK

A	Inc.				
Hospice, Class A	Life's Journey Hospice, LLC	Lincoln	(918) 968-4870	313 North 4th Avenue	Stroud, OK
Hospice, Class A	Mays Hospice Care, Inc	Pottawatomie	(405) 273-5882	657 North Broadway	Shawnee, OK
Hospice, Class A	Mercy Hospital El Reno	Lincoln	(405) 258-0040	1206 Manvel Avenue, Suite C	Chandler, OK
Hospice, Class A	Russell-Murray Hospice, Inc.	Canadian	(405) 262-3088	221 South Bickford Avenue	El Reno, OK
Specialized Hospital: Psych	Griffin Memorial Hospital	Cleveland	(405) 321-4880	900 East Main Street	Norman, OK
Specialized Hospital: Rehab	J. D. McCarty Center for Children	Cleveland	(405) 321-4830	2002 East Robinson	Norman, OK
PPS-Psychiatric	Norman Regional Health System	Cleveland	(405) 307-1000	901 North Porter Street	Norman, OK
PPS-Rehabilitation	Norman Regional Health System -	Cleveland	(405) 321-1700	901 North Porter Street	Norman, OK
PPS-Rehabilitation	St. Anthony - Shawnee	Pottawatomie	(405) 273-2270	1102 West Mac Arthur	Shawnee, OK
Swing Bed	Logan Medical Center	Logan	(405) 282-6700	200 south Academy Road	Guthrie, OK
Swing Bed	Prague Community Hospital	Lincoln	(405) 567-4922	1322 Klabzuba Avenue	Prague, OK
Swing Bed	Purcell Municipal Hospital	McClain	(405) 527-6524	1500 North Green Avenue	Purcell, OK
Swing Bed	Stroud Regional Medical Center	Lincoln	(918) 968-3571	2308 Highway 66 West	Stroud, OK
Swing Bed	St. Anthony – Shawnee	Pottawatomie	(405) 273-2240	1900 Gordon Cooper Drive	Shawnee, OK
Outpatient Therapy, PT/SP	Fidelity Health Care Consultants	Lincoln	(918) 968-2656	320 North 4th Avenue	Stroud, OK
Outpatient Therapy, PT/SP	Norman Physical Therapy, L.P., PT	Cleveland	(405) 573-0121	1250 North Interstate Drive	Norman, OK
Outpatient Therapy, PT/SP	Pinnacle Rehabilitation, L.L.C., PT-SP-OT	Pottawatomie	(405) 879-2080	3700 North Kickapoo,	Shawnee, OK
Outpatient Therapy, PT/SP	Select Physical Therapy	Cleveland	(405) 321-1469	1106 West Main Street	Norman, OK

Appendix F

Letter Schedule of Escalation

Central Oklahoma Region 6 Trauma Plan

Letter Schedule of Escalation

The purpose of this proposal is to establish and define a statewide process to address organizations that fail to respond to letters received from the Regional Continuous Quality Improvement Committee in order to encourage participation in continuous quality improvement activities as required by Title 63 §1-2530.3 for the betterment of the Oklahoma State Trauma System.

Tier 1 – Initial Letter from the Regional Continuous Quality Improvement (CQI) Committee is signed by the committee signatory (ies) and sent to the appropriate recipient named below.

EMS Agencies-Initial letter for system errors or queries will be sent to the Medical Director and the EMS Director on file with The Oklahoma State Department of Health (OSDH).

Hospitals- Initial letters for system errors or queries that occur related to the function of the Emergency Department (ED) will be sent to the ED Medical Director and the ED Director/ Manager. Initial letters for system errors or queries that occur related to the function of areas outside of the ED will be sent to the Chief Medical Officer/ Chief of Staff and Chief Executive Officer/ President.

Response deadline: 30 days from the documented receipt of the letter.

Tier 2 – No response to the initial letter from the CQI Committee by the Tier 1 deadline.
OSDH staff will place a call to the authorized Regional Trauma Advisory Board (RTAB) representative to enlist help providing a reminder to the letter recipient to respond and communicate the new deadline for receipt.
Response deadline: 15 days from successful contact with RTAB representative.

Tier 3 – No response to the initial letter from the CQI Committee by the Tier 1 deadline or reminder call from OSDH staff with the Tier 2 deadline (approximately 45 days from receipt of initial letter).
A letter addressing the lack of response signed by RTAB Chair with a copy of the initial letter and sent to the appropriate recipient named below.

EMS Agency: Medical Director and the EMS Director on file with The Oklahoma State Department of Health (OSDH) as well as the appropriate License Owner/City Manager.

Hospital: CEO and CMO

Response deadline: 15 days from documented receipt of the Tier 3 letter.

Tier 4 – No response to Tier 3 letter
A letter addressing the lack of response signed by the Oklahoma Trauma and Emergency Response Advisory Council (OTERAC) chair with copies of all previous tier letters and sent to the appropriate recipient named below.

EMS Agency: Medical Director and the EMS Director on file with The Oklahoma State Department of Health (OSDH) as well as the appropriate License Owner/City Manager.

Hospital: CEO and CMO

Response deadline: 10 days from documented receipt of the Tier 4 letter.