

DESCRIPTION OF ESSENTIAL CRITERIA FOR LEVEL IV TRAUMA CENTER

A. Institutional Organization

1. Trauma Team (Exhibit I, A.3).

In order to meet Standard A.3, the health care institution's trauma team must be comprised of the following health care personnel who have documented education and skill in the assessment and care of injuries:

- a. Hospitals with limited resources, trauma team members will be drawn from available physician, nursing, and allied health personnel. The team leader should be a general surgeon.
- b. In small rural hospitals, when no general surgeon is available, the leader may be a primary care physician, physician assistant, nurse practitioner, or nurse, who coordinates resuscitation, stabilization and transfer to definitive care.

2. Trauma Program Coordinator/Trauma Program Manager (Exhibit I, A.6).

In order to meet Standard A.6, the health care institution must have a trauma program coordinator, or trauma program manager, a registered nurse, responsible for the organization of services and systems necessary for a multidisciplinary approach to care of the injured, including the day-to-day responsibility for process and performance improvement activities as they relate to nursing and ancillary personnel and assist the trauma medical director in carrying out the same functions for the doctors. The role of the Trauma Program Manager in the educational, clinical, research, administrative, and outreach activities of the trauma program will be determined by the needs of the trauma medical director and the institution.

B. Hospital Departments/Divisions/Sections

These criteria do not apply to Level IV trauma centers.

C. Clinical Capabilities

These criteria do not apply to Level IV trauma centers.

D. Clinical Qualifications

1. General Surgeon/Trauma Surgeon (Exhibit I, D.1).

All general surgeons on the trauma team must have successfully completed the ACS ATLS course at least once. (*Exhibit 1 Criteria Footnote 12: ...only the trauma medical director is required to have current ATLS certification. The other trauma surgeons are required to have held ATLS certification at one time.*)

2. Emergency Medicine Physician (Exhibit I, D.2).

Successful completion and current ATLS status is an optimal standard for emergency physicians who participate in the initial assessment and resuscitation of injured patients. (*Exhibit 1 Criteria Footnote 12: ...only non-board-certified physicians are required to have current ATLS certification. The other emergency medicine physicians are required to have held ATLS certification at one time.*)

E. Facilities/Resources/Capabilities

1. Presence of Surgeon at Operative Procedures (Exhibit I, E.4).

To determine whether the health care institution meets the standard, the site surveyor(s) must review the surgeon's call schedule for the six months prior to the on-site survey, and the resuscitation diary/log for trauma patients receiving surgical intervention by the surgeon during the same six-month period. If the health care institution lacks sufficient surgical patient volume, Standard E.4 may be met by having written procedures and protocols for the general surgeon.

- a. If advance notice is provided from the field, a surgeon is present in the emergency department upon patient arrival; and
- b. If advance notice is not provided from the field, a surgeon is present in the emergency department no later than 30 minutes after patient's arrival.

2. Emergency Department.

a. Resuscitation Equipment for Patients of All Ages (Exhibit I, E.5.b).

The health care institution should have the following functional equipment within ready access in the designated trauma resuscitation area:

- 1) Airway Control and Ventilation Equipment: such as laryngoscopes and endotracheal tubes of varying sizes, bag-valve-mask and oxygen, oxygen masks, nasal cannulas, Magill forceps, and endotracheal tube stylets in varying sizes.
- 2) Pulse Oximetry Equipment.
- 3) Suction Devices: including standard wall-mounted and/or portable mechanical suction devices.
- 4) Electrocardiograph-Oscilloscope-Defibrillator: including an electronic monitoring device with the capability to monitor heart rate and a defibrillator equipped with pediatric and adult paddles.
- 5) Standard Intravenous Fluids and Administration Sets: such as normal saline, lactated ringers solution and lactated ringers solution with dextrose, intravenous infusion catheters of varying gauges, and intraosseous cannulas.
- 6) Large-Bore Intravenous Catheters.

- 7) Sterile Surgical Sets: including trays/sets for airway control/cricothyrotomy, thoracostomy, and venous cutdown.
- 8) Drugs Necessary for Emergency Care.
- 9) Broselow Tape.
- 10) Thermal Control Equipment.

For Patient: including a mechanical patient warming device (K-pad or warming lamp), blankets or warmed blankets are acceptable.

For Fluid and Blood: including a mechanical blood warming apparatus for intravenous solutions and blood products during infusion (a tubing coil and warm water bath meet this criterion as long as the process is monitored through the PI program).

- 11) Rapid Infusion System.
- 12) Qualitative End-Tidal CO₂ Determination: such as a capnometer.

- b. Communication with EMS vehicles (Exhibit I, E.5.c).

The health care institution should have a reliable communication system or device in order to obtain direct or indirect contact with EMS personnel, (e.g., radios and cell phones).

- c. Capability to resuscitate, stabilize and transport pediatric patients (Exhibit I, E.5.d).

3. Operating Room.

- a. Thermal Control Equipment (Exhibit I, E.6.d).

For Patient: including a mechanical patient warming device (K-pad or warming lamp), blankets or warmed blankets are acceptable.

For Fluid and Blood: including a mechanical blood warming apparatus for intravenous solutions and blood products during infusion (a tubing coil and warm water bath meet this criterion as long as the process is monitored through the PI program).

- b. Rapid Infusion System (Exhibit I, E.6.i).

4. Postanesthetic Recovery Room (SICU is acceptable) (Exhibit I, E.7.b).

- a. Equipment for Monitoring and Resuscitation: such as; electrocardiograph-oscilloscope-defibrillator, airway control and ventilation equipment, suction device, standard intravenous fluids and administration sets, intravenous catheters, and standard resuscitation medications.

- b. Intracranial Pressure Monitoring Equipment.

1) Pulse Oximetry (Exhibit I, E.7.c.i).

2) Thermal control (Exhibit I, E.7.c.i).

5. Clinical Laboratory Service (Exhibit I, E.11).

In order to meet Standard E.11.a – c, and e, the health care institution must have 24 hour per day availability of clinical laboratory services that provide: standard analysis of blood, urine, and other bodily fluids, with microsampling when appropriate, coagulation studies, and blood gases and pH determinations.

6. Acute Hemodialysis (Exhibit I, E.12).

In order to meet Standard E.12.b, the health care institution must have a written transfer agreement in place.

7. Organized Burn Care (Exhibit I, E.13).

In order to meet Standard E.13.a, the health care institution must have either in-house burn care capability or have a written transfer agreement in place.

8. Acute Spinal Cord Management (Exhibit I, E.14).

In order to meet Standard E.14.a, the health care institution must have either in-house acute spinal cord management capability or have a written transfer agreement with a regional acute spinal cord injury rehabilitation center in place.

F. Rehabilitation Services

1. Transfer Agreement to an Approved Rehabilitation Facility (Exhibit I, F.1).

The health care institution must have a written transfer agreement with an approved rehabilitation facility in place.

G. Performance Improvement

1. Performance Improvement Programs (Exhibit I, G.1).

The health care institution must have an operational performance improvement program that monitors, evaluates, and improves the performance of adult and pediatric trauma patient care and the trauma program on a continuous basis. An acceptable performance improvement program includes:

a. Authority and accountability through a trauma medical director and/or a trauma program manager responsible for processing data, and monitoring the trauma program's effectiveness.

b. Criteria that defines the trauma patient population.

- c. A mechanism for evaluating the trauma program's performance, taking into consideration improving process quality, trauma program costs, and outcome quality.
 - d. Evidence-based criteria that measure the process, outcome expectations, and patient care consistencies.
2. Trauma Registry (Exhibit I, G.2).

A BEMSTS-approved in-house trauma registry and participation in the Arizona State trauma registry in accordance with state law. Refer to Article 14 Table 1.

3. Audit of all trauma deaths (Exhibit I, G.3).

All trauma deaths shall be audited. A comprehensive review audit shall be initiated by the Trauma Service Director. The trauma nurse coordinator shall participate in these audits. A written critique shall be used to document the process to include the assessment, corrective action, and resolution.

4. Morbidity and mortality review (Exhibit I, G.4).

A case presentation of all complications, deaths, and cases of interest for educational purposes to improve overall trauma patient care. The multidisciplinary health professionals groups shall meet on a regular basis. The documentation of the review may include date, reason for review, problem identification, corrective action, resolution, and education. Documented minutes shall be maintained on site.

5. Medical nursing audit (Exhibit I, G.6).

Peer review that covers all aspects of a Performance Improvement program – doctors and nursing. Multidisciplinary review of all elements including nursing, the overall process, treatment and outcomes will be reviewed.

6. Review of times and reasons for transfer of injured patients (Exhibit I, G.9).

A structured review process that includes reviewing times and reasons for the transfer of injured patients through peer review, trauma program performance review, and education and training.

H. Continuing Education/Outreach

These criteria do not apply to level IV trauma centers.

I. Prevention

1. Collaboration with Existing National, Regional, State, and Community Injury Prevention Programs (Exhibit I, I.2).

The health care institution must have documented evidence of collaboration with and participation in existing national, regional, state, and community organized injury prevention programs.

J. Research

These criteria do not apply to level IV trauma centers.

K. Additional Requirements of Trauma Centers Represented as Caring for Pediatric Trauma Patients

1. Pediatric-Specific performance improvement program (Exhibit I, K.5).

In order to meet Standard K.5, the health care institution's operational performance improvement program described in E.1 above includes specific provisions for monitoring, evaluating, and improving the performance of pediatric trauma patient care on a continuous basis, including use of the in-house trauma registry, auditing all deaths, reviewing morbidity and mortality, auditing medical nursing care, and reviewing the times and reasons for transferring injured pediatric patients.