

Trauma Center Standards



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Health

TRAUMA CENTER STANDARDS

Section 395.401(2) and (3), Florida Statutes, directs the department to adopt by rule, standards for approval and verification of trauma centers. This pamphlet contains the trauma center standards referenced in section 64J-2.011, Florida Administrative Code.

Signature on File

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PREFACE

The Roy E. Campbell Trauma Act of 1990 established the specific steps for an individual general acute care hospital in Florida to follow when seeking to provide trauma care services. Included in these steps are the requirements that the hospital provide a written application to the Department of Health Division of Emergency Medical Operations, Office of Trauma, for review and approval and that the hospital accept an on-site survey by department staff and contracted out-of-state surveyors with expertise in trauma patient care. This pamphlet, "Trauma center Standards," details the standards a hospital shall meet to successfully complete the trauma center application process. The hospital shall also maintain these standards to operate as a trauma center.

The contents of this pamphlet are based in part on the standards published in the 1998 version of this pamphlet, in part on the guidelines published in the American College of Surgeons' *Resources for Optimal Care of the Injured Patient: (2006)*, and in part on the experience gained during site surveys conducted at Florida trauma center applicant hospitals since 1990.

This latest edition of the standards pamphlet contains many changes. Most notable is that this document now contains four chapters: a definitions chapter and a chapter that describes the minimum approval standards for each of the three options available for a hospital seeking to operate as a trauma center.

Chapter One consists of definitions of words, phrases, and acronyms used throughout the document to meet the unique requirements of the Florida program. Some definitions, for example, "trauma team," may not necessarily match definitions in documents published by other organizations or by other states.

In Chapters Two through Four, several individual standards begin with an introduction contained within a shaded box. Also, several standards have general information sections contained within shaded boxes. The information found in these shaded boxes is **not** measurable during the site survey and it is not mandatory for a hospital to comply with these remarks. The requirements described in the body of the standard that follows the introduction or general information sections, however, are mandatory. During a review of a hospital, the state will employ the standards as representing the **minimum** acceptable level of measure.

The standards published in this document are subject to revision at any time through the rule promulgation process. Any hospital granted approval to operate as a provisional trauma center or granted a full seven-year Certificate of Approval shall comply with all revisions published herein, beginning the date the amended rule becomes law.

CHAPTER ONE

INTRODUCTION: The following definitions are explanations of words, phrases, and acronyms contained in the text of the subsequent chapters. As the standards found in this document are, in many cases, unique to the Florida trauma system, the definitions found in this chapter may also be unique and may not necessarily match those provided by other states or organizations that develop standards or guidelines for trauma centers.

DEFINITIONS

- 1. ATLS** Advanced Trauma Life Support course approved by the American College of Surgeons.
- 2. Arrive Promptly** Arriving within 30 minutes, 90 percent of the time, from inside or outside the hospital to a specified area within the trauma center when summoned (for example, voice page, telephone, or beeper) to provide evaluation, consultation, treatment, or other defined services. The interval between the delivery of the patient at the trauma center and the arrival of the respondent should not have a measurably harmful effect on the course of patient management or outcome.
- 3. Board Certified** Physicians certified by a medical specialty board recognized by the American Board of Medical Specialties (ABMS), American Osteopathic Association, a Canadian board, or other foreign board if recognized by the ABMS as an equivalent.

Continuing Medical Education (CME)

Defined educational activities for practicing physicians, often resulting in approved credit hours from the American Medical Association, state medical society, a medical school, or hospital. For the purposes of this document, the Accreditation Council on Continuing Medical Education (ACCME), the American Osteopathic Association (AOA), or an appropriate state medical society recognized by the ACCME or AOA to accredit state programs shall approve all CME.

- 5 Clinical Anesthesiology (CA)

Indicates the year of post-graduate medical training (residency program) involvement of an anesthesiology resident, for example, CA-3.

6. **Contact Hour** The term used for continuing education credit, as defined by the Florida Board of Nursing. One contact hour equals 50 minutes of course content.

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| 7. | Continuing Education | Planned educational activities intended to enrich the educational and experiential background of the health professional. |
| 8. | Credentialed | A process in which an individual hospital grants specific medical practice privileges to physicians in recognition of levels of education, training, or experience. |
| 9. | Critical | This term describes any trauma patient with potentially life- or limb-threatening physiological variations or a variation in the level of consciousness. |

Emergency Medical Service (EMS) System

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The arrangement of personnel, facilities, and equipment for the effective and coordinated delivery of prehospital emergency medical services required for the prevention and management of incidents. These incidents may occur as a result of a medical emergency, an injury, a natural disaster, or a similar situation.

In-Hospital Trauma Alert

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An alert issued by trauma center personnel to all trauma team members to arrive promptly to the trauma resuscitation area for a trauma alert patient not previously identified by EMS.

In-Hospital Trauma Registry

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A hospital wide database that integrates medical and system information related to trauma patient diagnosis and the provision of trauma care.

Post-Anesthesia Recovery/Post- Anesthesia Care Unit (PAR/PACU)

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This is an area designated by the hospital for monitoring and treating patients following anesthesia.

10. **Pediatric Patient**

A patient with anatomical and physical characteristics of a person 15 years or younger.

Pediatric Trauma Alert Patient

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A patient with the anatomical and physical characteristics of a person 15 years of age or younger who meets the pediatric trauma alert assessment criteria described in Rule 64J-2.005(2), (3), or (4), Florida Administrative Code.

Post-Graduate Year (PGY)

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Indicates the year of post-graduate medical training (residency program) involvement of a resident, for example, PGY-2.

11. **Primary Care Specialty** Includes internal medicine, family practice, general surgery, general practitioner, and pediatric medicine. Hospitals should use caution when using pediatricians to see adult patients in the emergency department.

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The utilization of a comprehensive approach, with measurable standards and indicators, to continuously monitor, evaluate, and improve the quality of trauma patient care. Often referred to as Total Quality Management (TQM), Quality Assurance (QA), and Continuous Quality Improvement (CQI).

12. **Trauma Alert**

An alert (notification) made by an EMS provider informing a hospital or trauma center that they are en route with a patient meeting department-approved triage criteria consistent with trauma alert scorecard criteria as provided in Rules 64J-2.004 and 64J-2.005, Florida Administrative Code.

13. **Trauma Call**

Block(s) of time within a 24-hour period in which designated trauma team members shall be available to arrive promptly to a specified area within the trauma center when summoned (for example, via voice page, telephone, or beeper) to provide evaluation, consultation, treatment, or other defined services.

Trauma Program Manager

A registered nurse who meets the requirements delineated in Standard II.D.2.

Trauma Nursing Core Course (TNCC)

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A course developed and presented by the Emergency Nurses Association that in part will meet the minimum educational standard for a nurse requiring trauma specific education.

Trauma Quality
Management Committee

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A multidisciplinary committee established to monitor, evaluate, and improve the quality of trauma patient care.

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| 14. | Trauma Registrar | An individual who demonstrates the ability to accurately perform hospital-based coding and injury scaling and who provides trauma-related data to the trauma service. |
| 15. | Trauma Service | A dedicated and defined service within the organizational structure of the hospital designed to coordinate trauma patient care, trauma-related training, and trauma quality management. |
| 16. | Trauma Medical Director | A physician who meets the requirements delineated in Standard II.D.1. |
| 17. | Trauma Surgeon | A physician who meets the requirements delineated in Standard III.A.2 and 3. |
| 18. | Trauma System | A system of organized patterns of trauma readiness and response services based on public and private agreements and operational procedures, in accordance with approved local trauma plans, as provided in section 395.401(2)(a)(c), Florida Statutes (1997). |

19. **Trauma Team**

A group of health care practitioners available for the resuscitative phase of trauma patient care.

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LEVEL I TRAUMA CENTER STANDARDS

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STANDARD I -- ADMINISTRATIVE

INTRODUCTION: From an institutional perspective, the willingness of the hospital's board of directors and administration to commit to allocating adequate resources and personnel to accept and care for trauma patients is essential for the successful operation of a trauma center.

- A. There shall be demonstrated commitment to trauma care by the hospital's board of directors, administration, medical staff, and nursing staff to treat any trauma patient presented to the facility for care. Methods of demonstrating commitment to the trauma center and system by the hospital shall include, but not be limited to, the following:
1. Establishment of policies and procedures for the maintenance of the services essential to a trauma center and system as outlined in this standards document.
 2. Providing patient care data as requested by the department or its agent.
 3. Every trauma center is required to establish well-defined transfer protocols that encompass patient types, anticipated timeframes for the initiation and acceptance of transfers, and pre-identified destination facilities for outbound transfers.
 4. In every trauma center, the choice to transfer an injured patient must be solely determined by the patient's requirements, without taking into account their health insurance plan or payment status.
 5. In all trauma centers, when transferring trauma patients, the healthcare provider initiating the transfer must establish direct communication with the receiving provider to guarantee a safe transition of care. This communication may take place via a transfer center.
- B. In all trauma centers, the institutional governing body, hospital leadership, and medical staff must consistently exhibit unwavering dedication and allocate the essential human and physical resources required to effectively deliver trauma care in alignment with the verified level throughout the verification cycle. Examples of demonstrating this commitment include:
- Approval of the establishment of the trauma center by the Hospital Board of Directors or other administrative governing authority
 - Demonstrated commitment to adhere to the standards mandated for the level of verification.
 - Committing to provide the essential personnel, facilities, and equipment required to facilitate compliance with the prescribed standards.
- C. Hospital administration must display its backing for the research program (Level I and Pediatric centers). Evidence of support for the research program entails documenting aspects such as the following:
- Basic laboratory space
 - Sophisticated research equipment
 - Advanced information systems
 - Biostatistical support
 - Salary support for basic and translational scientists, or seed grants for junior investigators
- D. Commitment to postgraduate education
- E. In all trauma centers, diversion protocols must receive approval from the

Trauma Medical Director and encompass the following elements:

- The trauma surgeon's concurrence in the decision to implement diversion.
 - A procedure for notifying dispatch and EMS agencies.
 - A diversion log for documenting the reasons for diversions and their duration.
1. Additionally, all trauma centers must ensure that the total duration of diversions does not surpass 400 hours annually.
- F. The hospital's chief executive officer (CEO) has overall responsibility for compliance with all trauma center standards. The CEO or his or her designee shall ensure that all staff involved with the care of the trauma patient are aware of their responsibilities as required by the trauma center standards.
- G. The hospital shall ensure that the trauma medical director is responsible and accountable for administering all aspects of trauma care. Therefore, the trauma medical director shall be empowered to enforce the trauma center standards with other medical and clinical departments in the hospital. The trauma program manager shall perform under the direction of the trauma medical director and shall interact with all departments on behalf of the medical director.
- H. When there are issues that the trauma medical director has been unable to resolve through the hospital's organizational structure, the hospital shall provide a specific mechanism to ensure that the medical staff or CEO address such unresolved issues. This mechanism shall include direct consultation with the affected services, including, but not limited to, trauma and emergency services.

When the trauma medical director is unavailable to the trauma service (such as vacation, out-of-town conference, or illness), the medical director shall delegate authority to another trauma surgeon to carry out the above administrative functions

- 1.
2. ~~All trauma centers must have clearly defined transfer protocols that include the types of patients, expected timeframe for initiating and accepting a transfer, and predetermined referral centers for outgoing transfers~~
 - ~~In all trauma centers, the decision to transfer an injured patient must be based solely on the needs of the patient, without consideration of their health plan or payer status~~
 - ~~In all trauma centers, when trauma patients are transferred the transferring provider must directly communicate with the receiving provider to ensure safe transition of care this communication may occur through a transfer center~~
1. ~~In all trauma centers, the institutional governing body, hospital leadership, and medical staff must demonstrate continuous commitment and provide the necessary human and physical resources to properly administer trauma care consistent with the level of verification throughout the verification cycle. Methods of demonstrating commitment include:~~
 1. ~~Hospital board of directors (or other administrative governing authority) approval~~

- of the establishment of the trauma center at the level specified and of the application for verification
 - 2. Commitment to adherence to the standards required for the level of verification
 - 3. Commitment to ensuring that the necessary personnel, facilities, and equipment are made available to support adherence to the standards
- J. The hospital administration must demonstrate support for the research program (level I and Peds). Demonstration of support of the research program includes documentation such as the following:
 - 1. Basic laboratory space
 - 2. Sophisticated research equipment
 - 3. Advanced information systems
 - 4. Biostatistical support
 - 5. Salary support for basic and translational scientists, or seed grants for junior investigators
- K. Commitment to postgraduate education
- L. In all trauma centers, diversion protocols must be approved by the Trauma Medical Director and include:
 - 1. Agreement of the trauma surgeon in the decision to divert
 - 2. A process for notification of dispatch and EMS agencies
 - 3. A diversion log to record reasons for and duration of diversions
 - All trauma centers must not exceed 400 hours of diversion during the reporting period
 - 4. Every trauma center is required to establish well defined transfer protocols that encompass patient types, anticipated timeframes for the initiation and acceptance of transfers, and pre-identified destination facilities for outbound transfers.
 - In every trauma center, the choice to transfer an injured patient must be solely determined by the patient's requirements, without taking into account their health insurance plan or payment status.
 - In all trauma centers, when transferring trauma patients, the healthcare provider initiating the transfer must establish direct communication with the receiving provider to guarantee a safe transition of care. This communication may take place via a transfer center.
- B. In all trauma centers, the institutional governing body, hospital leadership, and medical staff must consistently exhibit unwavering dedication and allocate the essential human and physical resources required to effectively deliver trauma care in alignment with the verified level throughout the verification cycle. Examples of demonstrating this commitment include:
 - 5. Approval of the establishment of the trauma center by the Hospital Board of Directors or other administrative governing authority
 - 6. Demonstrated commitment to adhere to the standards mandated for the level of verification.
 - 7. Committing to provide the essential personnel, facilities, and equipment required to facilitate compliance with the prescribed standards.
- M. C. Hospital administration must display its backing for the research program (Level I and Pediatric centers). Evidence of support for the research program entails documenting aspects such as the following:
 - 1. Basic laboratory space
 - 2. Sophisticated research equipment
 - 3. Advanced information systems
 - 4. Biostatistical support
 - 5. Salary support for basic and translational scientists, or seed grants for junior investigators
- N. Commitment to postgraduate education

- ~~O. In all trauma centers, diversion protocols must receive approval from the Trauma Medical Director and encompass the following elements:~~
- ~~P.~~
- ~~1. The trauma surgeon's concurrence in the decision to implement diversion.~~
 - ~~2. A procedure for notifying dispatch and EMS agencies.~~
 - ~~3. A diversion log for documenting the reasons for diversions and their duration.~~
 - ~~• Additionally, all trauma centers must ensure that the total duration of diversions during the reporting period does not surpass 400 hours.~~
- ~~Q. The hospital's chief executive officer (CEO) has overall responsibility for compliance with all trauma center standards. The CEO or his or her designee shall ensure that all staff involved with the care of the trauma patient are aware of their responsibilities as required by the trauma center standards.~~
- ~~R. The hospital shall ensure that the trauma medical director is responsible and accountable for administering all aspects of trauma care. Therefore, the trauma medical director shall be empowered to enforce the trauma center standards with other medical and clinical departments in the hospital. The trauma program manager shall perform under the direction of the trauma medical director and shall interact with all departments on behalf of the medical director.~~
- ~~S. When there are issues that the trauma medical director has been unable to resolve through the hospital's organizational structure, the hospital shall provide a specific mechanism to ensure that the medical staff or CEO address such unresolved issues. This mechanism shall include direct consultation with the affected services, including, but not limited to, trauma and emergency services.~~

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may be included on the trauma panel if he or she meets the following criteria:

1. Has provided exceptional care of trauma patients.
 2. Has numerous publications and presentations.
 3. Has published excellent research.
 4. Is documented to provide excellent teaching.
- a. Documentation that the hospital has granted the neurosurgeon privileges to provide neurosurgical and trauma care services for adult and pediatric patients.
2. Senior neurosurgical residents, PGY-2 or above, may fill the in-hospital neurosurgeon requirement **only** if the trauma medical director and the Chief of Neurosurgery ensure the following:
 - a. An attending neurosurgeon is on trauma call and available to arrive promptly at the trauma center to provide stabilization, diagnostic procedures, or definitive operative care.
 - b. The trauma medical director and the Chief of Neurosurgery attest in writing that the senior neurosurgical resident is capable of the following:
 - (1) Providing appropriate assessment and responses to emergent changes in patient condition.
 - (2) Instituting initial diagnostic procedures.

This statement shall be on file and available for department review for each senior neurosurgical resident that fills the neurosurgeon requirement.
 - c. There is evidence on file that each resident has completed at least two years of neurosurgical training.
3. General trauma surgeons on trauma call (or the senior surgical residents, PGY-4 or above, who are fulfilling the in-hospital requirement as described in Standard III.A.4) may fill the in-hospital neurosurgeon requirement **only** if the trauma medical director and the Chief of Neurosurgery ensure the following:
 - a. An attending neurosurgeon is on trauma call and shall arrive promptly at the trauma center when summoned.
 - b. The Chief of Neurosurgery shall provide written protocols for the general trauma surgeons regarding the initiation of neurological resuscitation and evaluation for head and spinal cord injuries. The protocols shall also include criteria for immediate summoning of or consultation with the attending on-call neurosurgeon.
4. Neurosurgical evaluation must occur within 30 minutes of request for the following:
 - a. Severe TBI (GCS <9) with head CT evidence of intracranial trauma
 - b. Moderate TBI (GCS 9 – 12) with head CT evidence of potential intracranial mass lesion
 - c. Neurologic deficit as a result of potential spinal cord injury (applicable to

- spine surgeon, whether a neurosurgeon or orthopedic surgeon)
 - d. Trauma surgeon discretion
 - e. In level I and two trauma centers, neurosurgical provider response times must be documented
 - f. in all levels of trauma centers, the neurosurgery attending must be involved in clinical decision-making
- 5. Level I and two trauma centers must have a neurotrauma contingency plan and must implement the plan when neurosurgery capabilities are encumbered or overwhelmed. The plan must include the following criteria:
 - a. A thorough review of each instance by the PIPS program
 - b. Monitoring of the effectiveness of the process by the PIPS program
- B. Orthopedic surgery
 - 1. Trauma centers must have board certified or board eligible orthopedic surgeons continuously available for the care of orthopedic trauma patients and must have a contingency plan for when orthopedic trauma capabilities become encumbered or overwhelmed
 - ~~2. In level I pediatric trauma centers, at least one board certified or board eligible orthopedic surgeon must have completed a pediatric orthopedic fellowship~~
 - ~~3. Trauma centers must have an orthopedic surgeon who has completed an OTA approved fellowship or has met the alternate training criteria.~~
 - ~~a. This requirement may also be met by having transfer protocol specifying the type of patients/injuries that will be transferred to a center with an orthopedic surgeon who has completed an OTA approved fellowship or meets the alternate training criteria~~
 - 4. All trauma centers must have treatment guidelines for, at minimum, the following orthopedic injuries:
 - a. Patients who are hemodynamically unstable attributable to pelvic ring injuries
 - b. Long bone fractures in patients with multiple injuries (e.g., time to fixation, order of fixation, and damage control versus definitive fixation strategies)
 - c. Open extremity fractures (e.g., time to antibiotics, time to OR for operative debridement, and time to wound coverage for open fractures)
 - d. Hip fractures in geriatric patients (e.g., expected time to OR)
 - 5. In all trauma centers, an orthopedic surgeon must be at bedside within 30 minutes of request for the following:
 - a. Hemodynamically unstable, secondary to pelvic fracture
 - b. Suspected extremity compartment syndrome
 - c. Fractures/dislocations with risk of avascular necrosis (e.g., femoral head or talus)
 - d. Vascular compromise related to a fracture or dislocation
 - e. Trauma surgeon discretion
 - f. The orthopedic surgeon must be involved in the clinical decision-making for care of these patients
- C. Surgeons in the following specialties shall be available to arrive promptly at the trauma center when summoned:
- D. Level I and two trauma centers must have continuous availability of the surgical expertise listed below:
 - ~~1. Cardiac surgery~~
 - 2. Cardiothoracic surgery

3. Neurosurgery
4. Vascular surgery

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5. Hand surgery (Level I and Peds only)*
 6. ~~Microsurgery~~ capabilities Soft tissue coverage, including microvascular expertise for free-flaps and replantation capability
 7. Obstetric/gynecologic surgery
 8. Ophthalmic surgery*
 9. Oral/maxillofacial surgery*
 10. Orthopedic surgery
 11. Otorhinolaryngologic surgery*
 12. Plastic surgery*
 13. Urologic surgery*
- E. All surgeons staffing the services listed in items C.1-11 above shall be board certified or actively participating in the certification process with a time period set by each specialty board for certification in their respective specialties, and granted privileges by the hospital to care for adult and pediatric patients.

STANDARD II -- TRAUMA SERVICE

INTRODUCTION: From a personal leadership perspective, the qualifications of the trauma medical director and the trauma program manager should reflect leadership, planning, performance improvement, and trauma care expertise. These individuals lead the trauma care team and are responsible for the organizational integrity of the program. As such, it is desirable that these individuals obtain greater than 50 percent of their continuing education credits outside the hospital. It is also desirable that they participate in the development or operation of a local, regional, and statewide trauma care system and be involved in local or regional EMS services and local or regional trauma agency activities. The hospital might consider providing additional resources, such as a quality improvement staff member and clerical support, to assist with these activities.

- A. Organizational Requirements -- The trauma service shall be a dedicated and defined service within the organizational structure of the hospital as evidenced by the following:
1. A designated medical director contracted to direct and oversee the operation of the trauma service. The medical director position for the trauma service shall be paid by the hospital and documented by a written job description and organizational chart.
 2. A designated trauma program manager for the trauma service. The trauma program manager position for the trauma service shall be paid by the hospital and documented by a written job description and organizational chart.
 3. Designated Performance Improvement Personnel. In all trauma centers, there

must be at least 1.0 FTE dedicated performance improvement (PI) personnel per 1000 admitted patients annually. The count of entries is defined as all patients that meet NTDS inclusion criteria, and those patients who meet inclusion criteria for hospital, local, regional, and state purposes

4. A trauma registrar for the trauma service. The trauma registrar position for the trauma service shall be paid by the hospital and documented by a written job description and organizational chart.

- a.

- b. In all trauma centers, there must be at least 0.5 FTE dedicated to the trauma registry per 250 annual patient injuries the count of entries is defined as all patients who meet NTDS inclusion criteria, and those patients who meet inclusion criteria for hospital, local, regional, and state purposes

- c. In all trauma centers, all registrars shall fulfill all of the following requirements:

1. Complete the most recent version of the AAAM's abbreviated injury scale (AIS) course

2. Complete a trauma registry course that includes all of the following content:

- Abstraction
- Reports/report analysis
- Data management
- Data validation
- HIPAA

3. Completion of an ICD – 10 course or an ICD – 10 refresher course every five years

4. Completion of at least 8 hours of trauma related CE annually

5. At least one qualified trauma surgeon (as described in Standard III.A) to be in-hospital and on primary trauma call at all times to provide trauma service care.
6. At least one qualified trauma surgeon (as described in Standard III.A) to be on backup trauma call at all times to provide trauma service care.
7. At least one qualified pediatric trauma surgeon for the trauma service (as described in Standard III.A.3.b).
8. The trauma program must have the following designated liaisons:
 - a. Board certified or board eligible emergency medicine physician
 - b. Board certified or board eligible orthopedic surgeon
 - In level I trauma centers, the orthopedic trauma surgeon liaison must have completed an orthopedic traumatology fellowship approved by the Orthopedic Trauma Association (OTA). In level I pediatric trauma centers, this requirement may be met by having a pediatric fellowship trained orthopedic surgeon
 1. Level One pediatric trauma centers May share the adult orthopedic trauma surgeon liaison from a level I trauma center to meet this requirement
 - c. board certified or board eligible anesthesiologist
 - d. Board certified or board eligible neurosurgeon
 - e. Board certified or board eligible radiologist
 - f. Board certified or board eligible Intensive Care Unit (ICU) physician
 - g. Geriatric provider
 - In level I and two trauma centers, the geriatric liaison may be a geriatrician, or a physician with expertise and focus in geriatrics, or an APP with certification, expertise, and a focus in geriatrics
 1. The role of the liaison is to assist in the development and implementation of geriatric protocols and to be available for patient consultation
- ~~9. The trauma program must have the following board certified or board eligible designated liaisons:~~
 - ~~a. emergency medicine physician~~
 - ~~b. orthopedic surgeon~~
 - ~~• In level I trauma centers, the orthopedic trauma surgeon liaison must have participated in an orthopedic traumatology fellowship approved by the Orthopedic Trauma Association (OTA). In level I pediatric trauma centers, this requirement may be met by having a pediatric fellowship trained orthopedic surgeon~~
 - ~~1. Level One pediatric trauma centers can share the adult orthopedic trauma surgeon liaison from a level I trauma center to meet this requirement~~
 - ~~c. anesthesiologist~~
 - ~~d. neurosurgeon~~
 - ~~e. radiologist~~
 - ~~f. Intensive Care Unit (ICU) physician~~
 - ~~g. Geriatric provider~~
 - ~~• In level I and 2 trauma centers, the geriatric liaison may be a geriatrician, a physician with an interest in geriatrics, or an APP with certification in geriatrics~~
 - ~~1. The geriatric liaison will assist in the development and implementation of geriatric protocols and be available for patient~~

consultation

- B. Administrative Requirements -- The trauma medical director shall ensure that:
1. Policies and procedures relevant to care of the injured patient are developed and enforced
 2. Providers meet all requirements and adhere to institutional standards of practice
 3. Work across departments and/or other administrative units to address deficiencies in care
 4. Determine (with their liaisons) provider participation in trauma care, which might be guided by findings from the PIPS process or an Ongoing Professional Practice Evaluation (OPPE)
 5. Oversee the structure and process of the trauma pips program
 - ~~6. Relevant policies and procedures are developed and enforced~~
 - ~~7. Guarantee that providers meet all prerequisites and adhere to the institution's practice standards~~
 - ~~8. Collaborate across departments and/or other administrative units to rectify deficiencies in care~~
 - ~~9. Collaborate with liaisons to determine provider involvement in trauma care, which might be guided by findings from the PIPS process or an Ongoing Professional Practice Evaluation (OPPE)~~
 - ~~10. Supervise the organization and execution of the trauma PIPS structure and processes.~~
 11. The following physicians participating on the trauma service meet and maintain the qualifications, certifications, and trauma-related continuing medical education (CME) data as required in Standards III.A and B and Standard V.B:
 - a. Pediatric and general trauma surgeons.
 - b. Emergency physicians.
 12. As surgeons change, the trauma medical director must ensure that the new surgeons have the qualifications delineated in Standard III.A.3 and that they sign the General Surgeons Commitment Statement. The trauma service shall keep a current and up-to-date commitment statement on file in the hospital's trauma center application at all times for Department of Health review.
 13. The trauma service maintains morbidity and mortality information, including discussions and actions by the quality management committee described in Standard XVIII.
 14. Nursing personnel have completed their trauma-related continuing education requirements as delineated in Standard VIII.
 15. Evidence is on file of active membership of the trauma medical director and the trauma program manager in the local or regional trauma agency, or local health planning council or advisory group if no trauma agency exists. Active membership is evidenced by attendance by either person at no less than 75 percent of the scheduled meetings.
 16. All trauma centers must participate in the regional and/or statewide trauma system.
 - ~~17. Every trauma center is obligated to engage in the regional and/or statewide trauma system.~~

18. A written plan is on file that describes the hospital's interaction with the local or regional trauma agency, if one exists, and other county and regional medical response or treatment resources during disaster and mass casualty situations.
 19. All trauma centers must participate in regional disaster/emergency management committees, healthcare coalitions, and regional mass casualty exercises
 20. Every trauma center is required to be actively involved in regional disaster/emergency management committees, healthcare coalitions, and regional mass casualty exercises.
 21. In all trauma centers, trauma registry data must be collected in compliance with the NTDS inclusion criteria and data element definitions, and must have been submitted to the TQP data center in the most recent call for data
 22. The hospital submits trauma data to the state Division of Emergency Medical Operations, Office of Trauma, trauma registry program in accordance with "The Florida Trauma Registry Manual, adopted by Rule 64J-2.006, Florida Administrative Code.
 23. The trauma service has a current and up-to-date trauma center application on file and available at all times for Department of Health review.
 24. The trauma center shall provide, within the facility, pediatric trauma patient care services, from emergency department admission through rehabilitation, that are separate and distinct from adult trauma patient care services.
- C. The trauma medical director is responsible for credentialing and attesting to the medical ability of all personnel who provide trauma services. Appointment or removal of personnel from the trauma service shall be done by the trauma medical director pursuant to procedures, policies, or bylaws of the hospital.
- D. The hospital shall ensure that the procedures, policies, or bylaws address circumstances in which the trauma medical director determines that an attending physician's actions compromise the health, safety, or welfare of trauma patients. In such case, procedures, policies, or bylaws shall address options such as temporary or permanent removal of the physician from the trauma service, or other appropriate remedial measure.
- E. The trauma medical director shall have oversight responsibility for trauma patient care and shall monitor trauma patient care on an ongoing basis as delineated in Standard XVIII.
- 1.

- F. Medical and Patient Care Requirements -- The trauma medical director shall maintain oversight responsibility for the development, implementation, and ongoing compliance of hospital policies and clinical protocols for trauma care.
1. All trauma centers must have evidence-based clinical practice guidelines, protocols, or algorithms that are reviewed at least every three years
 2. Level I and II trauma centers must have the following protocols for care of the injured older adult:
 - a. Identification of vulnerable geriatric patients
 - b. Identification of patients who will benefit from the input of a healthcare provider with geriatric expertise prevention, identification, and management of dementia, depression, and delirium
 - c. Process to capture and document what matters to patients, including preferences and goals of care, code status, advanced directives, and identification of a proxy decision maker
 - d. Medication reconciliation and avoidance of inappropriate medications
 - e. Screening for mobility limitations and assurance of early, frequent, and safe mobility
 - f. Implementation of safe transitions to home or other healthcare facility
 3. All trauma centers must have a process in place to assess children for non-accidental trauma
 4. All trauma centers must have a massive transfusion protocol (MTP) that is developed collaboratively between the trauma service and the blood bank
 5. All trauma centers must have a rapid reversal protocol in place for patients on anticoagulants
 6. The trauma medical director shall ensure that patient care protocols exist for a minimum of the following departments:
 - a. Trauma Resuscitation Area.
 - b. Intensive Care Unit and Pediatric Intensive Care Unit.
 - c. Operating Room and Post-Anesthesia Recovery/Post-Anesthesia Care Unit.
 - d. Medical Surgical Unit.
 7. The trauma medical director shall ensure that policies and protocols are developed for a minimum of the following:
 - a. Priority admission status for trauma patients.
 - b. Patient transfers into and out of the hospital.
 8. The trauma medical director shall approve all trauma-related patient care protocols before implementation.
 9. The trauma medical director, in coordination with the trauma program manager, shall monitor compliance with trauma-related protocols through the trauma quality management process.

- G. Qualifications of Leadership Staff -- The trauma service shall have evidence on file that describes the qualifications of the trauma medical director and the trauma program manager to provide medical and organizational leadership to the trauma service. At a minimum, this evidence shall include the following:

1. Trauma medical director

- a. Proof of board certification in general surgery, surgical critical care, or pediatric surgery (pediatric centers only) by the American Board of Medical Specialties (ABMS), American Osteopathic Association (AOA), or Royal College of Physicians and Surgeons of Canada (RCPS – C).
 1. If a board-certified general surgeon who is not board certified or board eligible in pediatric surgery serves as the pediatric TMD, they must also:
 - Hold current pediatric advanced life support (PALS) certification
 - Have a written affiliation agreement with a pediatric TMD had another verified level I pediatric trauma Center whose role is to assist with process improvement, guideline development, and complex case discussions
- b. Serve as the medical director of a single trauma program
- c. Documentation that the hospital granted the medical director full and unrestricted privileges to provide general surgical and trauma care surgical services for adult and pediatric patients.
- d. Participate on the trauma call panel
 1. Documentation that the medical director manages a minimum of 28 trauma cases per year (average of seven trauma cases per quarter), at least eight of which are pediatric, if the medical director manages pediatric trauma patients. These cases may include operative and non- operative interventions.
- e. Documentation of maintenance of certification or evidence of 36 hours of trauma-related CME during the verification cycle. For pediatric TMD, 9 of 36 must be pediatric-specific CME.
 1. 30 hours of CME every 3 years may be obtained from board certification or recertification.
- f. In level I trauma centers, the TMD must hold active membership in at least one national trauma organization and have attended at least one meeting during the verification cycle

- g. A written attestation from the Chief of Neurosurgery indicating that the trauma medical director is capable of providing initial stabilization measures and instituting diagnostic procedures for patients, both adult and pediatric, with neural trauma. This statement shall be on file and available for Department of Health review.
 - h. Current ATLS instructor certification.
2. Trauma Program Manager
- a. Have 1.0 Full-Time Equivalent (FTE) commitment to the trauma program
 - b. Hold current membership in a national or regional trauma organization
 - c. The TPM assumes day-to-day responsibility for process and PI activities as they relate to nursing and ancillary personnel involved in the care of trauma patients. The TPM's role also includes partnering with the TMD in the development of policies and oversight of the program
 - d. In all trauma centers, the TPM must have a reporting structure that includes the TMD
 - 1. The reporting structure must, at minimum, include a "dotted line" to the TMD that allows for additional oversight and guidance to the TPM and execution of their activities. The intent is to ensure that the TMD has the opportunity to provide leadership to the TPM and partner with them in setting goals
 - e. Documentation of current Florida Registered Nurse licensure.
 - f. Documentation of current Emergency Nurses Association Trauma Nursing Core Course (TNCC) training or equivalent.
 - g. Documentation of a minimum of ten contact hours every year in trauma-related topics, five of which must be in pediatric trauma. The trauma program manager may apply contact hours earned during any given year for the completion of TNCC toward meeting this requirement. (See Note #1.) or maintenance of certification
3. Injury prevention professional
- a. All trauma centers must have a designated injury prevention professional that prioritizes injury prevention work based on trends identified in the trauma registry and local epidemiological data
 - In level I trauma centers, the injury prevention professional must be someone other than the TPM or PI personnel
4. Volume criteria
- a. Level I adult trauma patient volume criteria
 - A level I adult trauma center must care for at least 1200 trauma patients per year or at least 240 trauma patients with Injury Severity Score (ISS) greater than 15 per year
 - b. Level I pediatric trauma patient volume criteria
 - A level one pediatric trauma center must care for more than 200 or more injured patients under 15 years of age per year
 - C. Adult trauma centers that admit pediatric patients Adult trauma centers that care for 100 or more injured children under 15 years of age must have the following:
 - 1. Pediatric emergency department area
 - 2. Pediatric intensive care area

STANDARD III -- SURGICAL SERVICES -- STAFFING AND ORGANIZATION

INTRODUCTION: The background of surgeons involved in the provision of trauma patient care should reflect an interest in and a commitment to trauma. Formal trauma fellowships, training in surgery with an active trauma service, or combat experience as a surgeon constitutes examples of such interest. Each trauma surgeon participating on the trauma service should also maintain his or her skills and expertise through continuing trauma-related education. It is desirable that these individuals obtain greater than 50 percent of their continuing education credits outside the hospital. Active trauma surgeon involvement in not only the care of injured patients, but also in the development of trauma protocols, coordination of trauma call schedules, and involvement in trauma rounds is imperative for the successful operation of a trauma center. Each of those elements indicates a commitment to excellence in trauma patient care.

- F. Capabilities
1. In all trauma centers, trauma surgery coverage must be continuously available
 - a. ~~level I and II trauma centers~~, the trauma surgeon must be dedicated to a single trauma center while on call
 - b. ~~Level I and II~~ All trauma centers must have a published backup call schedule for trauma surgery
 2. Level I trauma centers must have the capability for comprehensive soft tissue coverage of wounds, including microvascular expertise for free flaps
 3. All trauma centers must have the capability to diagnose and manage acute facial fractures of the entire cranial maxillofacial skeleton, including the skull, cranial base, orbit, mid phase, and occlusal skeleton, with expertise contributed by any of the following specialists: otolaryngology, oral maxillofacial surgery, or plastic surgery
 4. All trauma centers must have replantation capability continuously available or must have in place a triage and transfer process with a replant center
- G. Trauma surgeons who are involved in the care of trauma patients must complete the following qualifications:
1. Maintain current ATLS certification
 2. Have privileges in general and or pediatric surgery
 3. Hold current board certification or board eligibility in general surgery, or have been approved through the alternate pathway*

*Alternate Pathway

Physicians who have trained outside the United States or Canada may participate in the trauma program if approved by the Alternate Pathway.

Surgeons who were inducted as a Fellow of the American College of Surgeons (FACS) prior to January 1, 2017 are exempt from the full AP process but must provide evidence of 36 hours of trauma-related CME during the verification cycle.

The following physicians are eligible to be reviewed by the Alternate Pathway:

- Trauma surgeons
- Neurosurgeons
- Orthopaedic surgeons
- Emergency medicine physicians
- Anesthesiologist liaisons (Note: liaisons only)

Alternate Pathway requirements include:

- Completion of training equivalent to that required by the United States or Canada
- Evidence of 36 hours (12 hours annually prorated for new hires) of trauma-related CME during the verification cycle. For pediatric trauma care, 9 of 36 hours must be pediatric-specific CME.
- Hold current ATLS certification
- Hold active membership in at least one national or regional trauma organization and must have attended at least one meeting during the reporting period
- Trauma multidisciplinary PIPS committee meeting attendance rate of 50 percent or more during the reporting period
- Credentialed to provide trauma care
- Processes and outcomes of care must be comparable to that of other physicians*

*There is an expectation that the care provided by the alternate pathway candidate is monitored by the TMD and specialty liaison.

****Board Certification or Board Eligibility Requirements**

Board certification or board eligibility refers to certification or eligibility for certification by the American Board of Medical Specialties (ABMS), the American Osteopathic Association (AOA), or the Royal College of Physicians and Surgeons of Canada (RCPS-C).

Lifetime board certification meets the requirement for board certification or board eligibility.

- a. ~~Level I pediatric trauma centers must have at least two surgeons board-certified or board eligible in pediatric surgery~~
- b. ~~Level II~~ Level I and Pediatric trauma centers must have at least one surgeon board-certified or board eligible in pediatric surgery

H. General or Pediatric Surgery

4. There shall be a minimum of five qualified trauma surgeons, assigned to the trauma service, with at least two trauma surgeons available to provide primary (in-hospital) and backup trauma coverage 24 hours a day at the trauma center when summoned.
 - a. Primary trauma call

- (1) To be physically present in-hospital to meet all trauma alert patients in the trauma resuscitation area at the time of the trauma alert patient's arrival.
 - (2) To perform no elective surgery or procedures, during the on-call period, that would render the trauma surgeon unavailable to arrive promptly to a trauma alert patient.
 - (3) To refrain from taking general surgery emergency calls or trauma calls at any other facility while on trauma call at the primary facility.
- b. Backup trauma call
 - (1) When the trauma surgeon on primary call takes a trauma patient to surgery, the trauma surgeon on backup trauma call shall become the primary trauma surgeon and shall arrive promptly when summoned.
 - (2) To perform no elective surgery or procedures, during the on-call period, that would render the trauma surgeon unavailable to become the primary trauma surgeon.
 - (3) To refrain from taking general surgery emergency calls or trauma calls at any other facility while on trauma call at the primary facility.
 - (4) To refrain from any activity that would delay or prohibit the trauma surgeon from becoming the primary trauma surgeon when notified.
2. Evidence shall be on file that clearly describes the qualifications of each trauma surgeon to be a member of the trauma service and to take trauma calls. At a minimum, this evidence shall include the following:
 - a. For a general surgeon:
 - (1) Proof of board certification** or actively participating in the certification process with a time period set by each specialty board in general surgery, or proof of meeting the definition of alternate criteria: *above*

- (2) Documentation that the hospital granted the general surgeon full and unrestricted privileges to provide general surgical and trauma care surgical services for adult and pediatric patients.
- (3) Documentation that the general surgeon manages a minimum of 28 trauma cases per year (average of seven trauma cases per quarter), at least eight of which are pediatric if the general surgeon manages pediatric trauma patients. These cases may include operative and non-operative interventions.

A

Current ATLS provider certification.

b. For a pediatric surgeon (Level I and Pediatric trauma centers):

- (1) Proof of board certification or actively participating in the certification process with a time period set by each specialty board in pediatric surgery, or proof of meeting the following definition of alternate criteria:

Alternate Criteria for the Non-Board-Certified Pediatric Surgeon in a Level I Trauma Center. In rare cases in a Level I trauma center, a non-board-certified general surgeon who meets all 4 of the following criteria may be included on the trauma call panel:

1. Has provided exceptional care of trauma patients
2. Has numerous publications and presentations
3. Has published excellent research
4. Is documented to provide excellent teaching.

- (2) When the number of pediatric surgeons on staff is too few to sustain the pediatric trauma panel, general surgeons who are board-certified or actively participating in the certification process with a time period set by each specialty board may serve on the trauma team.
- (3) Documentation that the hospital granted the pediatric surgeon full and unrestricted privileges to provide general surgical and trauma care surgical services specific to pediatric patients.

- (4) Documentation that the pediatric surgeon manages a minimum of 12 pediatric trauma cases per year (average of three trauma cases per quarter). These cases may include operative and non-operative interventions.
 - (5) Documentation of a minimum of ten Category I CME credits every year in trauma-related topics, five of which shall be in pediatric trauma. The pediatric surgeon may apply CME credits earned during any given year for the completion of ATLS certification toward meeting this requirement. (See Note #1.)
 - ~~(6) A written attestation from the Chief of Neurosurgery indicating that the pediatric surgeon is capable of providing initial stabilization measures and instituting diagnostic procedures for pediatric patients with neural trauma. This statement shall be on file and available for Department of Health review.~~
 - (7) Current ATLS provider certification.
- 3. PGY3, PGY4, PGY5 General Surgical Residents
 - a. The trauma rotation for PGY3, PGY4, PGY5 General Surgical Residents must have defined objectives and curriculum
- 4. Senior surgical residents (PGY-4 or above) may fill the in-hospital general surgical requirement if the trauma medical director ensures the following:
 - a. A qualified general surgeon (or pediatric surgeon for pediatric patients) is on trauma call and shall arrive promptly at the trauma center when summoned.
 - b. The trauma medical director attests in writing that each resident is capable of the following:
 - (1) Providing appropriate assessment and responses to emergent changes in patient condition.
 - (2) Instituting initial diagnostic procedures.
 - (3) Initiating surgical procedures.

This statement shall be on file and available for Department of Health review for each general surgical resident that fills this requirement.

 - c. When a trauma alert patient is identified, the attending trauma surgeon shall be summoned and take an active role by participating in patient care during the resuscitation.
 - d. The attending trauma surgeon shall also accompany the senior surgical resident to the operating room.
 - e. Each general surgical resident has current ATLS provider certification.

GENERAL INFORMATION: Optimal care of patients with neurological injuries requires dedicated neurosurgeons participating as members of the trauma team. Neurosurgeons should become involved early in trauma care planning to optimize outcomes. Early neurosurgical interventions include arriving promptly when a trauma patient needs neurosurgical evaluation or care. These interventions also include coordinating standard diagnostic or treatment protocols to assist the emergency physicians or trauma surgeons in their initial efforts to stabilize, diagnose, and treat trauma patients with neurological injuries.

I. Neurological Surgery

1. ~~Level I and II~~ All trauma centers must have board certified or board eligible neurosurgeons continuously available for the care of neurotrauma patients
 - a. ~~In level I and pediatric trauma centers, there must be at least one board certified or board eligible neurosurgeon who has completed a pediatric neurosurgery fellowship~~
2. There shall be a minimum of one qualified neurosurgeon to provide in-hospital trauma coverage 24 hours a day at Level I trauma centers and to arrive promptly at Level II and Pediatric centers when summoned.
3. Evidence shall be on file that clearly describes the qualifications of each neurosurgeon who takes trauma call. At a minimum, this evidence shall include the following:

- a. Proof of board certification or actively participating in the certification process with a time period set by each specialty board in neurosurgery, or proof of meeting the following definition of alternate criteria:

Alternate Criteria for Non-Board-Certified Neurosurgeon in a Level I trauma center. In rare cases in a Level I trauma center, a non-board- certified specialist who does not meet all of the following 9 criteria:

2. A letter by the trauma medical director indicating this critical need in the trauma program because of the physician's experience or the limited physician resources in general surgery within the hospital trauma program.
3. Evidence that the neurosurgeon completed an accredited residency training program in that specialty. This completion must be certified by a letter from the program director.
4. Documentation of current status as a provider or instructor in the Advanced Trauma Life Support (ATLS) program.
5. A list of the 48 hours of trauma-related continuing medical education (CME) during the past 3 years.
6. Documentation that the neurosurgeon is present for at least 50% of the trauma performance improvement and educational meetings.
7. Documentation of membership or attendance at local, regional, and national trauma meetings during the past 3 years.
8. A list of patients treated during the past year with accompanying Injury Severity Score and outcome data.
9. Performance improvement assessment by the trauma medical director demonstrating that the morbidity and mortality results for patients treated by the neurosurgeon compare favorably with the morbidity and mortality results for comparable patients treated by other members of the trauma call panel.

10. Licensed to practice medicine and approved for full and unrestricted neurosurgical privileges by the hospital's credentialing committee.

**STANDARD IV -- NON-SURGICAL SERVICES --
STAFFING AND ORGANIZATION**

INTRODUCTION: A trauma center should use a coordinated team approach for the optimal care of trauma patients because the complex problems of trauma patients can require the involvement of several specialty areas. However, trauma surgeons should not relinquish the overall responsibility for the trauma patient.

- A. In all trauma centers, anesthesia services must be available in-hospital and arrive at bedside within 15 minutes of request 24 hours a day. Furthermore, the attending anesthesiologist must be present within 30 minutes of request for all operations
- B. Anesthesia -- The anesthesiologist shall be board certified or actively participating in the certification process with a time period set by each specialty board and have privileges from the hospital to provide anesthesia and trauma care services for adult and pediatric patients. A certified registered nurse anesthetist (C.R.N.A.) or a senior anesthesia resident (CA-3 or above) may, however, fill the in-hospital anesthesiologist requirement **only** if the trauma medical director ensures the following:
1. A staff anesthesiologist is on trauma call and available to arrive promptly at the trauma center when summoned.
- C. Level I and II trauma centers must have all of the following medical specialists continuously available:
1. Cardiology*
 2. Gastroenterology*
 3. Internal medicine or pediatrics (Level I and pediatric centers only)*
 4. Nephrology*
 5. Pulmonary medicine*
- D. Level I and II trauma centers must have all of the following medical specialists available for consultation when called:
1. Pain management (with expertise to perform regional nerve blocks)
 2. ~~Physiatry~~
 3. Psychiatry
 4. Hematology
 5. Infectious Disease
- E. The following non-surgical specialties shall be continuously available
1. Cardiology
 2. Gastroenterology
 3. Infectious disease
 4. Internal medicine
 5. Nephrology
 6. Pathology

7. Pediatrics
 8. Pulmonary medicine
 9. Radiology
- F. All specialists staffing the services listed in B.1-11 above shall be board certified or actively participating in the certification process with a time period set by each specialty board in their respective specialties, and granted medical staff privileges by the hospital to care for adult and pediatric patients.

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STANDARD V -- EMERGENCY DEPARTMENT

INTRODUCTION: Resuscitation is a vital component of trauma care that requires appropriate organization, personnel, and resources to ensure an effective multidisciplinary approach. Since the trauma team initially comes together during this stressful and fast-paced time, members must maintain the knowledge and skills necessary to quickly assess and manage patients with traumatic injuries. It is desirable that the emergency department medical director and other emergency physicians obtain at least half of their trauma-related continuing education outside the hospital. It is also desirable that emergency nurses assigned to the trauma resuscitation obtain their initial trauma education through a comprehensive trauma core course. The resuscitation, if well planned and organized, should optimize the patient's chances of survival, minimize morbidity, and ensure both efficiency and proficiency of the trauma team. Once organized, resuscitations should undergo constant study, constructive evaluation, and continuous quality improvement.

A. Emergency Department Facility Requirements

1. There shall be resources, staff, and equipment necessary to treat the trauma patient.
2. There shall be resources, staff, and equipment necessary to perform initial stabilization for pediatric patients (Level II).
3. The trauma resuscitation area shall be easily accessible, identifiable and of adequate size and contain adequate trauma care equipment and supplies to simultaneously perform at least two multi- system trauma alert patient resuscitations.
4. There shall be evidence of security measures in place in the resuscitation area designed to protect the life and well being of assigned trauma center staff, patients, and families (for example, a silent or overt alarm system or an assigned security guard).
5. There shall be facilities to accommodate the simultaneous unloading of two EMS ground units.
6. There shall be a helicopter-landing site in close proximity to the resuscitation area. Close proximity means that the interval of time between the landing of the helicopter and the transfer of the patient into the resuscitation area will be such that no harmful effect on the patient's outcome results. All helicopter landing sites shall also meet the following requirements:
 - a. The site shall be licensed by the Florida Department of Transportation.
 - b. Use of the air space shall be approved by the Federal Aviation Administration.
 - c. Documentation shall be on file with the trauma service indicating that the trauma center develops and maintains protocols and provides training during employee orientation regarding the safe loading and unloading of

patients from a helicopter, as well as precautions to ensure the safety of staff or bystanders while in the vicinity of the aircraft.

~~B. In all trauma centers, the emergency department must evaluate its pediatric readiness and have a plan to address any deficiencies~~

C. Physician Requirements

1. All trauma centers must have a board certified or board eligible emergency department physician medical director. ~~In level I and II In all trauma centers, the emergency department medical director must be board certified or board eligible in emergency medicine or pediatric emergency medicine~~
2. Emergency Department Medical Director -- Evidence shall be on file indicating that the trauma center has designated a medical director for the emergency department. Evidence shall also be on file that describes the qualifications of the medical director to provide trauma-related medical and organizational leadership to physician, nursing, and hospital support staffs. At a minimum, this evidence shall include the following:
 - a. Proof of board certification in emergency medicine.
 - b. Documentation that the hospital granted privileges to the emergency department medical director to provide trauma and other emergency care services for adult and pediatric patients.
 - c. Documentation of a minimum of five Category I CME credits every year in trauma-related topics, at least two of which are in pediatric trauma. (See Notes #1 and #3.)or MOC
 - d. Documentation of a full-time practice in emergency medicine (may include both administrative and patient care hours).
 - e. Current ATLS provider certification.
3. Emergency Physicians -- Evidence shall be on file indicating that at least one emergency physician is on duty in the emergency department 24 hours a day to cover adult and pediatric trauma patient care services. The emergency department medical director shall ensure that the emergency physicians, during their assigned shifts, comply with the following conditions:
 - a. To be physically present in-hospital to meet all trauma alert patients in the trauma resuscitation area at the time of the trauma alert patient's arrival.
 - b. ~~In all trauma centers, a board-certified or board eligible emergency medicine physician must be present in the emergency department at all times~~
 - c. To assume trauma team leadership if the trauma surgeon on trauma call is not physically present at the time of the trauma alert patient's arrival in the trauma resuscitation area.

To transfer the care of the trauma patient to the attending trauma surgeon upon his or her arrival in the resuscitation area.

4. Evidence shall also be on file that clearly describes the qualifications of the emergency physicians working in the resuscitation area. At a minimum, this evidence shall include the following:

- a. In all trauma centers, emergency medicine physicians involved in the care of trauma patients must be currently board certified or board eligible, or have been approved through the alternate pathway
 - (1) In all trauma centers, physicians must be board certified or board eligible in emergency medicine or pediatric emergency medicine
 - 1. Physicians who completed primary training in a specialty other than emergency medicine or pediatric emergency medicine prior to 2016 may participate in trauma care
 - b. In ~~level I~~ pediatric trauma centers, at least one physician must be board certified or board eligible in pediatric emergency medicine
- 5.
 - a. Certification and experience
 - (1) Proof of board certification or actively participating in the certification process with a time period set by each specialty board in emergency medicine, or proof of meeting the following definition of alternate criteria:
 Alternate Criteria for a Non-Board-Certified Emergency Physician in a Level I Trauma Center: In rare cases in a Level I trauma center, a non-board-certified specialist who meets all 4 of the following criteria may be included on the trauma panel:
 - 1. Has provided exceptional care of trauma patients
 - 2. Has numerous publications and presentations
 - 3. Has published excellent research
 - 4. Is documented to provide excellent teaching.
 - (2) Board certification or actively participating in the certification process with a time period set by each specialty board in a primary care specialty and a written attestation by the emergency department medical director that the physician has worked as a full-time emergency physician for at least three out of the last five years.
 - b. Documentation of a minimum of five Category I CME credits every year in trauma-related topics, at least two of which are in pediatric trauma if the emergency physician cares for pediatric trauma patients. (See Notes #1 and #3.) or MOC
 - c. Documentation that the hospital granted privileges to the emergency physician to provide trauma and other emergency care services for adult and pediatric patients.
 - d. Current ATLS provider certification.
 - ~~e. All emergency medicine physicians must have completed the ATLS course at least once. Physicians who are board certified or board eligible in a specialty other than emergency medicine must hold current ATLS certification~~
 - f.
- 6. For emergency physicians who care for only pediatric trauma patients, the evidence shall include the following:

a. Certification and experience

- (1) Proof of board certification or actively participating in the certification process with a time period set by each specialty board in pediatric emergency medicine, or proof of meeting the following definition of alternate criteria:

The non-board-certified physician must have completed an approved residency program. The physician must be licensed to practice medicine and approved for emergency medicine privileges by the hospital's credentialing committee. The physician must meet all criteria established by the trauma director and emergency medicine director. The physician must have experience in caring for trauma patients, which must be tracked by the PI program. The trauma director [and] emergency medicine director must attest to this physician's experience and quality of patient care as a part of the recurring granting of trauma team privileges consistent with the hospital's policy. This individual is expected to meet all other qualifications for members of the trauma team.

- (2) Board certification in a primary care specialty or emergency medicine and a written attestation by the emergency department

medical director that the physician has worked as a full-time emergency physician for at least three out of the last five years.

- b. Documentation of a minimum of five Category I CME credits every year in trauma-related topics, at least two of which are in pediatric trauma. (See Notes #1 and #3.) or MOC
 - c. Documentation that the hospital granted privileges to the emergency physician to provide trauma and other emergency care services for pediatric patients.
 - d. Current ATLS provider certification.
 - e. All emergency medicine physicians must have completed the ATLS course at least once. Physicians who are board certified or board eligible in a specialty other than emergency medicine must hold current ATLS certification
7. A PGY-3 emergency medicine chief resident or emergency medicine fellow may fill the requirements of meeting trauma alert patients in the resuscitation area only if the emergency department medical director ensures the following:
- a. An attending emergency physician, who meets the qualifications delineated in items B.2 and 3, is in the emergency department 24 hours per day.
 - b. The trauma medical director and the emergency department medical director attest in writing that each participating resident or fellow is capable of the following:
 - (1) Providing appropriate assessment and responses to emergent changes in patient condition.
 - (2) Instituting initial diagnostic procedures.
 - (3) Providing definitive emergent care.
 - c. There is documentation on file indicating that each PGY-3 resident or fellow has completed at least 24 months of emergency medicine experience and has current ATLS provider certification.

GENERAL INFORMATION: In a hospital dedicated to trauma care, nursing personnel occupy a crucial position in the care of injured patients. Encouraging nursing involvement in trauma training programs and research activities, as well as actively integrating nurses into the trauma team or service, should be a high priority of the trauma center.

D. Resuscitation Area Nursing and Support Personnel Staffing Requirements

- 1. Resuscitation area nursing staff
 - a. At a minimum, two nurses (R.N.s) per shift shall be in-hospital and taking primary assignment for the resuscitation area.

- b. All resuscitation area nurses shall fulfill all initial and recurring training requirements as delineated in Standard VIII within the time frames provided.

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2. Other nursing and technical support staff

- a. The number of nursing personnel and technical staff members assigned to provide patient care in the resuscitation area (in excess of the minimum requirement provided in item C.1.a above) shall be established by each trauma center and shall ensure adequate care of the trauma patient.
- b. The trauma center shall have a designated and trained staff member to record pertinent patient information on a trauma flow sheet during each trauma alert (may be one of the nurses specified in item C.1.a above).

E. Resuscitation Area Documentation Requirements

1. The trauma team shall use a trauma flow sheet to document patient care in the resuscitation area.
2. At a minimum, the design of the flow sheet shall be in such a fashion as to provide a sequential account of the following:
 - a. The time EMS called trauma alert.
 - b. The time of the trauma alert patient's arrival in the resuscitation area.
 - c. The prehospital or hospital reason for the trauma alert being called.
 - d. The time of arrival for each trauma team member and physician consultant.
 - e. Serial physiological measurements and neurological status.
 - f. All invasive procedures performed and results.
 - g. Laboratory tests.
 - h. Radiological procedures.
 - i. The time of disposition and the patient's destination from the resuscitation area.
 - j. Complete nursing assessment.
 - k. Weight.
 - l. Immobilization measures.
 - m. Total burn surface area and fluid resuscitation calculations for burn patients.

F. Emergency Department Responsibilities

1. The emergency department shall summon the trauma team when the facility is notified of a trauma alert en route that meets state/regional trauma alert criteria.

2. The emergency department physician shall evaluate all trauma patients not identified as a trauma alert utilizing trauma scorecard methodology. (See Rules 64J-2.004 and 64J-2.005, Florida Administrative Code.) Once the emergency department physician identifies the patient as a trauma alert patient, he or she shall call an in-hospital trauma alert and summon the trauma team.

The trauma team, physician consultants, and other support personnel shall arrive promptly when notified of a trauma alert and summoned. The trauma team, physician consultants, and other support personnel shall ensure that their response times are documented in each patient's record on the trauma flow sheet.

3. The trauma team shall include, at a minimum, the following for the highest level of activation:
 - a. A trauma surgeon (as team leader).
 - b. An emergency physician.
 - c. At least two trauma resuscitation area registered nurses.

The trauma medical director may also require other disciplines to participate on this team.

- G. In all trauma centers, the shared roles and responsibilities of trauma surgeons and emergency medicine physicians for trauma resuscitation must be defined and approved by the Trauma Medical Director
- H. ~~In all trauma centers, trauma and/or emergency department advanced practice providers (APP's) who are clinically involved in the initial evaluation and resuscitation of trauma patients during the activation phase must have current ATLS certification~~

STANDARD VI -- OPERATING ROOM AND POST-ANESTHESIA RECOVERY AREA

INTRODUCTION: Another key component in the provision of definitive trauma care is the timely availability of surgical facilities. Availability also means that operating rooms and post- anesthesia recovery areas are appropriately staffed with trained nurses and technicians.

- A. Operating Room
- B. In all trauma centers, an operating room (OR) must be staffed and available within 15 minutes of notification
 1. ~~The expectation is that the OR team is notified when a trauma patient is going to be sent to the OR. The initial call and the team members response must be tracked. This can be documented with a log book, and electronic medical record, or a badge swipe~~
 2. In all trauma centers, if the first OR is occupied, an additional OR must be staffed and available
 3. All trauma centers must prioritize fracture care in nonemergent orthopedic trauma
 4. The trauma center shall have at least one adequately staffed operating room available within 15 minutes of request for adult and pediatric trauma patients 24

hours a day. This standard does not require a separate operating room for adult and pediatric patients.

5. The trauma center shall have a second adequately staffed operating room available within 30 minutes after the primary operating room is occupied with an adult or pediatric trauma patient.
6. All trauma centers must have an OR booking policy that specifies targets for timely access to the OR based on the level of urgency and includes access targets for a range of clinical trauma priorities
7. In all trauma centers, the trauma surgeon must be present in the operating suite for the key portions of operative procedures for which they are the responsible surgeon and must be immediately available throughout the procedure
8. The operating team shall consist minimally of the following:
 - a. One scrub nurse or technician.
 - b. One circulating registered nurse.
 - c. One anesthesiologist immediately available. (See Standard IV.A.)

C. Post-Anesthesia Recovery (PAR)

1. The trauma center shall have a PAR area (the surgical intensive care unit is acceptable) adequately staffed with registered nurses and other essential personnel 24 hours a day.
2. A physician credentialed by the hospital to provide care in the ICU or emergency department shall be in-hospital and available to respond immediately to the PAR for care of adult and pediatric trauma patients 24 hours a day.

**STANDARD VII -- INTENSIVE CARE UNIT (ICU) AND
PEDIATRIC INTENSIVE CARE UNIT (PICU)**

INTRODUCTION: The critically ill trauma patient requires continuous and intensive multidisciplinary assessment and intervention to restore stability, prevent complications, and achieve and maintain optimal outcomes.

- A. The adult ICU must be separate and distinct from the PICU.
- B. All trauma centers must have an ICU surgical director who is board certified or board eligible in general surgery and actively participates in unit administration
1. In level I adult trauma centers, the ICU surgical director must be board certified or board eligible in surgical critical care
 2. In level II adult trauma centers, at least one intensivist must be board certified or board eligible in surgical critical care
 3. In pediatric trauma centers, there must be at least two physicians who are board-certified or board eligible in pediatric critical care medicine or in pediatric surgery or pediatric surgical critical care
 - These two physicians must practice at least part of their time in the ICU where the majority of pediatric trauma patients are
 - 4.
- C. ~~In all trauma centers, trauma patients requiring ICU admission must be admitted to, or be evaluated by, a surgical service~~
- D. In all trauma centers, the trauma surgeon must retain responsibility for the trauma patient in the ICU up to the point where the trauma surgeon documents transfer of primary responsibility to another service
- E. Physician Requirements
- a. In all trauma centers, the ICU must be staffed with physicians (physicians include residents, fellows, or attendings) who are continuously available within 15 minutes of request and whose primary responsibility is to the ICU
 - b. ~~The trauma medical director or trauma surgeon designee is responsible for adult trauma patient care in the ICU. Part of these responsibilities includes ensuring that an attending trauma surgeon remains in charge of the patient's care to coordinate all therapeutic decisions. The attending trauma~~

~~surgeon shall obtain consultations from medical and surgical specialists as needed to provide specific expertise.~~

- ~~c. An attending trauma surgeon may transfer primary responsibility for a stable adult patient with a single system injury (for example, neurological) from the trauma service if it is mutually acceptable to the attending trauma surgeon and the surgical specialist of the accepting service.~~
- ~~d. The in-hospital trauma surgeon, or the general surgical resident fulfilling the in-hospital requirement (See Standard III.A.4), shall be available from within the hospital to arrive promptly for adult trauma patients in the ICU for emergent situations when the trauma medical director or trauma surgeon designee is not available. This coverage is not intended to replace the primary admitting trauma surgeon in caring for the patient in the ICU; it is to ensure that the patient's immediate needs will be met while the primary surgeon is being contacted.~~

- e. The trauma center shall track by way of the trauma registry all adult trauma patients, whether under the primary responsibility of the trauma service or of another surgical or non-surgical service, through the quality management process to evaluate the care provided by all health care disciplines.

2. Nursing Requirements

- a. In all trauma centers, the patient to nurse ratio in the ICU must be 1:1 or 2:1, depending on patient acuity as defined by the hospital policy for ICU nursing staffing

- ~~b. In pediatric trauma centers, there must be at least two physicians who are board-certified or board-eligible in pediatric critical care medicine or in both pediatric surgery and surgical critical care~~

- ~~• These two physicians must practice at least part of their time in the ICU where the majority of pediatric trauma patients are~~

- F. Nursing documentation in the ICU and PICU shall be on a patient flow sheet.
- G. There shall be immediate access to clinical laboratory services.

STANDARD VIII -- TRAINING AND CONTINUING EDUCATION PROGRAMS

INTRODUCTION: All healthcare professionals providing trauma patient care should have specific initial and continuing education and training related to that care. Educational offerings attended by staff, both external to the institution and those developed and presented in-hospital, should include didactic and clinical programs. All participants in trauma patient care should acquire and maintain an adequate level of clinical competency and an understanding of the theories supporting a trauma philosophy. The trauma service and the individual department involved, for example, nursing, surgery, intensive care, should mutually manage the educational sessions. Compliance with this standard can include any National Trauma Course including The Emergency Nurses Association Trauma Nursing Core Course, Pediatric Advanced Life Support, and Emergency Nurses Pediatric Course are examples of courses that may partially satisfy the below training requirements. Nurses are encouraged to seek certification in their specialty, such as Certified Emergency Nurse, Certified Critical Care Registered Nurse, Trauma Certified Registered Nurse, or Certified Operating Room Nurse.

Evidence shall be available indicating the completion of trauma-related continuing education in the hours and time frames provided for the personnel listed below. Time frames begin the effective date the hospital earns provisional trauma center status, or the employee's subsequent date of assignment to the indicated trauma care area.

- A. Trauma orientation must be provided to new nursing staff involved in caring for trauma patients.
 - 1. Education can include:
 - Trauma Center developed orientation including process improvement identified opportunities.
 - Trauma Center specific patient population education
 - 2. Registered nurses assigned to following departments shall obtain the specified number of trauma-related contact hours related to their scope of practice and population that is served (i.e., ATCN, TNCC, PCAR, TCAR, TNATC):
 - 3. ED/trauma resuscitation area -- 16 contact hours every two years.
 - 4. Operating room and post-anesthesia recovery -- eight contact hours every two years.
 - 5. Intensive care unit and pediatric intensive care unit -- eight contact hours every two years.
 - 6. Medical surgical/step down unit for both adult and pediatric -- eight contact hours every two years.
 - 7. Rehabilitation unit -- eight contact hours every two years.
 - 8. Burn unit -- eight contact hours every two years.

- B. Licensed practical nurses assigned to the above departments shall complete eight contact hours every two years.
- C. Paramedics assigned to the above departments shall complete four contact hours of trauma-related continuing education every two years.
- D. Should the nurse or paramedic provide care to both adult and pediatric or only pediatric trauma patients, then at least half of the contact hours mentioned in A.1-5, B, and C shall be in pediatric trauma.
- E. Postgraduate Training and Education (Level 1 & other trauma centers with postgraduate training programs only)
 - 1. A defined trauma curriculum with trauma-specific objectives for junior and senior residents
 - 2. Rotations for residents need to be available to, at minimum, general surgery, Orthopaedic, neurosurgery, and emergency medicine residents
 - 3. Residents on the trauma have to be from an Accreditation Council for Graduate Medicine Education (ACGME) accredited program
 - 4. The volume of cases needs to be sufficient to give senior general surgery residents the ability to meet competency requirements for senior general surgery residents in trauma defined by the ACGME
 - 5. In order to guarantee ample experience and exposure to trauma care, the rotation will need to be continuously available to residents.

Evidence shall be available indicating the completion of trauma-related continuing education in the hours and time frames provided for the personnel listed below. Time frames begin the effective date the hospital earns provisional trauma center status, or the employee's subsequent date of assignment to the indicated trauma care area.

- F. All trauma centers must provide trauma orientation to new nursing staff caring for trauma patients.
1. Examples of orientation may include:
 - Center-developed educational program that integrates PIPS-identified issues
 - Education specific to the patient population served
- G. All registered nurses assigned to the following departments must participate in CE corresponding to their scope of practice and patient population served.
1. Examples of nursing education may include:
 - ATCN
 - TNCC
 - PCAR
 - TCAR
 - TNATC
 - STN Trauma Series
 - Center-developed educational program
 2. Registered nurses assigned to following departments shall obtain the specified number of trauma-related contact hours:

3. ED/trauma resuscitation area -- 16 contact hours every two years.
 4. Operating room and post-anesthesia recovery -- eight contact hours every two years.
 5. Intensive care unit and pediatric intensive care unit -- eight contact hours every two years.
 6. Medical surgical/step down unit for both adult and pediatric -- eight contact hours every two years.
 7. Rehabilitation unit -- eight contact hours every two years.
 8. Burn unit -- eight contact hours every two years.
- H. Licensed practical nurses assigned to the above departments shall complete eight contact hours every two years.
- I. Paramedics assigned to the above departments shall complete four contact hours of trauma-related continuing education every two years.
- J. Should the nurse or paramedic provide care to both adult and pediatric or only pediatric trauma patients, then at least half of the contact hours mentioned in A.1-5, B, and C shall be in pediatric trauma.
- ~~K. Trauma orientation must be provided to new nursing staff caring for trauma patients~~
- ~~L. Nurses must participate in trauma CE corresponding to their scope of practice and patient population served.~~
- M. Postgraduate Training and Education (Trauma centers with postgraduate training programs only)
1. There must be a defined trauma curriculum and trauma-specific objective for junior and senior residents
 2. The rotations must be available to, at minimum, general surgery, orthopaedic, neurosurgery, and emergency medicine residents
 3. All residents on the trauma service must be from an Accreditation Council for Graduate Medicine Education (ACGME) accredited program
 4. There must be a sufficient volume and breadth of cases to provide general surgery senior residents the opportunity to meet the competency requirements for senior general surgery residents in trauma set forth by the ACGME
 5. The rotation must be continuously available to residents to assure ample exposure to trauma care

STANDARD IX -- EQUIPMENT

INTRODUCTION: The rapid resuscitation, emergency management, and subsequent care of trauma patients require specialized equipment and supplies. This equipment may be expensive and unique to the care of trauma patients, so personnel should have appropriate training and orientation in the use, care, and maintenance of this equipment.

Medical supplies and equipment requirements for the care of adult and pediatric trauma patients in the treatment areas indicated below shall be readily available and shall include at a minimum

the following:

A. Trauma Resuscitation Area

1. Cerebral monitoring equipment
2. Pupillometry equipment
3. Airway control and ventilation equipment, including various sizes of laryngoscopes, video laryngoscopy, and endotracheal tubes, bag valve mask resuscitator, mechanical ventilator oxygen masks and cannulae, and oxygen.
4. Cardiopulmonary resuscitation cart, including emergency drugs and equipment.
5. Doppler monitoring capability.
6. Electrocardiograph//defibrillator.
7. Monitoring equipment for blood pressure and pulse and an electrocardiogram (ECG).
8. Pacing capability.
9. Pulse oximetry.
10. Equipment for rapid infusion of blood and blood products
11. Standard devices and fluids for intravenous (IV) administration.
12. Sterile surgical sets for airway, chest, vascular access, , and burr hole capability.
13. Suction devices and nasogastric tubes.
14. A system to communicate immediately with the trauma team.
15. Ultrasound for FAST examination

16. Thermal control devices for patients, IV fluids, and environment.
17. Bidirectional communication, including radio communication, with prehospital transport vehicles (communications shall conform to the State EMS Communications Plan).

B. Operating Room

1. Cerebral monitoring equipment
- 1.
2. Airway control and ventilation equipment, including various sizes of laryngoscopes, video laryngoscopy, and endotracheal tubes, bag valve mask resuscitator, mechanical ventilator oxygen masks and cannulae, and oxygen
3. Anesthesia monitoring equipment.
4. Cardiopulmonary bypass equipment must be immediately available in all trauma centers or a contingency plan must exist to provide emergency cardiac surgical care
5. Cardiopulmonary resuscitation cart, including emergency drugs and equipment.
6. Craniotomy/burr hole and intracranial monitoring capabilities.
7. Endoscopes.
8. Invasive hemodynamic monitoring and monitoring equipment for blood pressure, pulse, and ECG.
9. Operating microscope.
10. Orthopedic equipment for fixation of pelvic, longbone, and spinal fractures and fracture table.
11. Cardiac pacing capability.
12. Equipment for rapid infusion of blood and blood products
13. Standard devices and fluids for IV administration.
14. Thermal control devices for patients, IV fluids, and environment.
15. X-ray capability.

C. Post-Anesthesia Recovery

1. Airway control and ventilation equipment, including various sizes of laryngoscopes, video laryngoscopy, and endotracheal tubes, bag valve mask resuscitator, mechanical ventilator oxygen masks and cannulae, and oxygen
- 2.
3. Cardiopulmonary resuscitation cart, including emergency drugs and equipment.
4. Intracranial pressure monitoring.

5. Invasive hemodynamic monitoring and monitoring equipment for blood pressure, cardiac pacing capability.
6. Pulse oximetry.
7. Standard devices and fluids for IV administration.
8. Sterile surgical sets for airway and chest.
9. Thermal control devices for patients and IV fluids.

C. Intensive Care Unit and Pediatric Intensive Care Unit

1. Pupillometry equipment
10. Cerebral monitoring equipment
16. . Airway control and ventilation equipment, including various sizes of laryngoscopes, video laryngoscopy, and endotracheal tubes, bag valve mask resuscitator, mechanical ventilator oxygen masks and cannulae, and oxygen
17. Equipment for rapid infusion of blood and blood products
11. Cardiopulmonary resuscitation cart, including emergency drugs and equipment.
12. Compartment pressure-monitoring devices.
- a. Invasive hemodynamic monitoring and monitoring equipment for blood pressure, pulse, and ECG.
1. Orthopedic equipment for the management of pelvic, longbone, and spinal fractures.
2. Cardiac Pacing capabilities.
3. Pulse oximetry.
4. Scales.
- 5.
6. Standard devices and fluids for IV administration.
7. Sterile surgical sets for airway and chest.
1. Thermal control devices for patients, IV fluids, and environment.

D. Medical Surgical Unit

8. Cardiopulmonary resuscitation cart, including emergency drugs and equipment.
9. Standard devices and fluids for IV administration.

10. Suction devices.

STANDARD X -- LABORATORY SERVICES

- A. Service Capabilities -- The trauma center shall have the following laboratory capabilities for adult and pediatric injured patients available in-hospital 24 hours per day:
1. Services for the prompt analysis of the following:
 - a. Blood, urine, and other body fluids.
 - b. Blood gases and pH determination within five minutes 90 percent of the time.
 - c. Coagulation studies.
 - d. Drug and alcohol screening.
 - e. Microbiology.
 - f. Serum and urine osmolality.
 - g. All trauma centers must have a sufficient supply of blood products readily available including Platelets, fresh frozen plasma, Packed Red Blood Cells (PRBCs), cryoprecipitate as monitored by the PI process
 - 2.
 3. An appropriately staffed blood bank. (See Note #4.) The blood bank shall, at a minimum, be capable of providing the following:
 - a. Blood typing, screening, and cross matching.
 4. The trauma center shall have written protocols available ensuring that injured patients receive priority over routine laboratory tests.
- B. Staffing Requirements -- A laboratory technician shall be available in-hospital 24 hours per day to conduct laboratory studies for injured patients.

~~C. Service Capabilities -- The trauma center shall have the following laboratory capabilities for adult and pediatric injured patients available in hospital 24 hours per day:~~

- ~~1. Services for the prompt analysis of the following:
 - ~~a. Blood, urine, and other body fluids.~~
 - ~~b. Blood gases and pH determination within five minutes 90 percent of the time.~~
 - ~~c. Coagulation studies.~~
 - ~~d. Drug and alcohol screening.~~
 - ~~e. Microbiology.~~
 - ~~f. Serum and urine osmolality.~~~~
 - ~~2. All trauma centers must have a sufficient supply of blood products readily available~~
 - ~~3. An appropriately staffed blood bank. (See Note #4.) The blood bank shall, at a minimum, be capable of providing the following:
 - ~~a. Blood typing, screening, and cross matching.~~
 - ~~b. Platelets and fresh frozen plasma.~~~~
 - ~~4. The trauma center shall have written protocols available ensuring that injured patients receive priority over routine laboratory tests.~~
- ~~D. Staffing Requirements -- A laboratory technician shall be available in hospital 24 hours per day to conduct laboratory studies for injured patients.~~

STANDARD XI -- ACUTE HEMODIALYSIS CAPABILITY

- A. Level 1, 2, and Pediatric Trauma Centers must have renal replacement therapies and services available for the support of injured trauma patients with renal failure 24 hours a day.
- B.
- C.
- D.
- ~~E. All trauma centers must have renal replacement therapy services available to support patients with acute renal failure 24 hours a day.~~
- ~~A. Level 1, 2, and Pediatric Trauma Centers must have renal replacement therapies and services available for the support of injured trauma patients with renal failure 24 hours a day.~~

STANDARD XII -- RADIOLOGICAL SERVICES

- A. All trauma centers must have the following services available around the clock and accessible for patient care within the specified timeframes (note that the timeframe refers to

the duration between the initial request and the commencement of the test/procedure, not necessarily its completion):

1. Conventional radiography
 - a. Within 15 minutes
2. Computed tomography (CT)
 - a. Within 15 minutes
3. Point-of-care ultrasound
 - a. Within 15 minutes
4. Interventional radiologic procedures
 - a. Within 1 hour
5. Magnetic Resonance Imaging (MRI)
 - a. Within 2 hours

B. All trauma centers are required to establish a system for remotely accessing radiographic images from referring hospitals within their catchment area. These access methods may encompass options such as email, a mobile phone application, a Picture Archiving and Communications System (PACS), and various other suitable means.

C. In all trauma centers, the final interpretation of CT scans must be documented no later than 12 hours after the scan's completion.

D. Service Capabilities - The following radiological service capabilities for trauma alert patients must be available 24 hours a day in all trauma centers:

1. A radiologist must have access to patient images and be available for imaging interpretation, either in person or by phone, within 30 minutes of a request.
2. Angiography of all types, with a maximum response time until the start of the procedure of 60 minutes.
3. Computerized tomography (CT).
4. Routine radiological studies.

E. Staffing Requirements - Radiological personnel required to deliver radiological services for trauma alert patients must be accessible around the clock. At the very least, this should encompass the following:

1. Human and physical resources must be continuously available so that an endovascular or interventional radiology procedure for hemorrhage control can commence within 60 minutes of a request.
2. Radiologists must be board certified or actively engaged in the certification process with a timeline established by each specialty board and must be promptly available 24 hours per day.
 - a. Chief radiology residents may fulfill this requirement if the trauma medical director ensures the following:
 - i. A staff radiologist is on trauma call and available to arrive promptly at the trauma center when called.
 - ii. The trauma medical director and chief of radiology provide written attestation that each participating resident is capable of the following:
 1. authorizing any radiological studies required for trauma alert patients
 2. Conducting appropriate evaluation of radiological studies for trauma alert patients.
3. Radiologists at trauma centers utilizing teleradiology may take call from the site of the off-campus computer terminal if the trauma center assumes all responsibility and liability

to ensure that images are of such quality that the patient's outcome is not compromised.

a. Radiologists working off-campus must arrive promptly the trauma center when summoned.

4. A CT technician must be available in-hospital 24 hours a day.

5. A radiological technician must be available in-hospital 24 hours a day.

F. CT Scanner Requirements

1. There must be at least one CT scanner available for trauma alert patients, and it must be located in the same building as the resuscitation area. CT scanners situated in remote areas of the hospital campus (necessitating patient movement from one building to another), in mobile units, or in other institutions do not meet this requirement.

2. If the trauma center has only one CT scanner, there must be a written plan in place outlining the steps to be taken in case the apparatus is in use or temporarily inoperable. This plan must include agreements for transferring trauma patients.

~~A. In level one in two trauma centers, the following services must be available 24 hours per day and be accessible for patient care within the time interval specified (the time interval refers to the time between the initial request and the initiation of the test/procedure. This does not mean that every test must be completed within the interval specified):~~

- ~~1. Conventional radiography~~
 - ~~a. 15 minutes~~
- ~~2. Computed tomography (CT)~~
 - ~~a. 15 minutes~~
- ~~3. Point-of-care ultrasound~~
 - ~~a. 15 minutes~~
- ~~4. Interventional radiologic procedures~~
 - ~~a. 1 hour~~
- ~~5. Magnetic Resonance Imaging (MRI)~~
 - ~~a. 2 hours~~

~~B. Level I and two trauma centers must have a mechanism to remotely view radiographic images from referring hospitals within their catchment area. (Viewing mechanisms may include email, a phone app, a Picture Archiving and Communications System (PACS), etc.)~~

~~C. In all trauma centers, documentation of the final interpretation of CT scans must occur no later than 12 hours after completion of the scan~~

~~D. Service Capabilities — The following radiological service capabilities for trauma alert patients shall be available in hospital 24 hours per day:~~

- ~~1. In all trauma centers, a radiologist must have access to patient images and be available for imaging interpretation, in person or by phone, within 30 minutes of request~~
- ~~2. Angiography (of all types) with a maximum response time until the start of the procedure of 60 minutes.~~
- ~~3. Computerized tomography (CT).~~

~~4. Routine radiological studies.~~

~~E. Staffing Requirements Radiological staff needed to perform radiological services for trauma alert patients shall be available 24 hours a day. At a minimum, this includes the following:~~

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1. ~~Level I and two trauma centers must have the necessary human and physical resources continuously available so that an endovascular or interventional radiology procedure for hemorrhage control can begin within 60 minutes of request~~

A radiologist, board certified or actively participating in the certification process with a time period set by each specialty board, and granted privileges by the hospital to provide radiological services for adult and pediatric patients, shall be in-hospital and promptly available 24 hours a day. (See Note #5.) If the trauma center utilizes teleradiology capabilities (the transfer of radiological study images via modem to an off-campus computer terminal), a radiologist may take trauma call from the site of the off-campus terminal. The trauma center, however, assumes all responsibility and liability to ensure that computer images evaluated by a radiologist from an off-campus site are of such quality that it will not compromise the trauma patient's outcome by using this system. The radiologist shall arrive promptly at the trauma center when summoned.

2. ~~A chief radiology resident may fill the in-hospital requirement only if the trauma medical director ensures the following:~~

- a. ~~A staff radiologist (item B.1. above) is on trauma call and available to arrive promptly at the trauma center when summoned.~~

- b. ~~The trauma medical director and the Chief of Radiology attest in writing that each participating resident is capable of the following:~~

- (1) ~~Authorizing any radiological studies required for adult and pediatric trauma alert patients.~~

- (2) ~~Providing appropriate evaluation of adult and pediatric trauma alert patient radiological studies.~~

3. ~~A CT technician shall be in hospital 24 hours a day.~~

4. ~~A radiological technician shall be available in hospital 24 hours per day.~~

F. ~~CT Scanner Requirements~~

1. ~~At least one CT scanner shall be available for trauma alert patients, and be located in the same building as the resuscitation area. CT scanners located in remote areas of the hospital campus (that requires moving the patient from one building to another), in mobile vans, or in other institutions do not meet this requirement.~~

2. ~~If the trauma center has only one CT scanner, a written plan shall be in place describing the steps to be taken if the apparatus is in use or becomes temporarily inoperable. The plan must include trauma patient transfer agreements.~~

A. All trauma centers must have the following services available around the clock and accessible for patient care within the specified timeframes (note that the timeframe refers to the duration between the initial request and the commencement of the test/procedure, not necessarily its completion):

1. Conventional radiography

- a. Within 15 minutes

2. Computed tomography (CT)

- a. Within 15 minutes
- 3. Point of care ultrasound
 - a. Within 15 minutes
- 4. Interventional radiologic procedures
 - a. Within 1 hour
- 5. Magnetic Resonance Imaging (MRI)
 - a. Within 2 hours

B. All trauma centers are required to establish a system for remotely accessing radiographic images from referring hospitals within their catchment area. These access methods may encompass options such as email, a mobile phone application, a Picture Archiving and Communications System (PACS), and various other suitable means.

C. In all trauma centers, the final interpretation of CT scans must be documented no later than 12 hours after the scan's completion.

D. Service Capabilities—The following radiological service capabilities for trauma alert patients must be available 24 hours a day in all trauma centers:

- 1. A radiologist must have access to patient images and be available for imaging interpretation, either in person or by phone, within 30 minutes of a request.
- 2. Angiography of all types, with a maximum response time until the start of the procedure of 60 minutes.
- 3. Computerized tomography (CT).
- 4. Routine radiological studies.

E. Staffing Requirements—Radiological personnel required to deliver radiological services for trauma alert patients must be accessible around the clock. At the very least, this should encompass the following:

- 1. Human and physical resources must be continuously available so that an endovascular or interventional radiology procedure for hemorrhage control can commence within 60 minutes of a request.
- 2. Radiologists must be board certified or actively engaged in the certification process with a timeline established by each specialty board and must be promptly available 24 hours per day.

- a. Chief radiology residents may fulfill this requirement if the trauma medical director ensures the following:

- i. A staff radiologist is on trauma call and available to arrive promptly at the trauma center when called.

- ii. The trauma medical director and chief of radiology provide written attestation that each participating resident is capable of the following:

- 1. authorizing any radiological studies required for trauma alert patients

- 2. Conducting appropriate evaluation of radiological studies for trauma alert patients.

- 3. Radiologists at trauma centers utilizing teleradiology may take call from the site of the off-campus computer terminal if the trauma center assumes all responsibility and liability to ensure that images are of such quality that the patient's outcome is not compromised.

- a. Radiologists working off-campus must arrive promptly to the trauma center when summoned.

4. A CT technician must be available in hospital 24 hours a day.

5. A radiological technician must be available in hospital 24 hours a day.

F. CT Scanner Requirements

1. There must be at least one CT scanner available for trauma alert patients, and it must be located in the same building as the resuscitation area. CT scanners situated in remote areas of the hospital campus (necessitating patient movement from one building to another), in mobile units, or in other institutions do not meet this requirement.

2. If the trauma center has only one CT scanner, there must be a written plan in place outlining the steps to be taken in case the apparatus is in use or temporarily inoperable. This plan must include agreements for transferring trauma patients.

STANDARD XIII -- ORGANIZED BURN CARE

INTRODUCTION: Most burn injuries are relatively minor and patients are discharged following outpatient treatment at the facility where they are first seen. Some burns, however, are serious enough to require hospitalization, either through direct admission or by referral to hospitals with special burn treatment capabilities.

- A. The trauma center shall have written policies and procedures for triage, assessment, stabilization, emergency treatment, and transfer (either into or out of the facility) of burn patients. Policies and procedures shall also be written regarding in-hospital management, including rehabilitation, of burn patients.
- B. The trauma center is capable of providing specialized care, dedicated beds, and supplies or equipment appropriate for the care of a patient with major or significant burns (See Note #6) when the facility meets one of the following criteria:
 - 1. Is verified by the American Burn Association Committee on Burn Center Verification of the American College of Surgeons.
 - 2. Demonstrates that the facility and burn center staff meet the following qualifications:
 - a. The facility shall admit an average of 60 or more patients with acute burn injuries annually. At least 40 patients shall meet the major or significant burn criteria.
 - b. General surgeons or plastic surgeons who are the primary managing physicians managing burn cases shall obtain a minimum of two burn-related CMEs each calendar year as part of their total CMEs.
 - c. Each general surgeon or plastic surgeon who is the primary managing physician shall participate in the management of burn patient admissions or resuscitations.
 - d. Burn unit nursing staff shall obtain a minimum of two burn-related contact hours each calendar year as part of their total CMEs.
 - e. The facility shall provide at least one burn-related community education or prevention program each calendar year.
- C. If the trauma center is not capable of providing specialized care, dedicated beds, and supplies or equipment appropriate for the care of a patient with major or significant burns the facility shall have a written transfer agreement with such a facility. The trauma center shall also have written medical transfer policies and protocols to ensure the timely and safe transfer of the burn patient.

Patients with major or significant burns include the following:

- B. Second- and third-degree burns greater than 10 percent total body surface area.
- C. Second- and third-degree burns that involve the face, hands, feet, genitalia, and perineum, or that involve skin overlying major joints.
- D. Third-degree burns greater than five percent total body surface area in any age group.
- E. Significant electrical burns, including lightning injury.
- F. Significant chemical burns.
- G. Inhalation injury.

H. Burn injury in patients with pre-existing illness that could complicate management, prolong recovery, or affect mortality.

I. Children with burns who were seen initially in hospitals without qualified personnel or proper equipment for burn care.

J. Burn injury in patients who will require special social and emotional or long-term rehabilitative support, including cases involving suspected abuse and neglect.

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STANDARD XIV -- ACUTE SPINAL CORD AND BRAIN INJURY MANAGEMENT CAPABILITY

- A. The trauma center shall have written policies and procedures for triage, assessment, stabilization, emergency treatment, and transfer (either into or out of the facility) for brain or spinal cord injured patients. Policies and procedures shall also be written regarding in-hospital management, including rehabilitation, and the implementation of the preventive ulcer program (See Notes #7), for brain or spinal cord injured patients.
- B. The trauma center shall be designated by the Department of Health, Brain and Spinal Cord Injury Program, as a spinal cord injury acute care center or brain injury acute care center,

or

have a written transfer agreement in place with such a facility, and written medical transfer policies and protocols for when to initiate a transfer to ensure the timely and safe transfer of the brain or spinal cord patient.

STANDARD XV -- ACUTE REHABILITATIVE SERVICES

INTRODUCTION: A trauma service should provide for the rehabilitation of its patients, with the goal of returning to society an individual who functions at the highest possible level consistent with his or her injuries. Early rehabilitation minimizes the risk of secondary complications that may interfere with or limit functional recovery. Members of the trauma service should also work with colleagues to prepare the patient and family physically, psychosocially, and emotionally for the transition to rehabilitation and ultimately for return to the community.

- A. All Trauma centers need the listed Allied Health services available:
 - 1. Physical Therapy, Social Worker, & Occupational Therapy (all available 7 days per week)
 - 2. Respiratory Therapy (24/7/365)
 - 3. Nutrition Support
- B. The Trauma Medical Director shall establish the rehabilitation needs of traumatically injured patients and must be met by all trauma centers as evidence by:
 - 1. Ensuring protocols/medical best practice guidelines recognize which patients will need rehabilitation services during their acute inpatient hospital stay.
 - 2. Creating processes with the ability to determine rehabilitation needs, care, and services during their acute inpatient hospital stay
 - 3. Process for confirming that required rehabilitation services are provided in a timely manner
- C. Trauma Centers need to have a method for defining the level of care trauma patients will require after discharge, including detailed rehabilitation care services that will be required following discharge with supporting evidence documented in the medical record
- D. The trauma medical director or trauma program manager shall ensure that trauma patients meeting the criteria established above have an evaluation by any or all of the following (as appropriate to the patient's injury)
 - 1. Attending trauma surgeon, neurosurgeon, neurologist, or orthopedic surgeon.

2. Neuropsychologist.
 3. Occupational therapist.
 4. Psychiatrist or medical director of the rehabilitation services department.
 5. Physical therapist.
 6. Speech therapist.
- E. The consultant shall document this evaluation in the patient's medical record. Documentation shall include any short- or long-term rehabilitation goals and plan.
- F. The physician with primary responsibility for the patient shall review the assessment and recommendations within 48 hours and document the review in the patient's medical record.
- G. The trauma center shall have one of the following for long-term rehabilitative services:
1. A designated rehabilitation unit that is accredited by the Commission on Accreditation of Rehabilitative Facilities.
 2. A documented transfer agreement in place with one of the above stated facility types, and written medical transfer policies and protocols for when to initiate a transfer to ensure the timely and safe transfer of the trauma patient.

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ZZ. Trauma centers must have the following allied health services available:

1. Respiratory therapy (24/7/365)
2. Nutrition support
3. Speech therapy
4. Social worker (seven days per week)
5. Occupational therapy (seven days per week)
6. Physical therapy (seven days per week)

AAA. All trauma centers must meet the rehabilitation needs of trauma patients by:

1. Developing protocols that identify which patients will require rehabilitation services during their acute inpatient stay
2. Establishing processes that determine the rehabilitation care, needs, and services required during the acute inpatient stay

3. Ensuring that the required services during acute inpatient stay are provided in a timely manner
- BBB. All trauma centers must have a process to determine the level of care patients require after trauma center discharge, as well as the specific rehabilitation care services required at the next level of care. The level of care and services required must be documented in the medical record
- CCC. The trauma medical director or trauma program manager shall ensure that trauma patients meeting the criteria established above have an evaluation by any or all of the following (as appropriate to the patient's injury) within 7 days of inpatient admission:
1. Attending trauma surgeon, neurosurgeon, neurologist, or orthopedic surgeon.
 2. Neuropsychologist.
 3. Occupational therapist.
 4. Physiatrist or medical director of the rehabilitation services department.
 5. Physical therapist.
 6. Speech therapist.
- DDD. The consultant shall document this evaluation in the patient's medical record. Documentation shall include any short- or long-term rehabilitation goals and plan.
- EEE. The physician with primary responsibility for the patient shall review the assessment and recommendations within 48 hours and document the review in the patient's medical record.
- FFF. The trauma center shall have one of the following for long-term rehabilitative services:
1. A designated rehabilitation unit that is accredited by the Commission on Accreditation of Rehabilitative Facilities.
 2. A rehabilitation unit designated by the Department of Health, Brain and Spinal Cord Injury Program, as a spinal cord or brain injury rehabilitation center.
 3. A written transfer agreement in place with one of the above stated facility types, and written medical transfer policies and protocols for when to initiate a transfer to ensure the timely and safe transfer of the trauma patient.

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STANDARD XVI -- PSYCHOSOCIAL SUPPORT SYSTEMS

INTRODUCTION: Such factors as age and developmental phase, previous and current health problems, family and social support systems, economic status, level of education, and the meaning given to the injury by the patient and family all affect human responses to injury. The trauma center should assure that qualified personnel are available to assess and support the patient and the patient's family or significant others. This should include crisis intervention, acceptance and adaptation to the repercussions of the injury, and facilitation of the transition from the hospital.

- A. All trauma centers must meet the mental health needs of trauma patients by having:
 - 1. A protocol to screen all patients greater than 12, and at high risk for psychological sequelae, with subsequent referral to a mental health provider
 - Screening tool must be validated or routine blood alcohol content testing
 - Programs must achieve a screening rate of at least 80%
 - 2. A process for referral to a mental health provider when required
 - At least 80% of patients who have screened positive for alcohol misuse must receive a brief intervention by appropriately trained staff prior to discharge
- B. The trauma center shall have written policies and protocols to provide mental health services, child protective services, and emotional support to trauma patients or their families. At a minimum, the policies and protocols shall include qualified personnel to provide the services and require that the personnel shall arrive promptly at the trauma center when summoned.
- C. Qualified personnel may include, but are not be limited to, the following:
 - 1. Nurses (in addition to resuscitation area personnel).
 - 2. Pastoral or spiritual care representatives.
 - 3. Patient advocates or representatives.

4. Physician consultants.
 5. Psychologists or psychiatrists.
 6. Social service workers.
 7. Advanced Practice Providers
- D. Drug and alcohol counseling and referral services shall be available for patients and their families.
1. Trauma centers must have a protocol in place to screen patients at high risk for ps
- E. The personnel listed in B.1-7 shall document these interventions in the patient's medical record.
- F. Child life program
1. All pediatric trauma centers must have a child life program

STANDARD XVII -- OUTREACH PROGRAMS

INTRODUCTION: Although the trauma center is a key component of acute care for the critically injured trauma patient, an effective trauma system encompasses all phases of care, from prehospital to reintegration into society. By providing multidisciplinary educational opportunities and becoming actively involved in the formulation of community approaches to trauma care, the trauma center will aid in attaining the goal of optimal care for all injured patients. It is desirable that the trauma center coordinate their outreach activities with the local or regional trauma agency, if one exists. Finally, the trauma center should consider developing these programs in response to identified, targeted local problems. Use of national injury prevention programs are recommended to avoid replication and eliminate the need to spend resources to develop a quality program when one has already been developed and tested.

- A. The trauma center must implement a minimum of two injury prevention activities per verification cycle, each with specific objectives and deliverables addressing separate mechanisms of injury, specific to trends identified in the trauma center and local epidemiological data.
- B. The trauma center must demonstrate partnerships with other local community organizations in support of injury prevention activities.
- C. Hospital-specific evaluation methods shall be implemented to determine the effectiveness of the injury prevention programs.
- D. The trauma center must demonstrate active participation in the training of prehospital personnel.
- E. The trauma center must demonstrate a commitment to providing public and professional trauma education.
- F. The trauma center must demonstrate the existence of an organ procurement program including, at minimum (this standard pertains to solid organ procurement for trauma patients only):
- G. An Organ Procurement Organization (OPO) affiliation agreement.
- H. A policy directing the requirements for notification of the regional OPO
- I. Protocols defining the specific clinical criteria and confirmatory testing required for brain

death diagnosis.

- J. The trauma center must demonstrate a defined process for case review that includes a mechanism for providing feedback to external entities, including:
- K. Feedback to EMS agencies on issues related to patient care and triage accuracy
- L. Feedback to Referring providers on the care and outcomes of patients referred and potential opportunities for improvement in care
- M. The trauma center must demonstrate the participation of an Emergency Physician or Trauma Surgeon in the prehospital PI process to include participation in the development of prehospital trauma patient care protocols.
- N. The trauma center shall provide 24-hour availability of telephone consultation with members of the hospital's trauma team for physicians of the community and outlying areas. Scheduled on-site consultations with members of the hospital's trauma team shall be available with physicians of the community and outlying areas. Evidence of these consultations shall be documented.
- O. Evidence of contact with referring physicians regarding patient transfers shall be documented in all cases.
- P. All trauma centers must have a trauma multidisciplinary PIPS committee chaired by the TMD or an associate TMD
- Q. Combined adult (level I/II) and pediatric (level II) trauma centers must hold separate adult and pediatric trauma multidisciplinary PIPS meetings with distinct minutes
- R. Trauma Systems Committee
- S. There shall be evidence of a minimum of 10 multidisciplinary meetings conducted per year for the purposes of identifying OFIs, addressing trauma system issues (prehospital and in-hospital), reviewing practice guideline adherence, and providing education for in-hospital and pre-hospital entities, case management, OFI in clinical practice guidelines, education,

- T. Cases with systems-related OFI will be presented.
- U.
- V. The meeting shall include the review of the following:
- W.
- X. The local and regional emergency medical service system.
- Y.
- Z. case management. With system opportunity
- AA.
- BB. The trauma center or system. Issues such as Patient throughput
- CC.
- DD. Solution of specific problems, including organ procurement and donation.
- EE.
- FF. Trauma care education.
- GG.
- HH.
- II. The Trauma Systems committee shall be composed of at least the following persons:
- JJ.
- KK.
- LL.
- MM.
- NN. Trauma medical director or predetermined alternate (as chairperson)
- OO. Trauma program manager
- PP. Medical director of emergency department or emergency physician designee.
- QQ. Trauma surgeon, other than the trauma medical director.
- RR. Anesthesia liaison
- SS. Radiology liaison
- TT. Neurosurgeon
- UU. Orthopedic liaison
- VV. Pediatric physician (if caring for pediatric patients)
- WW. i. Pediatric surgeon or pediatric critical care preferred
- XX. Representative from administration.
- YY. Operating room nursing director or designee.
- ZZ. Emergency department nursing director or designee.
- AAA.
- BBB. Intensive care unit nursing director or designee.
- CCC. Social Work (50%)
- DDD. Rehabilitation Medicine (50%)
- EEE. Laboratory (50%)
- FFF. Prehospital Providers (50%)
- GGG.

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KKK. Trauma centers must implement two activities at a minimum over the course of the verification cycle with specific objectives and deliverables that address separate epidemiologic needs of the community

1. All trauma centers must demonstrate evidence of partnerships with community organizations to support their injury prevention efforts
2. Hospital-specific evaluation methods shall be implemented to determine the effectiveness of the injury prevention programs.

LLL. The trauma program must participate in the training of prehospital personnel.

MMM. The trauma center must provide public and professional education.

NNN. In all trauma centers, an organ procurement program must be available and consist of at least the following (this standard pertains to solid organ procurement for trauma patients only):

1. An affiliation with an Organ Procurement Organization (OPO)
2. A written policy for notification of the regional OPO
3. Protocols defining clinical criteria and confirmatory test for the diagnosis of brain death

OOO. All trauma centers must have a process of reviewing and providing feedback to:

1. EMS agencies, related to accuracy of triage and provision of care
2. Referring providers, related to the care and outcomes of their patients and any potential opportunities for improvement in initial care

PPP. In all trauma centers, a physician from the emergency department or trauma program must participate in the prehospital PI process, including assisting in the development of prehospital care protocols relevant to the care of trauma patients

QQQ. The trauma service shall provide 24-hour availability of telephone consultation with members of the hospital's trauma team and physicians of the community and outlying areas. Scheduled on-site consultations with members of the hospital's trauma team shall be available with physicians of the community and outlying areas. Evidence of these consultations shall be documented.

RRR. Evidence of contact with referring physicians regarding patient transfers shall be documented in all cases.

~~SSS. All trauma centers must have a trauma multidisciplinary PIPS committee chaired by the TMD or an associate TMD~~

- ~~1. Combined adult (level I/II) and pediatric (level II) trauma centers must hold separate adult and pediatric trauma multidisciplinary PIPS meetings with distinct minutes~~

~~Trauma Systems Committee~~

~~TTT. There shall be evidence of a minimum of 10 multidisciplinary meetings conducted per year to provide trauma case review for the purpose of identifying OFI, reviewing practice guideline adherence, and providing education for in-hospital and pre-hospital entities case management, OFI in clinical practice guidelines, education,~~

and correction of system issues for both prehospital and in-hospital. The case review must include at least one adult and one pediatric trauma patient when appropriate.

1. The meeting shall include the review of the following:
 - a. The local and regional emergency medical service system.
 - b. Individual case management.
 - c. The trauma center or system.
 - d. Solution of specific problems, including organ procurement and donation.
 - e. Trauma care education.
- 2.
3. The Trauma Systems committee shall be composed of at least the following persons:
 - a.
 - b. Social work (50%)
 - c. Rehabilitation medicine (50%)
 - d. Laboratory (50%)

Prehospital provider(50%)

4. Trauma medical director or predetermined alternate (as chairperson).
5. Trauma program manager.
6. Medical director of emergency department or emergency physician designee.
7. Trauma surgeon, other than the trauma medical director.
8. Anesthesia liaison
9. Radiology liaison
10. Neurosurgeon
11. Orthopedic
12. Pediatric physician (if caring for pediatric patients)
 - a. Pediatric surgeon or pediatric critical care preferred
13. Representative from administration.
14. Operating room nursing director or designee.
15. Emergency department nursing director or designee.
16. Intensive care unit nursing director or designee.

STANDARD XVIII -- QUALITY MANAGEMENT

INTRODUCTION: The goals of a trauma quality improvement program are to monitor the process and outcome of patient care, to ensure the quality and timely provision of such care, to improve the knowledge and skills of the trauma care providers, and to provide institutional structure and organization to promote quality improvement. The plan should contain these essential elements for successful implementation: authority and accountability for the program, a well-defined organizational structure for the committee composition and member responsibilities, defined standards to determine quality of care, and explicit definitions for outcomes required by the facility's prescribed standards.

- A. The trauma service shall have written evidence on file indicating the governing body's commitment to the trauma quality improvement program. This evidence shall include the following:
 - 1. The trauma program must have a trauma medical director with the authority and administrative support to implement changes related to the process of care and outcomes across multiple specialty departments. The administrative support commitment must assure that the defined lines of authority guarantee comprehensive evaluation of all aspects of trauma care.
- B. Trauma centers need a written data quality plan, with evidence of compliance to that plan. The plan will need to include a quarterly review of data quality at minimum.
- C. The Trauma PIPS program needs to be independent of the hospital/departmental program yet will need a defined process of reporting to the hospital/departmental PI program.
- D. Trauma Centers need a written PIPS plan that:
 - 1. Defines the organizational Structure of the Trauma PIPs process, with a well-defined relationship to the hospital/departmental PI program
 - 2. Identifies the processes for event identification, with the consideration of identification by multiple sources. The range of event review will need to encompass from prehospital care through hospital discharge.
 - 3. Contains a list of audit filters as defined by the American College of Surgeons: Resources for Optimal Care of the Injured Patient, with a plan for monitoring/reporting out identified trends.
 - 4. Describes review levels (primary, secondary, tertiary, and/or quinquenary), with a description for each level that identifies:
 - a. What cases are to be reviewed
 - b. Who will be performing the review
 - c. When case needs to advance to a different level, or can be closed
 - 5. Identifies the members of the Trauma Peer Review Committee and their responsibilities
 - 6. Defines the process for identification of priority opportunities areas for PI, based on audit filters, event review, and benchmarking reports
- E. Trauma centers will need detailed evidence of event identification; demonstrated use of audit filters; evidence of loop closure; documented efforts at corrective actions; and plans for sustained improvement measured over time
- F. Trauma centers must partake in the ACS TQIP and the Florida TQIP Collaborative as in Rule 64J-2.006(2), risk-adjusted benchmarking programs, and analyze the

report to identify if there are areas of opportunity for improvement in patient care and registry data quality

1. Population of cases for review -- The trauma medical director and trauma program manager shall review all trauma patient records from the following categories:
 - a. All trauma alert cases admitted to the hospital (patients identified by the state trauma scorecard criteria in Rules 64J-2.004 and 64J-2.005, Florida Administrative Code).
 - b. Critical or intensive care unit admissions for traumatic injury.
 - c. All operating room admissions for traumatic injury (excluding same day discharges or isolated, non-life threatening orthopedic injuries).
 - d. Any critical trauma transfer into or out of the hospital.
 - e. All in-hospital trauma related mortality (including mortality in the resuscitation area) and patients transferred to hospice, with identification of any identified opportunities for improvement
 - f. All nonsurgical trauma admission will need to be reviewed by the trauma program
 - g. All instances of trauma diversion will need to be reviewed by the Trauma Operations committee
2. Evaluation of cases -- The trauma medical director or trauma program manager shall evaluate each case identified by one of the indicators (Standard XVIII.D.3) ~~Standard XVIII.B.2.a and b~~ and determine whether the case should be referred to the Trauma Peer Review Committee for further review. (The trauma medical director and the trauma program manager shall also present a summary of reviewed cases not referred to the Trauma Peer Review Committee.)
3. Committee discussion and action -- The members of the Trauma Peer Review Committee ~~TQM committee~~ shall review and discuss each case referred by the trauma medical director or trauma program manager. The members shall recommend or take action on those cases where the committee finds opportunities for improving performance, system process, or outcomes. (The trauma medical director is responsible for monitoring the outcome of each case referred to persons or committees outside the Trauma Peer Review Committee ~~TQM committee~~. The medical director is also responsible for providing a comprehensive report to the Trauma Peer Review Committee ~~TQM committee~~ regarding those referrals.)
4. Resolution and follow-up -- The Trauma Peer Review Committee ~~TQM committee~~ shall evaluate and document the effectiveness of action taken to ensure problem resolution, improvements in patient care, or improved patient outcomes.

- G. The ~~TQM committee~~ Trauma Peer Review Committee shall meet a minimum of 10 times per year to review trauma cases referred by the trauma medical director or trauma program manager, including cases identified by the indicators listed in XVIII.D.3.XVIII.B.2.a and b and other cases with quality-of-care concerns, systems issues, morbidity, or mortality.

Attendance requirements for Trauma Peer Review Committee:

1. 60% for the Trauma Medical Director (cannot be delegated to the Associate TMD)
2. 50% for each Trauma Surgeon
3. 50% for Trauma Liaisons (or pre-designated alternate) from Emergency Medicine, Neurosurgery, Orthopaedic Surgery, Critical Care Medicine, Anesthesia, & Radiology
 - a. Combined adult & pediatric centers will need to have 50% attendance by representative (TMD or pre-designated alternate) from the other program, and they will be responsible for sharing information to the other program

- H. The trauma service shall maintain written minutes of all ~~TQM~~ Trauma Peer Review committee meetings for at least three years. The trauma service shall have these minutes available for the Department of Health to review upon request. The minutes shall include at a minimum the following:

1. The names of attendees.
2. The subject matter discussed, including an analysis of all issues related to each case referred by the trauma medical director or the trauma program manager, cases involving morbidity or mortality, , and cases with other quality of care concerns for opportunities for improvement
3. Deaths must be identified as:
 - a. Mortality with opportunity for improvement
 - b. Mortality without opportunity for improvement
4. A summary of cases with variations not referred to the committee.
5. A description of committee discussion of cases not requiring action, with an explanation for each decision.
6. Any action taken to resolve problems or improve patient care and outcomes.
7. Evidence that the committee evaluated the effectiveness of any action taken to resolve problems or improve patient care and outcomes.

- I. The trauma service shall maintain a hospital trauma registry.
 - A. The trauma registry needs to be concurrent, meaning at minimum 80% of patient records are finished within 60 days of patient discharge date.
 - B. At a minimum, the collected data will include current NTDS inclusion criteria and data element definitions, and will need to be submitted to TQP Data Center in accordance with the most recent call for data
 - C.

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- J. All trauma centers must have a written data quality plan and demonstrate compliance with that plan. At minimum, the plan must require quarterly review of data quality
- K. In all trauma centers, the trauma registry must be concurrent, defined as having a minimum of 80% of patient records completed within 60 days of the patient discharge date
- L. In all trauma centers, the trauma PIPS program must be independent of the hospital or departmental PI program, but it must report to the hospital or departmental PI program
- M. All trauma centers must have a written PIPS plan that:
 - 1. Outlines the organizational structure of the trauma PIPS process, with a clearly defined relationship to the hospital PI program
 - 2. Specifies the processes for event identification. As an example, these events may be brought forth by a variety of sources, including but not limited to: individual personnel reporting, morning report or daily signout, case obstruction, registry surveillance, use of clinical guideline variances, patient relations, or risk management. The scope for event review must extend from prehospital care to hospital discharge
 - 3. Includes a list of audit filters as listed by the ACS...and includes a plan to monitor and report out trends identified, ~~event review, and report review that must include, at minimum, those listed in the resources section of the Optimal Care of the Injured Patient~~
 - 4. Defines levels of review (primary, secondary, tertiary, and/or quaternary), with a listing for each level that clarifies:
 - a. Which cases are to be reviewed
 - b. Who performs the review
 - c. When cases can be closed or must be advanced to the next level
 - 5. Specifies the members and responsibilities of the Trauma Peer Review Committee. ~~trauma multidisciplinary PIPS committee~~
 - 6. Outlines an annual process for identification of priority areas for PI, based on audit filters, ~~event reviews, and benchmarking reports~~
- N. All trauma centers must have documented evidence of event identification; effective use of audit filters; demonstrated loop closure; attempts at corrective actions; and strategies for sustained improvement measured over time (Refer to American College of Surgeons Optimal Care of the Injured Patient Document for examples of audit filters, event, or reports to review)
- O. All trauma centers must participate in a risk-adjusted benchmarking program and use the results to determine whether there are opportunities for improvement in patient care and registry data quality
- P. The trauma service shall have written evidence on file indicating the governing body's commitment to the trauma quality improvement program. This evidence shall include the following:
 - 1. The trauma program must have a trauma medical director with the authority and administrative support to implement changes related to the process of care and outcomes across multiple specialty departments. The administrative support commitment must assure that the defined lines of authority guarantee comprehensive evaluation of all aspects of trauma care.

Q. The trauma service shall have written evidence on file indicating an active and effective trauma quality improvement program. This evidence shall include procedures and mechanisms for at least the following:

1. Population of cases for review -- The trauma medical director and trauma program manager shall review all trauma patient records from the following categories:

- a. All trauma alert cases admitted to the hospital (patients identified by the state trauma scorecard criteria in Rules 64J-2.004 and 64J-2.005, Florida Administrative Code).
- b. Critical or intensive care unit admissions for traumatic injury.
- c. All operating room admissions for traumatic injury (excluding same day discharges or isolated, non-life threatening orthopedic injuries).
- d. Any critical trauma transfer into or out of the hospital.
- e. All in-hospital traumatic deaths, including deaths in the trauma resuscitation area.
- f. In all trauma centers, all cases of trauma related mortality and transferred to hospice must be reviewed and classified for potential opportunities for improvement
- g. In all trauma centers, all nonsurgical trauma admissions must be reviewed by the trauma program
- h. In all trauma centers, all instances of diversion must be reviewed by the trauma operations committee

2. Evaluation of cases -- The trauma medical director or trauma program manager shall evaluate each case identified by one of the indicators in ~~Standard XVIII.B.2.a and b~~ to determine whether the case should be referred to the Trauma Peer Review Committee ~~TQM committee~~ for further review. (The trauma medical director and the trauma program manager shall also present a summary of reviewed cases not referred to the Trauma Peer Review Committee ~~TQM committee~~.)

3. Committee discussion and action -- The members of the Trauma Peer Review Committee ~~TQM committee~~ shall review and discuss each case referred by the trauma medical director or trauma program manager. The members shall recommend or take action on those cases where the committee finds opportunities for improving performance, system process, or outcomes. (The trauma medical director is responsible for monitoring the outcome of each case referred to persons or committees outside the Trauma Peer Review Committee ~~TQM committee~~. The medical director is also responsible for providing a comprehensive report to the Trauma Peer Review Committee ~~TQM committee~~ regarding those referrals.)

4. Resolution and follow-up -- The Trauma Peer Review Committee ~~TQM committee~~ shall evaluate and document the effectiveness of action taken to ensure problem resolution, improvements in patient care, or improved patient outcomes.

- R. ~~The TQM committee~~ Trauma Peer Review Committee shall meet a minimum of 10 times per year to review trauma cases referred by the trauma medical director or trauma program manager, including cases identified by the indicators listed in ~~XVIII.B.2.a and b~~ and other cases with quality of care concerns, systems issues, morbidity, or mortality.

All trauma centers must meet, at minimum, the following Trauma Peer Review Committee ~~trauma multidisciplinary PIPS committee~~ meeting attendance thresholds:

1. 60% of meetings for the Trauma Medical Director (cannot be delegated to the associate Trauma Medical Director)
2. 50% of meetings for each trauma surgeon
3. 50% of meetings for the liaisons (or one predetermined alternate) from emergency medicine, neurosurgery, orthopedic surgery, critical care medicine, anesthesia, and radiology

- a. Combined adult and pediatric trauma centers must have 50% attendance by representative (Trauma Medical Director or one predetermined alternative) from the other program; this representative is responsible for disseminating information to panel members of the other program

4. ~~Systems~~~~The trauma quality management committee shall be composed of at least the following persons: **add 50% attendance for all listed below.~~

5. ~~Trauma medical director (as chairperson).~~

6. ~~Trauma program manager.~~

7. ~~Medical director of emergency department or emergency physician designee.~~

8. ~~Trauma surgeon, other than the trauma medical director.~~

9. ~~Anesthesia liaison~~

10. ~~Radiology liaison~~

11. ~~Neurosurgeon~~

12. ~~Orthopedic~~

13. ~~Pediatric physician (if caring for pediatric patients)~~

- a. ~~Pediatric surgeon or pediatric critical care preferred~~

14. ~~Representative from administration.~~

15. ~~Operating room nursing director or designee.~~

16. ~~Emergency department nursing director or designee.~~

17. ~~Intensive care unit nursing director or designee.~~

- S. The trauma service shall maintain written minutes of all ~~TQM~~ Trauma Peer Review committee meetings for at least three years. The trauma service shall have these minutes available for the Department of Health to review upon request. The minutes shall include at a minimum the following:

1. The names of attendees.

(1) The subject matter discussed, including an analysis of all issues

related to each case referred by the trauma medical director or the trauma program manager, cases involving morbidity or mortality, , and cases with other quality of care concerns for OFI.

- Deaths must be categorized as:
 - Mortality with opportunity for improvement
 - Mortality without opportunity for improvement

2. A summary of cases with variations not referred to the committee.
3. A description of committee discussion of cases not requiring action, with an explanation for each decision.
4. Any action taken to resolve problems or improve patient care and outcomes.
5. Evidence that the committee evaluated the effectiveness of any action taken to resolve problems or improve patient care and outcomes.

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- T. The trauma service shall maintain an in-hospital trauma registry. Data must be collected in compliance with the NTDS inclusion criteria and data element definitions, and must have been submitted to the TQP Data Center in the most recent call for data.
- U. All trauma centers must participate in a risk-adjusted benchmarking program and use the results to determine whether there are OFI in patient care and registry data quality.

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STANDARD XIX -- TRAUMA RESEARCH

INTRODUCTION: One of the major responsibilities of a trauma center is to continually expand the body of knowledge in the field of trauma through clinical and basic research programs. It is incumbent on the full-time staff of the trauma center to apply this newly acquired knowledge to the treatment of the injured patient and to disseminate the knowledge throughout the medical community.

- A. Level I and pediatric trauma centers must demonstrate the following scholarly activities during the verification cycle:
1. At least 10 trauma related research articles
 - a. Fulfillment of the research requirement must also meet the following criteria:
 - At least three articles must be authored by adult/pediatric trauma surgeons
 - Research must include activities performed at the trauma center
 - Case series publications can be counted if they include more than five patients.
 - Basic science research must involve pathophysiology of injury
 - At least three articles must be authored from disciplines other than general/pediatric surgery
 - All articles must be published or accepted for publication in peer-reviewed and indexed journals
 - Trauma center must meet accepted authorship requirements of the International Committee of Medical Journal Editors for all publications
 - One paper from acute care surgery may be included
 2. The trauma center must participate as a visiting professor, invited lecture, or speaker at a regional, national, or international trauma conference
 3. Mentorship of residents and fellows, as evidenced by the development of a trauma fellowship program or successful matriculation of graduating residents into trauma fellowship programs.
 4. Support of residents or fellows in any of the following scholarly activities:
 - a. Laboratory experiences
 - b. Clinical trials
 - c. Resident trauma paper competitions at the state, regional, or national level
 - d. Other resident trauma research presentations
 4. Leadership in major trauma organizations. There must be evidence of this leadership for a Level I organization. Evidence includes membership in trauma committees of any of the regional and national trauma organizations such as the American Association for the Surgery of Trauma (AAST), Western Trauma Association, Eastern Association for the Surgery of Trauma, and the ACS Committee on Trauma.

5. Peer-reviewed funding for trauma research. There should be demonstrated evidence of funding of the center from a recognized government or private agency or organization.

6. Evidence of dissemination of knowledge to include review articles, book chapters, technical documents, Web-based publications, editorial comments, training manuals, and trauma-related course material.

- N. The trauma service shall conduct ongoing clinical and research programs in trauma patient care and a Level I trauma center program must have:
- O. The institution will have a designated trauma research director and demonstrate current involvement in and commitment to research in adult and/or pediatric trauma care.
- P. Methods of demonstrating the trauma center involvement and commitment may include, but not be limited to, the following:
1. Commitment of resources
 2. Outcome, mechanism, or process-related studies
 3. Regular meetings of research group
 4. Funded studies
 5. Effort (publications in peer review journal or regional or national presentation)
 6. Multidisciplinary studies
 7. Concluded studies
 8. Proposals reviewed by Institutional Review Board
- B.
- C.
- D.
- E.
- F.
- G. Level I and pediatric trauma centers must demonstrate the following scholarly activities during the verification cycle:
1. At least 10 trauma related research articles
 - a. Fulfillment of the research requirement must also meet the following criteria:
 - At least three articles must be authored by general/pediatric trauma surgeons
 - Research activity must be performed at the trauma center
 - If case series are to be counted, they must include more than five patients
 - Basic science research must involve topics directly related to

the pathophysiology of injury

- At least three articles must be from disciplines other than general/pediatric surgery
- All articles must be published or accepted for publication in peer-reviewed and indexed journals
- Authors from the trauma center must meet accepted authorship requirements of the International Committee of Medical Journal Editors
- One paper from acute care surgery may be included

2. Participation by at least one trauma program faculty member as a visiting professor, invited lecture, or speaker at a regional, national, or international trauma conference
3. Support of residents or fellows in any of the following scholarly activities:
 - a. Laboratory experiences
 - b. Clinical trials
 - c. Resident trauma paper competitions at the state, regional, or national level
 - d. Other resident trauma research presentations

H. The trauma service shall conduct ongoing clinical and research programs in trauma patient care and a Level I trauma center program must have:

1. Of the 7 following trauma related scholarly activities, 4 must be demonstrated:
 - a. Leadership in major trauma organizations. There must be evidence of this leadership for a Level I organization. Evidence includes membership in trauma committees of any of the regional and national trauma organizations such as the American Association for the Surgery of Trauma (AAST), Western Trauma Association, Eastern Association for the Surgery of Trauma, and the ACS Committee on Trauma.
 - b. Peer-reviewed funding for trauma research. There should be demonstrated evidence of funding of the center from a recognized government or private agency or organization.
 - c. Evidence of dissemination of knowledge to include review articles, book chapters, technical documents, Web-based publications, editorial comments, training manuals, and trauma-related course material.
 - d. Display of scholarly application of knowledge as evidenced by case reports or reports of clinical series in journals included in MEDLINE.
 - e. Participation as a visiting professor or invited lecturer at national or regional trauma conferences.
 - f. Support of resident participation in institution-focused scholarly activity, including laboratory experiences, clinical trials, or resident trauma paper competitions at the state, regional, or national level.
 - g. Mentorship of residents and fellows, as evidenced by the development of a trauma fellowship program or successful matriculation of graduating

residents into trauma fellowship programs.

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- I. The institution will have a designated trauma research director and demonstrate current involvement in and commitment to research in adult and/or pediatric trauma care.
- J. Methods of demonstrating the trauma center involvement and commitment may include, but not be limited to, the following:
 - 1. Commitment of resources
 - 2. Outcome, mechanism, or process-related studies
 - 3. Regular meetings of research group
 - 4. Funded studies
 - 5. Effort (publications in peer review journal or regional or national presentation)
 - 6. Multidisciplinary studies
 - 7. Concluded studies
 - 8. Proposals reviewed by Institutional Review Board

STANDARD XX – DISASTER PLANNING AND MANAGEMENT

- A. The trauma center shall meet the disaster related requirements pursuant to s. 395.1055(1) c, F.S., and the Agency for Health Care Administration, Comprehensive Emergency Management Plan, Chapter 59A-3.078, Florida Administrative Code, and Joint Commission on the Accreditation of Healthcare Organizations' Standards.
 - B. To ensure a strong surgical response in the event of a disaster, it is imperative to integrate all trauma programs into the hospital's disaster plan.
 - 1. The hospital's disaster committee must include a trauma surgeon from the trauma panel. This surgeon should be responsible for producing a surgical response strategy for mass casualty events.
 - a. This surgical response strategy should encompass essential elements such as identifying critical personnel, establishing communication methods, conducting initial surgical triage (including subspecialty triage when applicable), and coordinating secondary procedures.
 - C. The trauma program should actively participate in hospital drills or disaster plan activations each year. These drills and activations should involve a trauma response and be designed to enhance the hospital's preparedness for mass casualty events.
-
- ~~C. All trauma programs must be integrated into the hospital's disaster plan to ensure a robust surgical response~~
 - ~~1. A trauma surgeon from the trauma panel must be included as a member of the hospital's disaster committee and be responsible for the development of a surgical response to a mass casualty event~~
 - ~~2. This surgical response it must outline the critical personnel, means of contact, initial surgical triage (including subspecialty triage when appropriate), and coordination of secondary procedures~~
 - ~~3. The trauma program is participating to hospital drills or disaster plan activations per year that include a trauma response and are designed to refine the hospital's response~~

to mass casualty events

- ~~D. To ensure a strong surgical response in the event of a disaster, it is imperative to integrate all trauma programs into the hospital's disaster plan.~~
 - ~~1. The hospital's disaster committee must include a trauma surgeon from the trauma panel. This surgeon should be responsible for producing a surgical response strategy for mass casualty events.~~
 - ~~a. This surgical response strategy should encompass essential elements such as identifying critical personnel, establishing communication methods, conducting initial surgical triage (including subspecialty triage when applicable), and coordinating secondary procedures.~~
 - ~~3. The trauma program should actively participate in hospital drills or disaster plan activations each year. These drills and activations should involve a trauma response and be designed to enhance the hospital's preparedness for mass casualty events.~~
 - ~~1. Level I trauma centers must also include an orthopedic surgeon from the orthopedic trauma call panel as a member of the hospital's disaster committee~~
- ~~E. In level I and II adult and pediatric trauma centers, the trauma surgeon liaison to the disaster committee must successfully complete the Disaster Management and Emergency Preparedness (DMEP) course at least once~~

NOTES

#1 The time frame for implementing Trauma Center Standards, Department of Health Pamphlet 150-9, January 2008, will be January 1, 2009.

For the purpose of this document, the one-year time frame mentioned in the standards is a calendar year beginning January 1 and ending December 31.

For hospitals earning provisional status on May 1, reduce the one-year time frame for that year to six months and reduce the number of required cases, CMEs, or contact hours by 50 percent.

For trauma centers, reduce the number of cases, CMEs, or contact hours in proportion to the date of staff assignment or appointment, for example:

- Staff employed or assigned on or after October 1 -- 25 percent of requirement.
- Staff employed or assigned on or after July 1 -- 50 percent of requirement.
- Staff employed or assigned on or after April 1 -- 75 percent of requirement.
- Staff employed or assigned before April 1 -- 100 percent of requirement.

#2 A trauma surgeon shall be board certified or a trauma surgeon actively participating in the certification process with a time period set by each specialty board may fill the requirement for pediatric surgery by meeting the following conditions:

- A. The trauma medical director attests in writing that the substitute trauma surgeon has competence in the care of pediatric trauma.
- B. The hospital grants privileges to the trauma surgeon to provide surgical care for the injured child.

#3 Latitude is permitted to each hospital in deciding the types of professional training or course offerings emergency physicians can use to satisfy the requirement of earning five trauma-related CME credits annually. Some conditions, however, do apply in defining the parameters in which the hospital shall operate while making these determinations. These conditions are as follows:

- A. All offerings shall be on specific trauma-related topics.
- B. CME credits earned through attendance at trauma-related training courses offered by professional organizations, for example, ATLS, may be applied against the five-credit requirement.
- C. Credits earned through attendance at an advanced cardiac life support (ACLS) course may **not** be applied against the five-credit requirement.

#4 Blood bank policies and protocols that describe the following shall be in place:

- A. The methods for obtaining additional blood from other sources, for example, a community blood bank or another medical facility, as the need may arise.
- B. The methods for obtaining blood, platelets, and frozen plasma from the blood bank.

#5 If the trauma center utilizes teleradiology capabilities (the transfer of radiological study images via modem to an off-campus computer terminal), a radiologist may take trauma call from the site of the off-campus terminal. The trauma center, however, assumes all responsibility and liability to ensure that computer images evaluated by a radiologist from an off-campus site are of such quality that it will not compromise the trauma patient's outcome by using this system. The radiologist shall arrive promptly at the trauma center when summoned.

#7 Pressure Ulcer Prevention & Treatment

Policy: Patients will be assessed for pressure ulcer risk. Appropriate preventive and treatment measures will be used for patients at risk as per hospital guidelines. Pressure ulcer prevention and treatment requires a multidisciplinary approach. Those involved

may include, but are not limited to, the patient/caregiver, the physician, the nurse, the physical therapist, the dietitian, and/or the wound care nurse.

Purpose: To establish procedures for early detection of patients at risk for the development of pressure ulcers, early identification of patients with existing skin care needs and the development and implementation of strategies to facilitate wound healing.

Definitions:

- A. At-risk patient – Braden score of 18 or less

Guideline: To establish guidelines to implement pressure ulcer prevention strategies for at-risk patients following the standard of care. Adult inpatients with a Braden Score of 18 or less will have the Skin/Low Braden Care Plan implemented by a nurse.

When a patient is assessed at risk for pressure Ulcers (Braden Score of 18 or less), the Skin/Low Braden Score focus of the Interdisciplinary Patient-Centered Plan of Care will be completed for the patient. The pressure ulcer prevention individualized interventions should be implemented for the patient, documented on the nursing flow sheet and continued throughout the hospital stay while the Braden score is 18 or less by Nursing Service Personnel. The patient and/or family will be taught the pressure ulcer prevention strategies, and this education will be documented on the IPER.

References:

Guideline for Prevention and Management of Pressure Ulcers, WOCN Clinical Practice Guideline Series, Wound, Ostomy Continence Nurse's Society, 2003.

Clinical Practice Guidelines, Pressure Ulcers in Adults: Prediction and Prevention. ((AHCPR Publication No. 92-0047, Quick Reference Guide (AHCPR Publication, 92-0048), Rockville MD: Agency for Health Care Policy and Research, Public Health Service, U.S. Department of Health and Human Services, May 1992.

Evidenced-Based Pressure Ulcer Prevention, A Study Guide for Nurses, HCPro, Inc., Marblehead MA, Karen Clay, 2005.

Definitions to Core Procedure:

- I. Pressure Ulcer: A localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with sheer and/or friction. A number of contributing or confounding factors are also associated with pressure ulcers: the significance of these factors is yet to be elucidated.
- II. Pressure Ulcer Staging – Staging is a standardized system where a wound is observed and rated.

- A. Suspected Deep Tissue Injury -Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue. Deep tissue injury may be difficult to detect in individuals with dark skin tones. Evolution may include a thin blister over a dark wound bed. The wound may further evolve and become covered by thin eschar. Evolution may be rapid exposing additional layers of tissue even with optimal treatment.
- B. Stage I: Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area. The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue. Stage I may be difficult to detect in individuals with dark skin tones. May indicate "at risk" persons (a heralding sign of risk).
- C. Stage II: Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister. Presents as a shiny or dry shallow ulcer without slough or bruising.* This stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation. *Bruising indicates suspected deep tissue injury.
- D. Stage III: Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or muscle is not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling. The depth of a stage III pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and stage III ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep stage III pressure ulcers. Bone/tendon is not visible or directly palpable.
- E. Stage IV: Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunneling. The depth of a stage IV pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these ulcers can be shallow. Stage IV ulcers can extend into muscle and/or supporting structures (e.g., fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.
- F. Unstageable: Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed. Until enough slough and/or eschar is removed to expose the base of

the wound, the true depth, and therefore stage, cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as "the body's natural (biological) cover" and should not be removed.

Note - Staging of Pressure Ulcers is only one dimension of pressure ulcer assessment and documentation. There is recognition of staging process limitations, which includes; Assessment of Stage I pressure ulcers could be difficult in-patients with darkly pigmented skin. When eschar is present, accurate staging of the pressure ulcer is not possible until the eschar has sloughed or the wound has been debrided.

III. Braden Scale - A validated risk assessment tool utilized to identify patients ages six and over who are at risk. Patients with a Braden Score of 18 or less will be considered at risk. Exception: this tool is not recommended for psychiatric or obstetric patients (See Appendix B).

IV. Pressure Ulcer Goals

A. Patient care goals as related to prevention and treatment of pressure ulcers should include:

1. Identifying individuals at risk for developing pressure ulcers and initiating early prevention programs.
2. Implement appropriate strategies to: attain and maintain intact skin, prevent complications, promptly identify or manage complications, and involve patients and caregivers in self-management.
3. Institute measures that maintain and improve tissue tolerance to pressure in order to prevent injury.
4. Establish interventions in an effort to protect the patients against adverse effects of external mechanical forces, such as pressure, friction, and shear.
5. Educate staff on strategic initiatives, and competencies which include, but are not limited to, assessment, distinguishing pressure ulcers from other wound or skin disorders, developing a plan of care with the multi-disciplinary team, knowledge and skill in wound care, identification of systemic factors that influence ulcer healing, monitoring pressure ulcer healing using a valid measuring method and documentation of assessments and intervention strategies.
6. Educate patients, and caregivers related to pressure ulcer prevention and treatment.

7. Implement effective strategies that prevent and treat pressure ulcers.
- B. Quality indicators initiatives shall be utilized to measure the effects of implemented strategies.
- C. Clinical Practice guidelines for the treatment of pressure ulcers shall be consistent with the recommendations from the Agency for Health Care Research and Quality and the Wound Ostomy and Continence Nurses Society to ensure evidence based practice.

Core Procedure:

I. Pressure Ulcer Prevention

Identify at-risk individuals needing preventive strategies and the specific factors placing them at risk for pressure ulcer development. If the patient refuses assessment, the nurse should document the refusal in the medical record.

- A. Patient's skin is to be assessed during the admission assessment process. The Braden Scale, and the assessment shall be documented in the medical record.
 1. A Braden score identifying a patient at risk should trigger initiation of pressure ulcer prevention strategies. These strategies may include, but are not limited to:
 - a. Repositioning in bed or in chair/wheelchair;
 - b. Floating the heels;
 - c. Utilization of positioning and or pressure reducing devices;
 - d. Appropriate bed surfaces
 2. A Braden score identifying a patient at high risk for pressure ulcer development may trigger referrals/consults for assessment, planning, and interventions as indicated.
- B. Patients identified with impaired ability to reposition himself/herself should be assessed for additional factors placing them at risk for the development of pressure ulcers to include, but are not limited to: immobility, incontinence, nutritional factors, and altered level of consciousness.
- C. Patients should have a daily systematic skin assessment, to include attention to bony prominences.
- D. Reassessment of skin integrity should be done following transfer

to another clinical unit, procedures requiring prolonged restriction of movement, and at discharge.

- E. Appropriate interventions should be implemented to assist in maintaining clean and dry skin. Utilize a mild cleansing agent that minimizes irritation and dryness of the skin. Minimize the force and friction applied to the skin at the time of cleansing. Avoid massaging bony prominences. Interventions may include, as appropriate use of moisturizers or protective barriers.
- F. Utilize proper positioning, transferring, and turning techniques in an effort to prevent skin injury due to friction and shear forces. Maintain the head of the bed at the lowest degree of elevation consistent with medical conditions and other restrictions. Utilize lifting devices to move individuals in bed who cannot assist during transfers and position changes.
- G. Maintain or improve current activity level, mobility, and range of motion. Consider obtaining a consult for rehabilitative services as appropriate.
- H. Educate patient and/or caregiver about the risk factors and causes for pressure ulcer development and how to minimize risks. Instructions should include:
 - 1. Regularly inspect skin over bony prominences;
 - 2. Follow appropriate skin-care regimens;
 - 3. Utilize measures to minimize friction/shear;
 - 4. Avoid vigorous massage over bony prominences or reddened areas;
 - 5. Routine turning, repositioning, and the use of pressure-reducing devices if patient's unable to reposition self;
 - 6. Avoid use of donut-type devices;
 - 7. Maintain adequate nutrition and fluid intake and monitor for weight loss, poor appetite, or gastrointestinal changes that interfere with eating; and
 - 8. Promptly report healthcare changes and nutritional problems to healthcare provider.
- I. Documentation should include, but not be limited to:
 - 1. The admission assessment;
 - 2. The plan of care;

3. Interventions, including activity, repositioning, pressure reducing devices, etc.;
 4. All reassessment of patients; and
 5. Wound stage, if applicable, at a minimum on admission and at discharge.
 6. Patient refusal of any assessments and/or interventions.
- J. In the case of patient refusal of assessments and/or interventions, continued efforts will occur. Collaboration with other members of the interdisciplinary team and/or family may be necessary.

II. Pressure Ulcer Treatment

Implement wound management strategies to optimize the healing potential.

A. Assess the wound:

1. Stage the wound following the National Pressure Ulcer Advisory Panel Staging System; identify location of pressure ulcer;
2. Describe tissue type an/or pressure ulcer bed (granulation, necrotic, eschar, and or epithelial);
3. Measure the size including length, width, and depth;
4. Note presence, location and depth of undermining, sinus tracts or tunneling, if applicable; describe exudate/drainage (amount, type, character, odor), if applicable;
5. Note presence of any signs/symptoms of infection (erythema, induration, crepitation) describe wound edges (open or closed), if applicable;
6. Assess periwound skin (tissue around the wound); e.g., maceration, excoriation.

Document assessment findings in the medical record.

- B. A physician's order will be obtained to implement protocols or guidelines for wound cleansing, wound management, wound dressings and management of pain associated with the wound. Refer to Appendix A for Pressure Ulcer Treatment Guidelines; however, treatment is not limited to Appendix A, as each patient's plan of care is individualized.

1. Etiology of pressure ulcer;
2. Staging;
3. Principles of wound healing;
4. Nutritional support;
5. Program of skin care and skin inspection;
6. Program for bowel and bladder management;
7. Appropriate wound care – cleansing, dressing application;
8. Positioning and use of support surfaces; and
9. Monitoring of treatment interventions and healing.

C. Follow all steps delineated for Pressure Ulcer Prevention.

References:

Clinical Practice Guidelines – Pressure Ulcer in Adults: Prediction and Prevention, (AHCPR Publication NO. 92-0047), Quick Reference Guide (AHCPR Publication, 92-0048), Rockville, MD: Agency for Health Care Policy and Research, Public Health Service, U.S. Department of Health and Human Services, May, 1992.

Clinical Practice Guidelines, Treatment of Pressure Ulcers, (AHCPR Publication NO. 95-0652) U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, Rockville, MD, Dec, 1994.

Guidelines for Prevention and Management of Pressure Ulcers, WOCN Clinical Practice Guideline Series, (Wound Ostomy Continence Nurses Society) Clinical Practice Guidelines, 2003.

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<http://www.npuap.org/pr2.htm> Accessed, 10/28/07.

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