

Standards of Accreditation ADULT LEVEL IV

Rev. 10.01.2022

p e n n s y l v a n i a
**TRAUMA
SYSTEMS**
f o u n d a t i o n



Celebrating the PAST.
Advancing the FUTURE.

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Preface

Established by legislation in 1985, Pennsylvania Trauma Systems Foundation (PTSF) serves as the accrediting body for trauma centers, and creates Standards of Accreditation that mandate how hospitals must function in order to be recognized as accredited trauma centers in the Commonwealth of Pennsylvania. State legislation directs with few exceptions, that at a minimum the PTSF Standards must comply with the current American College of Surgeons Committee on Trauma (ACS-COT) guidelines for trauma centers also known as “Resources for the Optimal Care of the Injured Patient.”

There have been multiple revisions of the ACS document, with the most recent being: “Resources for the Optimal Care of the Injured Patient: 2014,” also referred to as the “Orange Book.” The 2014 Orange Book focuses on the abiding principle that trauma systems are centric to patient safety and optimal outcomes. This includes the spectrum of care from injury-prevention through rehabilitation. Beginning with the 2014 Orange Book publication, the ACS instituted a “living document” philosophy, allowing for more timely updates and changes to the core content.

The Pennsylvania Standards of Accreditation are divided into separate documents for level I, II and III adult centers, level I and II pediatric centers and level IV adult centers. The task of oversight and maintenance of the PTSF Standards is the function of the PTSF Standards Committee, comprised of representatives from trauma centers and partnering organizations. On-going revisions will continue to be a collaborative process with final approval of all Standards by the PTSF Board of Directors.

It is the goal of the Standards Committee to maintain legally compliant, patient-outcome driven expectations. This aligns with the PTSF mission; “Optimal outcomes for every injured patient” and vision; “We are committed to zero preventable deaths from injury in Pennsylvania.” Additional information and resources are located at www.ptsf.org.

- In the event that a hospital needs a temporary or permanent variance from a Standard, please refer to Policy AC-105: Applying for a Variance from a Standard.

Preface

- If at any time, an accredited center experiences an operational change, it must be communicated in a timely fashion. Please refer to Policy AC: 128 Notification Regarding Changes in Trauma Center Operations for Pursuing & Accredited Trauma Centers.
- Questions about the standards should be directed to PTSF staff members at 717-697-5512. Information is also available at www.ptsf.org, located in the Resources section under the Standards of Accreditation tab.

Commitment

1. There will be demonstrated commitment, both personal and institutional, by the institution's Board of Directors, administration, and clinical staff to treat any trauma patient presented to the institution for care.
2. Methods of demonstrating the commitment to the trauma system/center will include but are not limited to:
 - A. A Board and Medical Staff resolution that the institution agrees to meet the Pennsylvania Trauma Systems Foundation (PTSF) Standards for Trauma Center Accreditation.
 - i. This must be reaffirmed every three years.
 - ii. [Example of Board Resolution](#)
 - B. Participation in operations and integration of a statewide system including submission of patient care data to the PTSF for systems management, performance improvement and patient safety (PIPS) and operations research. This includes:
 - i. Support and full participation in the Pennsylvania Trauma Outcome Study (PTOS) as specified by the PTSF.
 - ii. Support and full participation in the Pennsylvania PA V5 Outcomes Central Site Repository as specified by the PTSF. (See Standard 6: PIPS for additional details)
 - iii. Consideration for participation in the National Trauma Data Bank (NTDB) submission process.
 - C. Established policies and procedures for the maintenance of the services essential to a trauma system/center as outlined in the Standards for Trauma Center Accreditation.
 - D. Assurance that all trauma patients will receive medical care commensurate with the level of the Institution's accreditation.
 - E. Commitment of the Institution's financial, human, and physical resources as needed for the trauma program.
 - F. Established priority admission for the trauma patient to the full services of the institution. This will include adequate resuscitation facilities and personnel.
 - G. Established and maintained formal written transfer plans and protocols with other accredited/designated (Level I or II) adult, pediatric and specialty trauma services such as burn and dialysis centers if appropriate.
 - i. These plans must list patient criteria that exceed the capabilities of the trauma center and necessitate transfer.
 - a. [Appendix A: Interfacility Transfer and Consultation Requirements for Level III and IV Trauma Centers](#)
 - b. [Appendix C: Admission Considerations for Level IV Trauma Centers](#)
 - ii. Formal transfer plans must be reviewed internally at least every three years and updated as required by the terms of the plans.
 - a. The TPMD and TPM must be involved in the review of the transfer plans.
 - iii. The responsibility of insuring prompt access for all patients requiring trauma care is a coordinated effort between the higher level trauma center and the Level IV center.
 - iv. Input from higher level trauma centers must be obtained.
 - H. There must be established trauma PIPS procedures to document and review all transfers-out cases.
3. The institution must be licensed by the Pennsylvania Department of Health.
4. The institution will establish, within its organization, a defined trauma program administration team.
 - A. This concept embraces both administrative and physical attributes of the individual trauma center. By this means, successful functioning of the trauma program will be assured and its staffing and direction clearly defined.
 - B. This includes the roles of a trauma program medical director, trauma program manager and a registrar.
 - i. Please see individual standards for additional details.
5. There will be evidence of strong communication links between the institution's administration, TPMD and TPM to coordinate both long and short term goals of the trauma program.
6. The Trauma Program must involve multiple disciplines and transcend normal departmental hierarchies.

Commitment

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| 7. Any care that is provided to trauma patients which exceeds the Level IV standards is required to comply with the Standards of Accreditation applicable to the service and is eligible for review during site survey.
A. Appendix A: Interfacility Transfer and Consultation Requirements for Level III and IV Trauma Centers
B. Appendix C: Admission Considerations for Level IV Trauma Centers |
| 8. It is the responsibility of the TPMD in collaboration with the TPM and in association with the designated subspecialty liaisons to direct the trauma PIPS program and to integrate it into the institutions overall PIPS program.
A. See PIPS Standard for additional details. |
| 9. The Department of Nursing or designated representative of Nursing Leadership for the institution will maintain a formal relationship with the trauma program. |
| 10. The Trauma Program must be actively involved in regional outreach, education and injury prevention. |
| 11. The Trauma Center must show evidence of on-going mentoring, collaboration and education with a Level I or II Trauma Center(s). |
| 12. Trauma Resuscitation Management guidelines must be in place. They must include at a minimum ATLS principles and c-spine clearance. |
| 13. The institution will have a trauma activation policy.
A. This policy must be reviewed annually at a minimum.
B. This policy must include adequate personnel and defined role expectations as defined by the trauma program.
C. The highest level of trauma activation requires the response of the full team within thirty (30) minutes of the arrival of the patient.
i. The Emergency Physician or Advanced Practitioner will be at the resuscitation area on patient arrival. The maximum acceptable response time is 15 (fifteen) minutes, tracked from patient arrival.
a. Compliance of providers presence at least 80% of the time must be maintained and monitored.
D. If the trauma center has other levels of activations the response time expectations for each level and non-activation trauma patients (such as trauma consults in the ED) must be defined by the trauma program. |
| 14. For centers whereby the highest-level activation is direct transport to the OR, the second highest activation would apply to the activation criteria. |
| 15. The following criteria at a minimum must be included in the institutions activation criteria for highest level trauma alerts for patients with mechanism of injury attributed to trauma:
A. GCS <9 or GCS Motor <= 5 in motor (does not follow commands)
B. GCS deteriorating by 2 or more points
C. Intubated patients transferred from the scene
D. Penetrating injury to the head, neck, chest, abdomen or extremity proximal to the elbow or knee
E. Respiratory compromise:
i. In need of an emergent airway
ii. Intubated patients transferred from another facility with ongoing respiratory compromise (excluding transfer in intubated patients who are now stable from a respiratory standpoint)
F. Systolic blood pressure <90 at any time in a patient over 10 years of age
i. Systolic blood pressure <70 + (2x age in years) at any time in a patient age 10 or less
G. Transfer patient from another hospital receiving blood to maintain hemodynamic stability
H. Emergency Physician discretion |

Commitment

16. The following criteria should be considered for inclusion in the institution's trauma activation criteria at some level, for patients with mechanism attributed to trauma:
- A. Amputation proximal to wrist or ankle
 - B. Anticoagulants or Bleeding Disorders
 - C. Automobile Crash- High Risk:
 - i. Death in same passenger compartment
 - ii. Ejection (partial or complete)
 - iii. Passenger with compartment intrusion, including roof, of >12 inches on occupant side or >18 inches any site
 - D. Automobile vs Pedestrian/Bicyclist thrown, run over or with significant (>20 mph) impact
 - E. Chest wall instability or deformity (flail chest)
 - F. Crushed, degloved, mangled or pulseless extremity
 - G. Falls
 - i. Adults: >20 feet (one story is equal to 10 feet)
 - ii. Pediatrics: >10 feet or 2-3 times the height of the child
 - H. GCS \leq 13
 - I. Motorcycle crash >20 mph
 - J. Paralysis (spinal cord injury)
 - K. Partial or Full Thickness Burns \geq 20% Total Body Surface Area (TBSA) – if not a designated Burn Center.
 - L. Pelvic fractures
 - M. Pregnancy >20 weeks
 - N. Skull Fracture (open or depressed)
 - O. Tourniquet utilization
 - P. Two or more proximal long-bone fracture (humerus or femur)

17. Trauma Activation Criteria reference: CDC Guidelines for Field Triage of Injured Patients:
<http://www.cdc.gov/mmwr/pdf/rr/rr6101.pdf>

Table 1 Hospital Commitment

Resolved, that the XYZ Hospital Board of Directors (or other administrative governing authority) approves the establishment of a Level __ trauma center (or "applies for verification or reverification of a Level __ trauma center"). The Board commits to maintain the high standards needed to provide optimal care of all trauma patients. The multidisciplinary trauma performance improvement program has the authority to evaluate care across disciplines, identify opportunities for improvement, and implement corrective actions.

Medical Staff Support

Resolved, that the Medical Staff or Executive Committee of XYZ Hospital (or other governing body of the medical staff) supports the establishment of a Level __ trauma center (or "supports verification or reverification of a Level __ trauma center"). This statement acknowledges the commitment to provide specialty care as required to support optimal care of trauma patients. The multidisciplinary trauma performance improvement program has the authority to evaluate care across disciplines, identify opportunities for improvement, and implement corrective actions.

Physician Liaison Commitment

Resolved, that XYZ liaison and trauma surgeons acknowledge and commit to the criterion expectations for a Level __ trauma center. This includes but is not limited to credentialing, certification, continuing education, and adequate involvement in performance improvement. The multidisciplinary trauma performance improvement program has the authority to evaluate care across disciplines, identify opportunities for improvement, and implement corrective actions.

Capacity & Ability

1. Trauma Center availability for stabilization and transfer of trauma patients must be maintained on a continuous, 24-hour basis. When the trauma center is unable to provide care:
 - A. A log of event; including time, duration and cause, must be maintained.
 - B. The institution must notify the Public Safety Access Point (PSAP/911) Center within counties they routinely received patients from when going on and when coming off of the event.
 - C. The Trauma PIPS program must evaluate every bypass/diversion event.
 - D. The TPMD must be involved in the development of the bypass/diversion protocol.
 - E. Diversion includes any circumstances where trauma patients who are typically accepted or admitted to the trauma center are not admitted. This includes both diversion of patients from the primary catchment area transported by emergency medical services (EMS), the inability to accept interfacility transfers and the transfer out of patients who would otherwise be admitted under normal circumstances.
2. The trauma center must assess the clinical capabilities of the institution and have a protocol documented plan which explains the types of patients requiring transfer to a higher-level trauma center.
 - A. Transfer guidelines must include:
 - i. Process for the initiation of transfer, including roles and responsibilities of the referring facility and referral center (including responsibilities for requesting transfer and communication).
 - a. Direct contact of the provider with the physician at the receiving hospital is essential.
 - ii. Process for selecting the appropriate facility based on patient injury (i.e. pediatrics, burns, closest higher level facility).
 - iii. Process for selecting the appropriate staffed transport service to match the patient's acuity level.
 - iv. Process for patient transfer including informed consent.
 - v. Plan for transfer of patient medical record and radiology studies.
 - vi. Plan for transfer of copy of signed transport consent.
 - vii. Plan for transfer of patient personal belongings.
 - viii. Plan for provision of directions and referral institutions information to the family.
3. Agreements with EMS agencies must be established to facilitate timely transportation for trauma patients requiring transfer out for all levels of anticipated care.
4. A policy(s) for admission of the trauma patient to the institution must be in place. This must include at a minimum: criteria for admission, most common units admitted to, non-trauma service admissions, and special populations such as pediatrics, burns, geriatrics and obstetrics if applicable.

Capacity & Ability

5. Formal transfer agreements and early transfer consideration is required for the following patients:
 - A. Burns: Patients meeting the American Burn Association Burn Center Referral Criteria
 - i. Partial-thickness burns of greater than 10% of the total body surface area
 - ii. Burns that involve the face, hands, feet, genitalia, perineum, or major joints
 - iii. Third-degree burns in any age group
 - iv. Electrical burns, including lightning injury
 - v. Chemical burns
 - vi. Inhalation injury
 - vii. Burn injury in patients with preexisting medical disorders that could complicate management, prolong recovery, or affect mortality
 - viii. Any patients with burns and concomitant trauma (such as fractures) in which the burn injury poses the greatest risk of morbidity or mortality. In such cases, if the trauma poses the greater immediate risk, the patient's condition may be stabilized initially in a trauma center before transfer to a burn center. Physician judgment will be necessary in such situations and should be in concert with the regional medical control plan and triage protocols.
 - ix. Burned children in hospitals without qualified personnel or equipment for the care of children. Children with burns should be transferred to a burn center verified to treat children. In the absence of a regional pediatric burn center, an adult burn center may serve as a second option for the management of pediatric burns.
 - x. Burn injury in patients who require special social, emotional or rehabilitative intervention.
 - B. Dialysis: Patients requiring hemodialysis capability if not available at the institution.
 - C. Neuro/Spinal Cord/ Spinal Injury: Patients exceeding capabilities.
 - D. Pediatrics: Patients exceeding capabilities.
6. All transfer plans must be reviewed at least one time per survey cycle and per terms of the agreement.
7. The Trauma Center must meet the disaster related requirements of the Joint Commission, regardless if Joint Commission accredited.
 - A. [Joint Commission resources](#)
8. The institution must participate in disaster related planning activities.
 - A. The TPMD or a Physician identified by the TPMD must participate on the hospital's disaster planning committee.
 - B. A formal disaster plan must be in place and include the ability to immediately mobilize qualified nursing resources from inpatient areas for initial multi-resuscitation efforts.
 - C. Hospital drills that test the individual disaster plan must be conducted at least twice per year.
 - D. Actual plan activations may substitute for drills

Trauma Program Medical Director (TPMD)

1. The Trauma Program Medical Director (TPMD) will have a demonstrated interest and commitment in trauma care. The TPMD will:
 - A. Be Board Certified in their field of specialty is desired.
 - B. Maintain ATLS Certification. (Provider Level)
 - C. Be a licensed physician who routinely provides coverage in the emergency department for trauma patients.
 - D. Maintain external trauma related CME of eight (8) hours annually or twenty-four (24) hours over three years.
 - i. Two of those annual hours (6 over three years) must be pediatric related
 - ii. Participation in the STN-TOPIC Course or STN-Rural TOPIC Course within one year of appointment.
2. The TPMD, in conjunction with the hospital's medical governing board or body, and in collaboration with the Trauma Program Manager will have oversight and authority for all trauma patients and administrative authority and responsibility for the trauma program to affect all aspects of trauma care including:
 - A. An organizational chart, depicting the relationship between the TPMD, hospital governance, administration and other services.
 - B. Development and evaluation of treatment protocols including but not limited to:
 - i. Patient / Clinical Management Guidelines
 - ii. Institution Diversion / Bypass Protocols
 - C. Coordination of the Trauma PIPS peer-review process.
 - D. Participating in the budgetary process for the trauma program.
 - E. Determining and validating educational forums and submissions for CME requirements.
 - F. Maintaining an effective working relationship with the Trauma Program Manager.
 - G. Cooperating with nursing administration to support the nursing needs of the trauma program.
 - H. Attendance and participation in local and state trauma related activities.
 - I. Evidence of active participation in the resuscitation and/or surgery of multi-system trauma patients.
 - J. Maintain 75% attendance at the Trauma PIPS:
 - i. Multidisciplinary Peer Review PI Meeting as defined by the hospital.
 - ii. Multidisciplinary Trauma Program Operational Meeting.
3. The TPMD, in conjunction with specialists who actively participate in the resuscitation and inpatient care of trauma patients, will identify representatives from these subspecialties to work with the Trauma Program and formally participate in the PIPS program.
4. The TPMD will have authority, in collaboration with the Chief Medical Officer, Division Chiefs, Department Chairs or designee, to:
 - A. Recommend or remove trauma team privileges:
 - i. This should include the TPMD participating in the annual assessment of the trauma panel providers as indicated by findings of the PIPS process.

Trauma Program Manager (TPM)

1. There will be a Trauma Program Manager (TPM) who is responsible for monitoring, promoting and evaluating all trauma related activities associated with the trauma program in cooperation and conjunction with the TPMD.
 - A. The organization must define the structural role of the TPM to include responsibility, accountability and authority.
2. The TPM must have evidence of an effective working relationship with the TPMD.
3. There must be a job description that defines sufficient authority and clearly outlines the responsibilities of the TPM. Qualifications and activities should include the following:
 - A. Clinical Activities
 - B. Educational Responsibilities
 - C. Performance Improvement
 - D. Leadership and Administrative Ability
 - E. Supervision of the Trauma Registry/Registrars and Performance Improvement Coordinator(s) if applicable
 - F. Consultant and Liaison Activities
4. The TPM must:
 - A. Be a budgeted position with dedicated hours.
 - i. Level IV trauma centers with greater than 500 registry submissions must have at a minimum a 0.5 FTE designated as the trauma program manager.
 - ii. The institution must demonstrate that the dedicated trauma FTE allows for timely and complete attention to the trauma program requirements.
 - B. Be a Registered Nurse
 - C. Have evidence of qualifications including educational preparation, certification and clinical experience in the care of injured patients.
 - D. Attend and maintain a 75% attendance at the Trauma PIPS:
 - i. Multidisciplinary Peer Review PI Meeting
 - ii. Multidisciplinary Trauma Program Operational Meeting
5. The TPM must have evidence of continuing education related to trauma care and the trauma system. This includes:
 - A. Eight (8) hours of trauma-related continuing education annually
 - B. A minimum of 50% of the required educational hours must be external
 - C. Participation in the STN-TOPIC Course or STN-Rural TOPIC Course within one year of appointment.
6. The TPM must attend and/or participate in local and state trauma related activities.
7. The TPM in conjunction with the TPMD is responsible for determining and validating which educational forums are acceptable in fulfilling continuing education requirements.

Registry

1. The institution will maintain a Trauma Registry which will include, at a minimum, all of the data elements included in the Pennsylvania Trauma Outcome Study (PTOS)
 - A. Refer to PTOS Manual found at www.ptsf.org – Trauma Registry – Resources
 - B. Demographic Data
 - C. Pre-hospital Data
 - D. Process of Acute Care
 - E. Clinical Data
 - F. Outcome Data
 - G. Final Anatomical Diagnoses
 - H. Procedure Codes
 - I. Payer Class
 - J. Performance Improvement and Patient Safety Data
 - K. Standard Report Utilization
2. There will be evidence of regular and active interface with the trauma program. The registry must be responsive to the needs of the TPM, TPMD and support the Trauma Program.
3. A clearly identified person will have authority, responsibility and accountability for direction and maintaining the trauma registry and its data submission to the PTSF in a timely manner.
 - A. The trauma registry, at a minimum, must maintain 85% of the cases submitted within 42 days of discharge.
 - i. Refer to TR-110: Timeliness of Submission to the Central Site Policy
 - B. Concurrent data abstraction is recognized as best practice.
4. The Trauma registry will have a staffing plan. This plan must:
 - A. Include a workload analysis for all trauma programs supported that defines the personnel needs necessary to comply with PTOS data submission requirements.
 - B. At a minimum, 1.0 Registrar FTE per every 500-750 trauma contacts, as defined by the institution, per year
 - i. Trauma contacts at a minimum, must equal PTOS volume
5. The Trauma Registry staff will optimally have a core set of skill requirements including: anatomy and physiology, medical terminology, ICD-9/ICD-10 CM Coding, computer competency, database management and/or degree in health related field/allied health.
 - A. Within one year of appointment, the Registrar will complete:
 - i. Basic Trauma Registry Course
 - a. The PTSF Basic Registry Course is available at <https://www.elearningconnex.com/ptsf/>
 - b. ATS Trauma Registrar Course
 - c. Other equivalent courses are acceptable based upon objectives.
 - d. Previous completion of the PTSF Intermediate or Advanced Registrar Course fulfills this requirement.
 - ii. The Association of the Advancement of Automotive Medicine (AAAM)~ Abbreviated Injury Scaling (AIS) Course corresponding to the AIS coding version utilized within the PTOS submission software.
 - a. Registrars must complete an updated AIS Coding Course within 1 year of implementation of a new AIS coding version within PTOS.
6. The Trauma Registrar must have evidence of continuing education related to the trauma registry. This includes:
 - A. Four (4) hours of continuing education per year.
 - i. This requirement can be fulfilled by attendance at PTSF Registry Conferences, internal, external and/or online opportunities.
 - B. Registrars maintaining a Certified Specialist in Trauma Registries (CSTR) certification are not required to maintain continuing education logs.

Registry

7. Trauma Registrar job responsibilities include but are not limited to:
 - A. Committee work
 - B. Database management
 - C. Education
 - D. Interface with outside agencies
 - E. PIPS Participation
 - i. Trauma Registry representation should be maintained at multidisciplinary conferences that deal with the review and analysis of trauma registry data
 - F. Research
 - G. Site Survey Preparation
 - H. Technical Skills
8. There must be a plan for ensuring that the data entered into the trauma registry is accurate and reflects the observations made on the patient. (Inter Rater Reliability)
 - A. This plan must reflect compliance with PTOS Operations Manual and definitions for data entry
 - B. An example of an inter-rater reliability approach is to re-abstract a percentage of patient records
9. Data may be submitted to and in compliance with the National Trauma Data Bank (NTDB). This is not required, but encouraged.
10. The trauma program must ensure that appropriate measures are in place to meet confidentiality requirements of the data.

Performance Improvement & Patient Safety (PIPS) Program

1. The goals of the trauma performance improvement and patient safety (PIPS) program are to:
 - A. Monitor the process and outcome of patient care including adverse and unexpected events.
 - B. Ensure the quality and timely provision of such care.
 - C. Improve the knowledge and skills of trauma care providers.
 - D. Provide the institutional structure and organization to promote performance improvement and patient safety.
2. The PIPS program must be integrated into the institution's overall performance improvement program and reported to the institution's governing body. This includes:
 - A. A clearly defined reporting structure.
 - B. A process for provision of feedback.
 - C. Authority of the TPMD to set qualifications for the trauma service members, including individuals in specialties that are routinely involved in the care of trauma patients.
 - i. The TPMD must have authority to recommend changes for the trauma panel based on the PIPS program. See TPMD Standard.
3. There must be a comprehensive written Performance Improvement Plan that includes:
 - A. Authority and empowerment by the hospital governing body for the TPMD and TPM to lead the PI program and transcend service lines.
 - B. Trauma credentialing requirements.
 - C. Roles and responsibilities for PI.
 - D. Issue identification encompassing all phases of care.
 - i. Process of verification and validation of events:
 - a. Process of retrospective review.
 - b. Process of concurrent review.
 - E. Process of data collection, use of indicators, opportunities for improvement (OFI), occurrences, and audit filters.
 - F. Levels of review, congruent with the TOPIC curriculum, further defined by the PIPS plan:
 - i. Primary: Typically TPM, Trauma PI Coordinator, Registry or designee
 - ii. Secondary: Typically TPM, PI Coordinator and TPMD
 - iii. Tertiary: Typically multidisciplinary forum
 - iv. Quaternary: Typically hospital (high-level) committee, system level or external review
 - G. Analysis including forums and meetings.
 - H. Utilization of PA V5 Outcomes to operationalize PI activities.
 - I. Classification of events: This includes determination of the effects of events based on an institutional defined system such as but not limited to: PA V5 Outcomes Judgment status, taxonomy, expected/unexpected, severity levels or other grading system.
 - i. The use of the taxonomy must be utilized in the classifications of all deaths at a minimum.
 - J. Action plan development, implementation and reevaluation includes problem resolution, improvements of outcomes and/or patient safety (loop closure).
 - K. The process for integrating/incorporating benchmark reports such as TQIP into the PI program.
4. Benchmarking Data is required
 - A. The submission to the PTSF PA V5 Outcomes Central Site Repository is required.
 - i. Effective January 1, 2017, all death cases will be submitted.
 - ii. Cases must be closed and submitted within 90 days of the death date.
 - a. Cases may be updated and resubmitted if additional information is obtained after the initial submission, such as autopsy results. Resubmitted cases do not count against submission requirements.
 - iii. Refer to Policy TO-100: Timeliness of Submission to the Outcomes Central Site Policy
 - B. Submission to the National Trauma Data Bank (NTDB) is encouraged, but not required.
 - C. Participation in the Pennsylvania Trauma Outcome Study (PTOS) is required.

Performance Improvement & Patient Safety (PIPS) Program

5. The PIPS plan must be reviewed annually.
6. The Pennsylvania Outcomes Performance Improvement software (PA V5 Outcomes) must be utilized for all trauma related performance improvement activities.
7. Issues that must be reviewed but are not limited to are:
 - A. System and process issues such as documentation and communication.
 - B. Clinical care, including identification and treatment of immediate life-threatening injuries (ATLS).
 - C. Transfer decisions.
8. There will be adequate trauma program personnel support to ensure evaluation of all aspects of trauma care and fully implement the PIPS plan.
9. There should be a PIPS Coordinator Role who is responsible for monitoring, promoting and evaluating all trauma-related PIPS activities.
 - A. The FTE of this role requirement is based on volume.
 - i. Level IV trauma centers with greater than 500 registry submissions must have at a minimum a 0.5 FTE assigned as the PI Coordinator.
 - a. This may be met by identifying one individual as the PIPS coordinator or by combining other role responsibilities of various staff members who specifically have performance improvement components of their job description, as long as the minimal total FTE equals 0.5.
 - b. If multiple staff members comprise the PI role:
 - One individual must be identified as the PIPS Coordinator/Liaison.
 - Clear job descriptions and delineations of responsibilities must be present.
 - All participants must maintain the standard requirements including specialized educational courses. The total continuing education hours; however, are not compounded. For example if an RN registrar is functioning as a part of the PI role, they must obtain the eight hours of continuing education, the required Registry Courses and TOPIC. They do not need sixteen hours of continuing education.
 - ii. Level IV trauma centers with less than 500 registry submissions may include the PI Coordinator responsibilities within the Trauma Program Manager Job Description.
 - a. Trauma Programs must assure that PI issues are addressed timely and accurately if this is option is utilized.
 - B. This role must be accountable and housed within the organizational structure of the Trauma Program, reporting directly to the TPM if not the TPM his/herself.
 - i. The job description of the PI Coordinator must include: responsibility, accountability and authority.
 - C. Include evidence of qualifications including educational preparation, certification and clinical experience.
 - i. Registered Nurse (RN) licensure.
 - D. Have evidence of continuing education related to trauma care and the trauma system.
 - i. Including Eight (8) hours of trauma-related continuing education per year.
 - ii. Participation in the STN-TOPIC Course or STN-Rural TOPIC Course within one year of appointment.
 - E. Attendance and/or participation in local, regional and state trauma-related activities.
 - F. Maintain 75% attendance at the Trauma PIPS:
 - i. Multidisciplinary Peer Review PI Meeting.
 - ii. Multidisciplinary Trauma Program Operational Meeting
10. Additional PIPS support FTEs including job description/role responsibility assignments should be allocated based upon trauma contact volume.
 - A. Recommend additional 0.5 FTE allocation for every additional 500-750 trauma contacts, as defined by the institution, above 1000.

Performance Improvement & Patient Safety (PIPS) Program

11. In trauma programs utilizing a Trauma Program Performance Improvement Medical Director or Trauma Program Associate Medical Director role, the following components must be maintained. This role is optional and not required.
 - A. Physician with Board Certification/Board Eligibility in specialty field
 - B. A job description which defines roles and responsibilities
 - C. Inclusion in the PIPS plan
 - D. Demonstration of a collaborative working relationship with the TPMD, reflecting the TPMD has ultimate authority over the PIPS process
 - E. Evidence of external trauma related CME of twelve (12) hours annually or thirty-six (36) hours over three years (not exempt from maintaining a CME log)
 - i. Participation in the STN-TOPIC Course or STN-Rural TOPIC Course (or equivalent PI Course) within one year of appointment into this role
 - F. Maintain 75% attendance at the Trauma PIPS:
 - i. Multidisciplinary Peer Review PI Meeting
 - ii. Multidisciplinary Trauma Program Operational Meeting
12. A multidisciplinary forum for (PIPS) Peer review focus is required.
 - A. The following aspects will be addressed and trended: deaths, transfers, morbidities, (PIPS) issues, systems issues, clinical management guideline issues, and provider specific issues- including specific morbidities and mortalities.
 - B. The goal of this meeting is to have robust case discussion among multidisciplinary peers.
 - i. The TPMD, in collaboration with the TPM will have a leadership role.
 - a. The TPMD and TPM and TPIC (if applicable) must maintain 75% attendance.
 - ii. The Subspecialist Liaisons must
 - a. Maintain a minimum of 50% attendance.
 - This attendance benchmark may be met by the liaison and/or a second identified representative of the Subspecialty Group.
 - o If this role is shared, both participants must meet the CME requirements.
 - Fifty percent is the actual attendance rate and does not include excused absences or other reasons for nonattendance.
 - Attendance must be monitored on a continual basis.
 - It is the responsibility of the liaison to communicate critical information to the subspecialty group.
 - iii. At a minimum, this must include: Emergency Medicine and Radiology and then add additional services as identified with participation in the care of the injured patients such as but not limited to Anesthesiology, General Surgery and Orthopedics.
 - a. Advanced Practitioners are to be considered if actively participating in the care of trauma patients.
 - b. In a level IV program where trauma patients are regularly admitted to an in-patient unit, a medical service representative/liaison must participate on this peer-review committee.
 - See Standard 10: Physicians for additional liaison requirements.
 - c. Other members as identified by the trauma program.
 - iv. Peer-review meeting attendance may be waived / pro-rated for military deployment, medical leave and missionary work. The center must provide documentation to support the excused absence. Vacation, patient care, illness and contracted-but not working that month, are not excused absences and may not be prorated. TPMD/Liaison providing a review of the meeting minutes to the absent provider cannot be counted as attendance at the meeting. Per Diem providers, providers rotating from another hospital, and Locum Tenens providers may not have attendance expectations prorated based on amount of call taken.

Performance Improvement & Patient Safety (PIPS) Program

<ul style="list-style-type: none"> C. Meeting minutes and attendance log must be maintained. D. Meeting must be scheduled at regular intervals to assure that the volume of case review can occur in a timely fashion. E. Meeting may be integrated with a hospital-wide quality/safety/performance improvement meeting as long requirements are maintained. F. Attendance may be met through teleconferencing and/or videoconferencing as long as it facilitates active participation.
<p>13. If individual subspecialty services/departments have department and/or hospital based peer or case review meetings in addition to the required trauma PIPS peer-review meeting, those meeting minutes or outcomes must be made available to the PIPS program.</p>
<p>14. A multidisciplinary forum to address trauma program operational issues is required.</p> <ul style="list-style-type: none"> A. The TPMD, in collaboration with the TPM will have a leadership role. <ul style="list-style-type: none"> i. The TPMD and TPM must maintain 75% attendance. ii. In trauma programs utilizing a Trauma Program Performance Improvement Medical Director / Associate Medical Director, 75% attendance must be maintained. B. Attendees should include representatives from all phases of care provided to injured patients, including ancillary personnel, as defined by the PIPS plan. C. The focus must be on system/hospital related operational issues. D. Meeting minutes and attendance log must be maintained. E. This meeting must be scheduled at regular intervals to assure that issue discussion can occur in a timely fashion. F. This meeting may be a division of the multidisciplinary forum for (PIPS) Peer review meeting as described above or hospital PI/Quality meeting.
<p>15. PIPS programs should provide education. This can be accomplished by a periodic trauma case review or didactic conference and should include appropriate disciplines.</p> <ul style="list-style-type: none"> A. CME, CE and IEP's should be linked to the PIPS program.
<p>16. Outside agencies (EMS, first responders, injury prevention, and disaster) and facilities (transferring and ancillary) should be engaged in the PIPS process.</p>
<p>17. Completed pre-hospital and inter-facility patient care records – PCR must be sought, and when available, present for review by the trauma program as part of the PIPS process.</p>
<p>18. Complete anatomical diagnosis of injury is essential to assessment of quality of care. A post-mortem examination report (autopsy) should be sought, and when available, present for review in all trauma related deaths.</p>
<p>19. If the PIPS program identifies a patient occurrence not resolved at discharge, data/ information must be requested to provide loop closure and track patient outcomes.</p>
<p>20. The PIPS program will seek feedback from facilities where patients are transferred to including:</p> <ul style="list-style-type: none"> A. Anatomical diagnosis, including ISS. B. Outcomes. C. Opportunities for improvement.
<p>21. The Trauma Program must develop, utilize and evaluate evidence based clinical practice/patient management guidelines, protocols and algorithms.</p> <ul style="list-style-type: none"> A. Compliance with these guidelines must be monitored by PIPS. B. The required clinical guidelines are listed in Appendix D.
<p>22. To ensure a culture of trust critical to improving overall quality and equitable trauma care across the state of Pennsylvania, PA Trauma centers submitting to the PA V5 Outcomes Central Site, PA TQIP Collaborative and PTOS must comply with confidentiality requirements established by the PTSF.</p> <ul style="list-style-type: none"> A. These references are located on the PTSF web site: Performance Improvement.

Performance Improvement & Patient Safety (PIPS) Program

PIPS Indicators

PI Program must monitor the following at a minimum

- Hospital Event and Audit Filters as defined by PTSF PTOS manual
- Trauma Center volumes
- Categorization of level of activation
- Compliance with Activation Criteria *annually
 - By level of response
- Over/Under triage trended rate *quarterly
 - Utilize Matrix Method at minimum
- Transfer In/Out
 - Appropriateness/Rationale of transfer
 - Timeliness of transfer
 - Follow-up communication
 - Compliance with sending and/or receiving follow-up
 - Outcome review
- Diversion Report
- Timeliness of submission to the PTSF Central Site Portal
- PIPS Meetings attendance
- Mortality
 - By ISS subgroup
 - Dead on Arrival: no resuscitation efforts in ED
 - Died in ED despite resuscitation efforts
 - Died in-hospital
 - Total Mortality Rate
 - Mortality Rate by age distribution
- Screening for substance abuse, brief intervention, and referral for treatment
- Level III and IV: Delays in care due to the unavailability of ED physician (specifically when covering in-house emergencies)
- Response time to trauma activations
 - Level I, II and III: Trauma Surgeon
 - Level IV: Emergency Physician
- Delay in response for emergent assessment
 - Anesthesiology
 - General Surgery
 - Neurosurgery
- Orthopedic Surgery
- Compliance with policies related to timely access to the OR for urgent surgical intervention
 - Operating Room availability
 - Operating Room & PACU: Back-up team response time and utilization
- Unplanned transfer to a higher level of care within the institution
- Delays in response to the ICU for patients with critical needs
- Timeliness of laboratory testing/blood availability
 - Turnaround time for Massive Transfusion Protocol (MTP) activations
- Delay in access to time sensitive diagnostic or therapeutic interventions
 - For example, if responding from outside center: CT, General Radiology, MRI
 - Interventional Radiology

Performance Improvement & Patient Safety (PIPS) Program

- Radiology errors of interpretations or discrepancies between the preliminary and final reports
- Organ donation rate
- Adult Trauma Centers: Pediatric patients (Every)
 - Appropriateness of transfer or admission
 - Timeliness of care
 - Adequacy of care
 - Trauma Centers admitting more than 100 pediatric trauma patients annually requires a pediatric specific PIPS program

*The PI indicators should be monitored according to the level of accreditation.

Matrix Method

A method for calculating overtriage and undertriage rates

	Not Major Trauma	Major Trauma	Total
Highest level activation	A	B	C
Midlevel activation	D	E	F
No activation	G	H	I
Overtriage =	$\frac{A}{C} \times 100$		
Undertriage =	$\frac{(E+H)}{(F+I)} \times 100$		

Performance Improvement & Patient Safety (PIPS) Program

Considerations for Performance Improvement Tracking

The following indicators may be appropriate for the PIPS program to monitor dependent on level of accreditation. This list is not all inclusive.

1. Any Opportunity for Improvement event in Pa V5 Outcomes
2. Resource utilization and cost-effectiveness of the trauma program
3. Registry inter-rater reliability/error rate
4. Practice Management Guideline Compliance
5. Morbidity
6. Autopsy report availability
7. Admissions per surgeon/physician
8. ISS per surgeon/physician
9. Provider specific issues
10. Timeliness of back-up trauma surgeon call responsiveness
11. Subspecialty Call schedules / Back-up call schedules and responsiveness
12. Level III: Appropriateness of neurosurgical care
13. Resident oversight
14. Pre-Hospital compliance with destination protocols
15. ED Length of Stay
16. Incidence of PACU utilization in lieu of ICU recovery
17. Timeliness of response of ICU first responders
18. Incidence of delay in intra-hospital transfer to a higher level of care
19. Level III: All ICU and Step-Down Unit admissions or transfers for appropriateness of admission/care
20. Level IV: All admissions for appropriateness of admission/care
21. Turnaround time for blood component therapy
22. Appropriate patient care team presence and monitoring during transport
23. CT availability issues
24. Incidence of delay to CT
25. Rescan/Reimage due to technical difficulties of opening films from referring facility
26. Pastoral Care: Availability
27. Rehabilitation Services (PMR/PT/OT/ST/Nutrition)
 - a. Timeliness of assessment
28. Social Work/Case Management: Availability and involvement in care
29. Geriatric Specific Indicators including abuse

Performance Improvement & Patient Safety (PIPS) Program

Calculating Multidisciplinary Peer Review Meeting Attendance

Each mandatory participant must maintain minimum attendance requirements. Attendance must be monitored on a continual basis. All scheduled meetings must be included in the calculation of meeting attendance.

$$\frac{\text{\# of meetings attended}}{\text{\# of scheduled meetings}} \times 100 = \% \text{ attendance}$$

Excused absences are limited to military deployment, medical leave, and missionary work, which requires supportive documentation. Absences due to vacation, patient care, and illness are not excused. Providers contracted but not working a particular month are not excused for the month not worked. Per Diem providers, providers rotating from another hospital, and Locum Tenens providers cannot have attendance expectations prorated based on amount of call taken. TPMD/Liaison providing a review of the meeting minutes to the absent provider cannot be counted as attendance at the meeting.

The number of scheduled meetings can be prorated if a participant started or left their position, was appointed, or unappointed as liaison, or had a contract start or end during the calendar year. In these situations, only those meetings after the start date or prior to the end date are included in the number of scheduled meetings.

Examples of how to calculate annual attendance:

1. A Locum Tenens contracted to work January to June is required to attend 3 meetings if there are 6 monthly meetings, even if they only work 1 of the months. If the same Locum Tenens has a 2nd separate contract at the same facility November to December, they would be required to attend 4 meetings of the 8 monthly meetings held during their contracts.
2. Hospital A has 1 Trauma Surgeon on medical leave for 4 months. As a replacement for this Trauma Surgeon, the staffing plan during the 4 months includes utilizing Trauma Surgeons from Hospital B. Each Trauma Surgeon from Hospital B will be required to attend 50% of the meetings at Hospital A, which is 2 of the monthly meetings during the 4-month timeframe.
3. A Health System requires all Trauma Surgeons to be credentialed at every hospital within the system, but each Trauma Surgeon is assigned to 1 Trauma Center. The Trauma Surgeons from Hospital A are not on call for Hospital B, and the staffing plan does not include utilization of Trauma Surgeons from the other Trauma Center. Trauma Surgeons credentialed but not on the primary trauma call roster are not expected to participate in multidisciplinary peer review committee meetings.
4. If Hospital A from example #3 has a change to their staffing plan on May 1st that includes Dr. Smith from Hospital B on the trauma call roster while also remaining on the trauma call roster for Hospital B, Dr. Smith would be expected to participate in 50% of meetings at Hospital A and 50% of meetings at Hospital B. Hospital A will begin tracking Dr. Smith's attendance beginning on his start date on the trauma call roster. Therefore, if both hospitals hold monthly meetings, Dr. Smith would be expected to attend 4 meetings at Hospital A and 6 meetings at Hospital B to meet the Standards.

Continuing Education Programs

1. The trauma PIPS program and registry data should drive and evolve into education.
 - A. This should include age-related clinical competency as determined by the trauma program.
2. There will be formal programs in continuing education provided annually by the institution concerning the treatment of trauma patients of all ages to the following internal audiences:
 - A. Physicians
 - B. Registered Nurses
 - C. Allied Health Personnel
3. Prehospital providers (EMS) must be invited to internal educational opportunities as appropriate.
4. Defined providers may participate in an Internal Educational Program (IEP) to meet the continuing education requirements.
 - A. See Physician and Advanced Practitioner Standards for applicable providers.
 - B. Examples of an IEP may include the following: in-services, case-based learning, educational conferences, grand rounds, internal trauma symposia and in-house publication dissemination of information gained from a local conference or an individual's recent publication (through trained analysis).
 - C. IEP's should include presentations and discussions on a quarterly basis at a minimum.
 - D. The total hours acquired through an IEP should be functionally equivalent to 8 hours of CME annually.
5. The Rural Trauma Team Development Course (RTTDC) is designed for trauma centers in rural / low volume settings and is considered the benchmark for care.
 - A. This course is highly recommended for all Level IV trauma centers pursuing accreditation prior to the first site survey.
 - B. <https://www.facs.org/quality%20programs/trauma/education/rttdc>
6. The TPMD and the TPM have ultimate authority to validate educational forums and submissions for CME requirements. This includes the approval of all contact hours.
7. New providers will have education requirements prorated based on start date/calendar year.

Injury Prevention, Public Education & Outreach

- | |
|--|
| <p>1. The institution will demonstrate a leadership role and engage in trauma prevention programs. These programs must be:</p> <ul style="list-style-type: none"> A. Internal and external to the institution. B. Reflective of the trauma trends identified through the institution's trauma registry and/or community needs. <ul style="list-style-type: none"> i. Implement at a minimum two programs that demonstrate outcomes annually that address one of the major causes of injury in the community as supported by trauma related data. C. May be presented collectively with other institutions and organizations. |
| <p>2. The institute must demonstrate collaboration with, or participation in, national, state or local injury prevention programs.</p> <ul style="list-style-type: none"> A. There must be someone in a leadership position that has injury prevention as a part of his/her job description. |
| <p>3. The institution must provide a means of referral and access to the trauma centers injury prevention and educational resources.</p> |
| <p>4. The Clinical Staff must be familiar with and participate in trauma injury prevention education.</p> |
| <p>5. Trauma Patients must undergo screening for suspected or confirmed abuse. The institution must:</p> <ul style="list-style-type: none"> A. Have a policy/procedure/guideline that defines the abuse screening and management of patients with suspected or confirmed child abuse, elder abuse, intimate partner violence, and sex trafficking. B. Report abuse in compliance with Pennsylvania law and hospital policy/procedure/guideline. |
| <p>6. Providers participating in the care of the injured patients should have access to trauma-informed care training.</p> |
| <p>7. Screening for substance abuse (alcohol and drugs) must be performed and documented for 80% of all injured patients (PTOS) age 12 and greater with a hospital stay greater than 24 hours.</p> <ul style="list-style-type: none"> A. The best practice for the Screening, Brief Intervention and Referral for Treatment (SBIRT) process is for all patients to be screened, regardless of length of stay. B. 80% of patients who have screened positive must receive a brief intervention by appropriately trained staff, and this intervention must be documented. <ul style="list-style-type: none"> i. At a minimum an intervention must be offered. C. Eligible patients must include at a minimum alive and participatory patients, regardless of trauma team activation level including non-activations, and regardless of admitting service. |
| <p>8. While it is noted that Neurosurgery / Neurosurgical capabilities are not required for a Level IV trauma program, mild Traumatic Brain Injuries are common and often seen and treated.</p> <ul style="list-style-type: none"> A. The clinical management guideline for the mild traumatic brain injured (TBI) patient must be developed and should include appropriate screening and referral. |
| <p>9. The institution should have a plan to evaluate, support and provide services for Post-Traumatic Stress Disorder (PTSD).</p> <ul style="list-style-type: none"> B. ACS Diagnostic Criteria and Questionnaire example |
| <p>10. The institution should be involved in the Stop the Bleed initiative.</p> |

Injury Prevention, Public Education & Outreach

Table 1 Key Elements of an Effective Injury Prevention Program

- **Target the community:** Identify the primary causes of injury and death.
- **Work upstream:** Identify the root causes of injury and its contributing factors.
- **Choose preexisting proved or promising programs:** Understand that new program development, assessment, and implementation are complex and time-consuming.
- **Always partner with other organizations:** Make use of the fact that other trauma centers, prehospital providers, law enforcement agencies, schools, churches, and other organizations are interested and involved in community injury prevention efforts.
- **Embrace the media:** Learn to speak effectively, be prepared for the many opportunities that will arise, and allow trauma center leaders to become a reliable source of injury prevention information for local print and broadcast media.
- **Be politically savvy:** Realize that elected and appointed leaders can help if the trauma center understands their goals and the ways to work with them to create effective laws promoting prevention.
- **Do not forget the data:** Develop surveillance and monitoring tools to assess not only the available performance indicators of the trauma center's prevention efforts but also the prevention effectiveness.

Table 2 Suggested Recording and Reporting Elements for Trauma Center Prevention Activities

- Targeting of mechanism of injury or root cause of injury
- Date and location(s) of program event(s)
- Trauma center resources
- Personnel hours (paid and volunteered)
- Trauma center expenses
- Community partners and their personnel hours
- Other sources of financial support
- Media exposure
- Elected and appointed officials involved
- Public policy initiatives or legislation
- Number of community members reached with prevention message or service
- Available outcome data related to the prevention activity and its target

Research: Level I Trauma Centers Only

1. Research is not a requirement for Level IV Trauma Programs.

Physicians

Physicians

1. The institution will credential each physician for the appropriate specialty, including trauma care.
 - A. Compliance with these criteria and their appropriateness is essential and must be monitored by the trauma PIPS program.
 - B. When residents are fulfilling standards requirements, they must be fully qualified by the institution, in conjunction with the trauma program, for trauma care by the appropriate specialty.
2. Care of the trauma patient will be limited to those with demonstrated skills, commitment and experience.
 - A. The TPMD, in conjunction with the hospital's medical governing board or body will utilize the trauma PIPS program to determine each individual attending physician's ability to participate on the trauma team.
 - i. This delineation of privileges will include:
 - a. Emergency Medicine
 - b. Anesthesia (If participating in the care of trauma patients. See Physicians/Anesthesia for additional details).
 - c. Any other specialists routinely providing trauma resuscitation or inpatient trauma care.
 - ii. This must occur at least once per site survey cycle.
 - B. Reappointment to the trauma admitting/consulting staff must be coordinated by the TPMD in association with the hospital's medical governing board or body and representatives from specialty services providing resuscitation or inpatient care to trauma patients and based on the following criteria:
 - i. Maintenance of good standing in the primary specialty.
 - ii. Evidence of the required continuing medical education in trauma.
 - a. Physicians who maintain Board Certification/Board Eligibility in their required specialty do not have to maintain additional continuing medical education.
 - Not applicable to the Trauma Program Medical Director
 - Not applicable to Physicians with an Alternate Pathway
 - Not applicable to the Trauma Program Performance Improvement Medical Director / Associate Medical Director
 - b. CME credits obtained by completion of the ATLS course may be counted towards yearly CME requirement.
 - ATLS-Instructor hours may be counted as a maximum of ten (10) CME credits in a rolling three year period.
 - c. Obtaining Board Certification and/or Re-Certification may count as thirty-three (33) hours of continuing education credit for the year that board certification/re-certification occurred.
 - iii. Documentation of attendance at multidisciplinary conferences, morbidity/mortality round and/or institution peer-review conferences that deal with the care of injured patients.
 - iv. Satisfactory performance in managing trauma patients based on performance assessment and outcome analysis.

Physicians

Physicians

EMERGENCY MEDICINE

3. It is the responsibility of the institution to ensure that emergency physicians with demonstrated skills, commitment and experience staff the emergency department. This includes:
 - A. Medical License
 - B. ATLS Certification
 - i. Emergency Physicians board certified in Emergency Medicine must take ATLS at least one time.
 - ii. Emergency Physicians not board certified in Emergency Medicine must continuously maintain ATLS.
 - iii. Recognized boards are those recognized by the American Board of Medical Specialists, The Bureau of Osteopathic Specialists or Boards of Certification of the Royal College of Physicians and Surgeons of Canada.
 - a. Providers with board certification by any other governing board must apply for an alternate pathway per Policy AC-129: Process for Use of Non-Board Certified Physicians: Alternate Pathway
 - C. Recommend ACLS and PALS Certification
 - i. Recommend Emergency Physicians board certified in Emergency Medicine take ACLS and PALS at least one time.
 - ii. Recommend Emergency Physicians not board certified in Emergency Medicine continuously maintain ACLS and PALS.
 - iii. Equivalent courses are acceptable, see the glossary for additional details.
 - D. Evidence of being current in the care of the injured patient.
 - i. Maintain Emergency Medicine Board Certification/Eligibility OR maintain CME as below.
 - a. Acquisition of eight (8) hours of trauma related CME per year or twenty-four (24) hours in three years.
 - b. OR Demonstration of completion of the Trauma Program IEP.
 - See Continuing Education Standard for additional details.
 - E. ALL providers (Physicians / Advanced Practitioners) participating in the resuscitative phase of care must demonstrate capabilities and competency of management of the difficult / rescue airway as defined by the institution.
 - F. In Level IV hospitals where residents are employed as Emergency Department Physicians (aka moonlighters), the following additional qualifications must be met:
 - i. The resident must be actively participating in an Emergency Medicine Residency Program, PGY 3 or 4, at a higher level accredited trauma center.
 - ii. There must be a written plan/policy in place for the resident to have readily available access to a consulting physician if needed. Telephone consultation is acceptable.
 - G. There must be a designated Emergency Department Physician Director with evidence of active participation in daily emergency department administrative duties.
 - H. Published on call schedules must be maintained.
 - I. The initial assessment and resuscitation of the severely injured patient is the responsibility of the Emergency Department Physician.
 - i. A physician must be physically present in the emergency department 24-hours a day except in such instances when he/she must occasionally leave the emergency department for periods not to exceed forty-five (45) minutes to address in-house emergencies.
 - a. Such cases and their frequency must be reviewed in the PIPS program to ensure that this practice does not adversely affect the care of the patients in the Emergency Department.
 - J. The Emergency Physician or Advanced Practitioner will be at the resuscitation area on patient arrival.
 - i. The program must define response times for the Emergency Physician for all activation levels and non-activation trauma patients.
 - a. The maximum acceptable response time to highest level activation is 15 (fifteen) minutes, tracked from patient arrival.
 - b. Non-activation trauma patient response time may be a tiered response time expectation based on triage level (for example, ESI level).
 - c. Compliance with presence within expected response time, at least 80% of the time, must be maintained and monitored.

Physicians

Physicians

EMERGENCY MEDICINE CONTINUED

- K. The Emergency Department Physicians must actively participate in the trauma PIPS program.
- i. If the TPMD is not an Emergency Department Physician, then an Emergency Department Liaison must be identified. The Liaison must:
 - a. Update the subspecialty group on trauma related issues.
 - b. Attend a minimum of 50% of the multidisciplinary trauma peer review meetings.
 - This attendance benchmark may be shared with a second identified Emergency Physician.
 - See PIPS Standard for additional details.

Physicians

ANESTHESIOLOGY

4. It is the responsibility of the institution to define the extent of Anesthesiology services/involvement/participation with the care of the injured patient and then if applicable, ensure Anesthesiologists with a demonstrated skill, commitment and expertise are available for trauma care. This includes:
- A. Published on call schedules must be maintained with 24/7/365 coverage.
 - i. Requirements may be fulfilled by senior anesthesia residents (PGY-4/CA3) or licensed certified nurse anesthetists (CRNA's) who are capable of assessing emergent situations and providing any indicated treatment for trauma patients.
 - a. When anesthesia residents and/or CRNA's are used to fulfill availability requirements, the staff anesthesiology on-call will be notified.
 - b. The staff anesthesiologist may not supervise more than two residents or CRNA's on major trauma cases at one time.
 - c. CRNA's should reference the Advanced Practitioner Standard for continuing education requirements.
 - B. The trauma program must have a policy outlining those conditions requiring emergent response of an anesthesiologist/CRNA outside of the resuscitative and operative phases of care based on patient acuity and must monitor response through the PIPS program.
 - i. The emergent response must be within 30 minutes.
 - C. The Anesthesia Department Physicians must actively participate in the trauma PIPS program.
 - i. An Anesthesia Department Physician Liaison must be identified. The Liaison must:
 - a. Update the subspecialty group on trauma related issues.
 - b. Attend a minimum of 50% of the multidisciplinary trauma peer review meetings.
 - This attendance benchmark may be shared with a second identified Anesthesia Physician or CRNA.
 - See PIPS Standard for additional details.
 - D. Anesthesiology services are not required at Level IV Trauma Centers.
 - i. Level IV Centers with Anesthesiologists participating in any form of injured patient care, including but not limited to the Operating Room and/or trauma activations, are held accountable to the complete anesthesiology standard.

Physicians

Physicians

RADIOLOGY

5. It is the responsibility of the institution to ensure that Radiologists with a demonstrated skill, commitment and expertise, staff the radiology department. This includes:
- A. An attending radiologist capable of diagnostic procedures must be promptly available from inside or outside the trauma center 24-hours a day.
 - i. Tele-radiology is acceptable.
 - ii. The institution will establish protocols defining the role of the radiologist, emergency medicine physicians and other members of the trauma team regarding radiology needs.
 - B. The Radiology Department Physicians must actively participate in the trauma PIPS program.
 - i. A Radiology Department Physician Liaison must be identified. The Liaison must:
 - a. Update the subspecialty group on trauma related issues.
 - b. Attend a minimum of 50% of the multidisciplinary trauma peer review meetings.
 - This attendance benchmark may be shared with a second identified Radiology Physician.
 - See PIPS Standard for additional details.

Physicians

GENERAL SURGERY

6. It is the responsibility of the institution to define the extent of General Surgery involvement/participation in the Trauma Program. The hospital must choose ONE of the following three options:
- A. General Surgery will not participate in the care of the injured patient.
 - i. Level IV Centers with General Surgeons participating in injured patient care must determine the level of involvement and ensure compliance with the entirety of 6B or 6C in the general surgery standard.
 - B. General Surgeons will participate in the care of the injured patient as a trauma service. General Surgeons are considered a trauma service if they meet at least 1 of the following: participate in trauma resuscitations, provide operative interventions (except wound management), and/or participate in trauma related in-patient care as the admitting service. They must at a minimum:
 - i. Maintain ATLS Certification.
 - ii. Have evidence of being current in the care of the injured patient.
 - a. Maintain General Surgery Board Certification/Eligibility OR maintain CME as below.
 - Acquisition of eight (8) hours of trauma related CME per year or twenty-four (24) hours in three years.
 - OR Demonstration of completion of the Trauma Program IEP.
 - o See Continuing Education Standard for additional details.
 - iii. Participation in the major therapeutic decisions, presence in the emergency department for major resuscitations and presence at operative procedures must be determined by institutional policy.
 - iv. Upon notification that the patient meets the trauma activation criteria outlined by policy, the surgeon will respond to the emergency department within thirty (30) minutes of the notification, tracked from patient arrival.
 - v. The requirement for the attending trauma surgeon's presence should not result in delay for initiating urgently needed operative procedures or transfers.
 - vi. The responsible attending surgeon or attending surgical specialist on call must be present in the operating room for major surgical procedures related to their specialty.
 - vii. Published on-call schedules must be maintained with 24/7/365 coverage.

Physicians

Physicians

GENERAL SURGERY (continued)

- viii. All general surgery-attending physicians taking trauma call must actively participate in the trauma PIPS program.
- a. Every general surgeon participating on the trauma call roster, regardless of the amount of call, must attend in a minimum of 50% of the multidisciplinary trauma peer review meetings. See PIPS standard for additional details
 - b. Back-up Trauma Surgeons who only serve in this capacity on the back-up call schedule, and not on the primary trauma call roster, are not expected to participate in 50% of multidisciplinary peer review committee meetings.
 - c. See PIPS standard for additional details.
- C. General Surgeons will participate in the care of the injured patient as a subspecialist consultant (for example, wound care management, wound debridement, external hematoma management). General Surgeons are considered a subspecialist consulting service if they meet at all of the following: do not provide operative intervention (except for wound management), do not participate in trauma resuscitations, AND do not admit trauma patients to their service. They must at a minimum:
- i. Have evidence of being current in the care of the injured patient.
 - a. Maintain General Surgery Board Certification/Eligibility OR maintain CME as below.
 - Acquisition of eight (8) hours of trauma related CME per year or twenty-four (24) hours in three years.
 - OR Demonstration of completion of the Trauma Program IEP.
 - o See Continuing Education Standard for additional details.
 - ii. Participate in major therapeutic decisions as determined by institutional policy.
 - iii. Expectations and appropriateness of the response time is the responsibility of the trauma PIPS program.
 - iv. Published on-call schedules must be maintained with 24/7/365 coverage.
 - v. The General Surgery Physicians must actively participate in the trauma PIPS program.
 - a. A General Surgery Liaison must be identified. The Liaison must:
 - Update the subspecialty group on trauma related issues.
 - Attend a minimum of 50% of the multidisciplinary trauma peer review meetings.
 - o This attendance benchmark may be shared with a second identified General Surgery Physician.
 - o See PIPS Standard for additional details.

Physicians

NEUROSURGERY AND/OR ORTHOPEDIC SURGERY

7. It is the responsibility of the institution to define the extent of Neurosurgery and/or Orthopedic Surgery involvement/participation in the Trauma Program. If Neurosurgeons and/or Orthopedic Surgeons participate in the care of the injured patient by taking trauma call, providing trauma resuscitation and/or inpatient trauma care, they must at a minimum:
- A. Have evidence of being current in the care of the injured patient.
 - i. Maintain applicable specialty Board Certification/Eligibility OR maintain CME as below.
 - a. Acquisition of eight (8) hours of trauma related CME per year or twenty-four (24) hours in three years.
 - b. Or demonstration of completion of IEP.
 - See Continuing Education Standard for additional details.
 - B. Participate in the major therapeutic decisions, presence in the emergency department for major resuscitations and presence at operative procedures as determined by institutional policy.
 - C. Trauma outcome is often a time-related factor from the time of injury. Expectations and appropriateness of the response time is the responsibility of the trauma PIPS program.

Physicians

Physicians

NEUROSURGERY AND/OR ORTHOPEDIC SURGERY (continued)

- D. Published on-call schedules must be maintained with 24/7/365 coverage.
- E. The Neurosurgical and/or Orthopedic Surgery Physicians must actively participate in the trauma PIPS program.
 - i. A Neurosurgical and/or Orthopedic Surgery Liaison must be identified. The Liaison must:
 - a. Update the subspecialty group on trauma related issues.
 - b. Attend a minimum of 50% of the multidisciplinary trauma peer review meetings.
 - This attendance benchmark may be shared with a second identified Neurosurgery and/or Orthopedic surgery Physician.
 - See PIPS Standard for additional details.
- F. Level IV Trauma Centers with Orthopedic Surgery involvement must have a minimum of one (1) intra-compartmental pressure monitoring device within the hospital.
- G. Neurosurgery and Orthopedic Surgery is not required at Level IV Trauma Centers.
 - i. Level IV Centers with participating Neurosurgeons and/or Orthopedic Surgeons in any form of injured patient care are held accountable to the complete neurosurgery/orthopedic surgery standard.

Physicians

OTHER SURGICAL AND NON-SURGICAL SPECIALISTS

- 8. The Trauma Program will define the role of additional subspecialist in the Trauma Program.
 - A. Care provided by surgical and non-surgical specialists not specifically required for Level IV trauma centers must be reviewed by the Trauma PIPS program and is subject for review during site survey.
 - B. Surgical and Non-Surgical Specialists may be asked to participate in the trauma performance improvement process at the direction of the Trauma Program (Surgery and Medicine).
 - i. In a level IV program where trauma patients are regularly admitted to an in-patient unit, a medical service representative/liasion must be identified. This liaison must:
 - a. Update the subspecialty group on trauma related issues.
 - b. Attend a minimum of 50% of the multidisciplinary trauma peer review meetings.
 - This attendance benchmark may be shared with a second identified medical specialist liaison.
 - See PIPS Standard for additional details.
 - c. Best practice is for the medical service who primarily covers in-patient care to maintain ATLS
 - C. A patient's Primary Care Physician/Pediatrician may be a valuable resource and considered a member of the trauma team and input into the care of a critically injured or ill patient.
 - D. While it is noted that Neurosurgery / Neurosurgical capabilities are not required for a Level IV trauma program, mild Traumatic Brain Injuries are common and often seen and treated.
 - i. The clinical management guideline for the mild traumatic brain injured (TBI) patient must be developed and should include appropriate screening and referral.
- 9. Telemedicine, by itself, is not an acceptable method of consult. The expectation is that the specialist must be available in person at the bedside by a predefined time when a request is made.
- 10. Regardless of the surgical or admission capabilities, every trauma center must immediately evaluate, stabilize, treat and, if indicated, transfer trauma patients that exceed the capabilities of the trauma center. Every trauma center must have transfer plans in place defining cases that exceed the capabilities of the trauma center and necessitate transfer.

Advanced Practitioners

1. Advanced Practitioners (AP), under the direction of a physician, may have a defined role in trauma patient care.
 - A. The extent of the involvement must be determined by the TPMD in compliance with Pennsylvania law and hospital policy.
 - B. This includes Physician Assistants (PA), Nurse Practitioners (NP) and Certified Registered Nurse Anesthetists (CRNA).
2. All APs who have a defined role in trauma patient care must be knowledgeable and current in the role of injured patients. This includes:
 - A. A formal, institution specific orientation to the trauma program.
 - B. Completion of annual review/performance evaluation including skills proficiency and trauma clinical competence by the TPMD or the Subspecialty Director.
 - C. Participation in the PIPS program as defined by trauma program.
3. AP's prior to functioning as a member of the team caring for trauma activation patients via assessment or interventions must:
 - A. Maintain ATLS:
 - i. This includes Emergency Medicine and Trauma/Surgery APs responding to activations.
 - ii. This excludes:
 - a. Neurosurgery, Orthopedic Surgery and other AP Consulting Services
 - b. Emergency Medicine APs solely working in the main Emergency Department and/or FastTrack area who do not respond to trauma activations
 - iii. Certified Registered Nurse Anesthetists (CRNAs) who respond to care for the injured patient in a supportive/subspecialist role (such as airway only) are excluded from ATLS certification expectations.
 - B. Recommend maintaining ACLS certification (or equivalent course)
 - C. Recommend maintaining PALS certification (or equivalent course))
4. APs prior to being involved as first responders in any phase of trauma care must:
 - A. Recommend maintaining ACLS certification (or ACLS equivalent)
 - B. Recommend maintaining PALS for Pediatric ICU responders if pediatrics are routinely admitted to the institution. (or PALS equivalent).
 - C. ATLS is required for AP's identified as ICU First Responders (see Standard 19: ICU for details)
 - i. Certified Registered Nurse Anesthetists (CRNA) who respond to care for the injured patient in a supportive/subspecialist role (such as airway only) are excluded from ATLS certification expectations.
5. Additional subspecialty AP credentialing requirements as defined by the trauma program.
6. The Trauma Nurse Course (TNC) is not required for Advanced Practitioners.

Residency Programs

1. Residency Programs are not required for Level IV Trauma Programs.
2. If residents are participating in the care of trauma patients, they must be fully qualified by the institution, in conjunction with the trauma program, for trauma care by the appropriate specialty.
 - A. If the trauma center utilizes residents for any service, refer to the Level I, II, and III standards for resident qualifications, supervision and rotation details.

Nursing

1. All registered nurses functioning in a department that **routinely admits** trauma patients must demonstrate compliance with the nursing standards. This includes:
 - A. Emergency Department
 - i. This includes admission/holding/observation areas used as an extension of the Emergency Department
 - B. Intensive Care Units (ICU) for Trauma Patients
 - C. Intermediate Care Step-Down Units (IICU) for Trauma Patients
 - D. Medical/Surgical Units which regularly receive Trauma Patients
 - E. PACU
 - F. Operating Room
 - i. This applies only to OR RN's who routinely taking care of the trauma patient
 - G. Advanced Practitioners: This standard does not apply to AP's. Nurse Practitioners, Physician's Assistants and Certified Registered Nurse Anesthetists should see Advanced Practitioner Standard for additional details.
2. The institution will ensure that patient care units are staffed by registered nurses who have special capabilities as demonstrated through commitment, continuing education and experience.
 - A. This includes, where applicable the ability to operate pediatric equipment.
 - B. Trauma care oversight must be done by a Registered Nurse.
 - i. Licensed Practical Nurses (LPN's), Aids, Technicians or other ancillary staff may be utilized in care tasks. This must be accomplished by RN oversight of care, procedure and chart entries per institutional policy.
 - C. In circumstances where a patient is admitted to the unit under the care of a non-trauma credentialed RN, there must be oversight by a trauma credentialed RN, which must include at a minimum immediate availability as a resource. This must be defined by the trauma program.
3. A Trauma Nurse Course is required within one year of assignment to the department.
 - A. For new applicants, 50% of the nursing staff must complete a trauma nurse course prior to survey.
 - B. The RN transferring into a trauma department must complete the requirement within one year of transfer.
 - C. For an accredited trauma center that is opening a new nursing unit, 50% of the staff must complete the trauma nurse course prior to the opening of the unit and the remaining 50% (for a total of 100%) must complete the course within the first year of the opening of the new unit.
 - D. Examples of acceptable courses are addressed within the PaTNCC:
 - i. Other courses as approved.
 - a. Please refer to Policy AC-105: Applying for a Variance from a Standard for additional details.
 - E. Regardless of which course is utilized, a hospital specific module describing the institution's trauma program is required.
4. There must be evidence of ongoing skills proficiency / clinical competence appropriate for the institution.
 - A. This can be accomplished through such mechanisms as annual reviews and performance evaluations.
5. Recommend all RN's (with the exception of Medical/Surgical Floor and Operating Room RN's) maintain ACLS provider status (or equivalent course). This should be defined by the institution and compliance monitored by the institution.
 - A. Recommend maintaining PALS for nurses participating in the care of the pediatric trauma patient. This should be defined by the institution.

Nursing

6. There must be a minimum of one RN in the Emergency Department at all times who is capable of functioning in the trauma resuscitation role.
7. All RN's participating in the care of trauma patients must have evidence of annual continuing education including eight (8) hours of continuing education.
 - A. Education should be driven by the trauma PIPS program and registry data.
 - i. This should include age-related clinical competency as determined by the trauma program.
 - B. The TPM in conjunction with the TPMD is responsible for determining and validating which educational forums are acceptable in fulfilling continuing education requirements. This includes the approval and appropriation of all contact hours.
 - C. Completion of an advanced trauma course, such as ATCN, TNCC, and TCAR may be credited to fulfill up to twelve (12) hours of continuing education requirements over a three (3) year timeframe from the class.
 - D. Completion of an advanced non-trauma course such as ACLS, APLS, PALS or ABLS may be counted towards the yearly hours as follows:
 - i. Four (4) hours for a two day provider course
 - ii. Two (2) hours for a one-day (re-certification) course
 - iii. While it is recognized that these courses required additional hourly participation, the intention is to
 - a. Acknowledge the trauma related content
 - b. Assure that other trauma related education is obtained
 - E. Serving as faculty for trauma-related courses may be used to fulfill eight (8) hours of continuing education requirement for a three-year timeframe from the time of the class.
 - F. Nurses maintaining a trauma advanced certification (CEN/CPEN, CCRN, TCRN, PCCN, CPN, CFRN, CNRN, CNOR, CPAN, ANCC Medical-Surgical Nursing board certification (RN-BC)) are not required to maintain continuing education logs.
 - i. Not applicable to the TPM or PI-Coordinator
 - G. New nurses may have education requirements prorated based on start date/calendar year.

Emergency Medical Services (EMS)

1. Medical Command Facility Designation, as recognized by the PaDOH Bureau of EMS, must be maintained.
 - A. A facility may submit a request for a waiver to the PaDOH if unable to meet the medical command qualifications. The waiver must then be submitted to the PTSF following Policy AC-105 Applying for a Variance from a Standard for final approval.
2. The institution must have active involvement in its regional Emergency Medical Services (EMS / Pre-hospital) system.
 - A. It is the responsibility of the trauma center to enhance lines of communication with EMS services and Regional EMS Councils to resolve issues related to EMS transportation, transfer and clinical care.
 - B. The trauma program should identify an internal liaison to facilitate communication, education and outreach with EMS.
3. The trauma center must be the local trauma authority and assume the responsibility for providing training for EMS providers.
 - A. Physicians, nurses and administrative personnel must be involved in various EMS programs and invite EMS providers to attend internal hospital education forums that are trauma related.
4. The institution should provide opportunities for appropriate EMS clinical experience.
5. EMS participation in the PIPS program must be clearly defined by the PIPS plan.
 - A. At a minimum this includes, inviting an EMS liaison to the multidisciplinary PIPS meeting.
6. Completed pre-hospital patient care records (PCR) must be sought, and when available, present for review by the trauma program as a part of the PIPS process.
7. The trauma center should collaborate with EMS to adopt a universal format for the verbal transfer of care of the trauma patient from EMS to the trauma center.
 - A. DMIST communication is recommended.

Helipad

1. There should be a lighted helipad in close proximity to the institution's emergency department.
 - A. The Commonwealth of Pennsylvania must license the on-site helipad.
 - B. The Federal Aviation Administration, Eastern Region, must approve the on-site air space.
 - C. If there is not a lighted helipad on site: There must be access to a designated helicopter landing area within one mile of the Emergency Department.
 - i. A policy for transfer of patient to and from the landing area must be in place.
 - ii. Emergency vehicles must be readily available to provide proper transport.
 - iii. Every transfer by helicopter must be reviewed by the trauma PIPS program specifically for timeliness of transfer and efficient access to the helicopter.
 - iv. Any variance from the 1.0 mile requirement must have an approved Standard Variance. Please refer to Policy AC-105: Applying for a Variance from a Standard for additional details.
2. The transport system to/from the helipad and/or ambulance entrance to and from the resuscitation unit must not adversely affect the timely intervention of definitive care. Methods will include:
 - A. A diagram of the ground and air transport systems including the distance from the point of origin (i.e. helipad and/or ambulance entrance) to the trauma resuscitation rooms.
 - B. Policies and procedures of the transport and transfer system for patients arriving or departing by the air transport system.
 - C. Listing of the air transport systems used, consistent with the scope of care delivered.

Emergency Department

1. It is the responsibility of the institution to ensure that the Emergency Department is continually staffed by registered nurses who have demonstrated skill, commitment, continuing education and experience.
 - A. The Emergency Department will have a staffing plan that reflects the trending, severity of injury, arrival of multiple trauma patients, and staffing/skill mix required to ensure the appropriate care of trauma patients.
 - B. This includes a minimum of one RN at all times who:
 - i. Actively functions in trauma resuscitation.
 - ii. Maintenance of ACLS certification is recommended.
 - iii. Has completed the trauma nurse course (or equivalent).
 - C. See Nursing Standard for additional details.
2. There will be a designated trauma resuscitation area in the Emergency Department which will:
 - A. Remain open 24-hours a day.
 - B. Be of adequate size to accommodate the full trauma resuscitation team.
3. Equipment will be available in the appropriate array of sizes for resuscitation and life support of the critically or seriously injured trauma patient. Staff must be competent in use of this equipment. This will include but is not limited to:
 - A. Airway control and ventilation equipment including laryngoscopes, endotracheal tubes, rescue airway devices, bag-valve mask resuscitators, and sources of oxygen.
 - i. This equipment must be easily accessible
 - ii. A mechanical ventilator is not required, but recommended.
 - B. Continuous cardiac monitoring, electrocardiograph and defibrillator with pediatric and adult external paddles
 - C. End-tidal CO₂ determination
 - i. Waveform Capnography
 - D. High volume rapid infuser is not required, but recommended.
 - E. Intravenous fluids and administrative devices including intravenous catheters and IO devices
 - F. Intra-compartmental pressure monitoring device
 - i. Orthopedic Surgery participating in the care of the injured patient: one per hospital required
 - ii. Orthopedic Surgery not participating in the care of the injured patient: not required, but recommended
 - G. Pediatric Capabilities:
 - i. Resuscitation equipment including pediatric airway equipment
 - ii. Reference materials for pediatric medications, dosages and cardiac resuscitation must be displayed or immediately available
 - iii. Pediatric (ranging in age from neonate to adolescent) instrumentation i.e.: blood pressure cuffs, chest tubes, nasogastric tubes and urinary drainage apparatus.
 - H. Portable or over-head x-ray equipment
 - I. Pulse Oximeter
 - J. Medications and supplies necessary for emergency care, including pediatric medication doses
 - K. Naso/Oro Gastric tubes
 - L. Skeletal immobilization devices
 - M. Suction devices
 - N. Surgical Sets for standard emergent procedures
 - i. Airway access/Cricothyrotomy
 - ii. Central line insertion
 - iii. Chest tube insertion
 - O. Temperature control and warming devices for
 - i. The Patient
 - ii. Parenteral fluids
 - iii. Blood
 - iv. The Trauma Resuscitation area
 - P. Tourniquets (commercial)
 - Q. Two-way communication with emergency transport system vehicles
 - R. Ultrasound is not required, but recommended

Emergency Department

4. Adequate physician and nursing personnel must be available to accompany the trauma patient during transports.
 - A. Personnel and patient population must be defined by the hospital, at minimum patient population must include highest level activations during resuscitative phase of care.
 - i. Providers must be appropriately trained and to fully monitor and resuscitate the trauma patient in all areas.
 - B. Documentation of care during the time that the trauma patient is physically present in the department and during transportation to and from the Radiology Department must be available.

Operating Room

1. The institution must have a staffing plan for the Operating Room to meet the need of surgical patients as defined by the trauma program.
2. The operating room will be adequately staffed.
 - A. When an on-call team is utilized, a 30-minute response time should be maintained.
 - i. The Trauma Program must define the parameters of immediate response based on level of acuity.
 - B. The Trauma Program must define the participants for minimal staffing.
3. The institution will ensure that the operating room is staffed by RN's who have demonstrated skills, commitment, continuing education and expertise.
 - A. See Nursing standard for additional details.
4. Equipment will be available in the appropriate array of sizes for resuscitation and life support of the critically or seriously injured trauma patient. This will include but is not limited to:
 - A. Airway control and ventilation equipment including laryngoscopes, endotracheal tubes, bag-valve mask resuscitators, sources of oxygen, and mechanical ventilator
 - B. Continuous cardiac monitoring, electrocardiograph and defibrillator with adult and pediatric paddles.
 - C. End-tidal CO₂ determination
 - D. High-volume rapid infuser is desired
 - E. Monitoring equipment
 - F. Orthopedic equipment (appropriate for institutional capabilities)
 - i. Intra-compartmental pressure measuring device is desired. If Orthopedic Surgery is participating in the care of the injured patient, one per hospital required
 - G. Pediatric / Age appropriate devices including anesthesia equipment
 - H. Thermal control and warming devices for:
 - i. The patient
 - ii. Parenteral fluids
 - iii. Blood
 - iv. The room

Post Anesthesia Care Unit (PACU)

1. The institution must define the scope of involvement of the PACU within the trauma plan based on utilization of the Operating Room.
 - i. Intensive care unit(s) are acceptable in lieu of the PACU for post-op care.
2. It is the responsibility of the institution to ensure that the post-anesthesia care unit is staffed by RN's who have demonstrated skills, commitment, continuing education and experience:
 - A. See Nursing standard for additional details.
3. Equipment will be available in the appropriate array of sizes for the resuscitation and life support of the critically or seriously injured trauma patient including but not limited to:
 - A. Airway control and ventilation equipment including laryngoscopes, endotracheal tubes, bag-valve mask resuscitators, sources of oxygen, and mechanical ventilator
 - B. Continuous cardiac monitoring, electrocardiograph and defibrillator with adult and pediatric paddles.
 - C. End-tidal CO₂ determination
 - D. Intravenous fluids including devices and intravenous catheters
 - E. Medications and supplies necessary for emergency medications including pediatric medication doses
 - F. Monitoring capabilities for continuous monitoring of temperature, hemodynamics and gas exchange (non-invasive)
 - G. Pediatric / Age appropriate devices
 - H. Pulse oximeter
 - I. Suction devices
 - J. Surgical sets for emergency procedures such as thoracotomy
 - K. Temperature control and warming devices for:
 - i. The patient
 - ii. Parenteral fluids
 - iii. Blood
 - iv. Physical space/location/room

Intensive Care Units (ICU)

1. If the institution regularly admits patients to the ICU, resources will be concentrated in a single unit and compliance with this standard is required.
 - i. The trauma program must define the scope of ICU utilization.
2. There will be a commitment to the priority dedication of ICU beds for trauma care.
3. It is the responsibility of the institution to ensure that physicians who have demonstrated skills through commitment, continuing education, and experience care for the trauma patients staff the ICU.
 - A. Arrangements for 24-hour coverage of all trauma patients are necessary for emergencies and routine care.
 - i. A tiered medical response must be established to ensure immediate interventions for unplanned situations. While the ultimate responsibility for the treatment plan is that of the primary admitting physician, on-site assessments and initial interventions must be planned in a systematic and documented approach.
4. The institution will ensure that the ICU is staffed by registered nurses who have demonstrated skill, commitment, continuing education, and experience.
 - A. See Nursing Standard for additional details
5. The ICU will have a staffing plan that reflects the trending, severity of injury, arrival of multiple trauma patients and staffing/skill mix required to ensure the appropriate clinical care of trauma patients or the workload of the nurse which will indicate the number of nursing staff needed.
 - A. A planned maximum nurse-patient ratio of 1:2 on each shift is required.
 - i. This should be reflective of the acuity and care needs of the patient.
 - ii. Any planned variance from this standard must obtain a variance approval. Please refer to Policy AC-105: Applying for a Variance from a Standard for additional details.
6. Equipment will be readily available in the appropriate array of sizes for resuscitation and life support of the critically or seriously injured trauma patient including, but not limited to:
 - A. Airway control and ventilation equipment including laryngoscopes, endotracheal tubes, bag-mask resuscitators, sources of oxygen, and mechanical ventilator
 - B. Arterial lines
 - C. Central venous pressure monitoring devices
 - D. Continuous cardiac monitoring, electrocardiograph and defibrillator with adult and pediatric paddles.
 - E. Electronic hemodynamic monitoring
 - F. End Tidal CO₂ determination
 - G. External pacemaker
 - H. Intravenous fluids and administration devices, including intravenous catheters
 - I. High-volume rapid volume fluid infuser is desired
 - J. Medications and supplies necessary for emergency care
 - K. Naso/Oro gastric tubes and suction
 - L. Pulse oximeter
 - M. Suction Devices
 - N. Surgical sets for emergency procedures such as thoracotomy, cut-down etc.
 - O. Temperature control and warming devices for:
 - i. The patient
 - ii. Parenteral fluids
 - iii. Blood
 - iv. Patient Room
7. The PIPS plan must review all ICU and Intermediate ICU admissions and transfer of ICU patients to ensure that appropriate patients are being selected to remain at the trauma center vs being transferred to a higher level of care.

Intermediate Care / Step-Down Units

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| 1. The institution must define the areas considered Intermediate Care /Step-Down Units if utilized. |
| 2. The institution will ensure that the Intermediate Care / Step-Down Unit (IICU) is staffed by registered nurses who have skills, commitment, continuing education and experience.
A. See Nursing Standard for additional details. |
| 3. The Intermediate Care / Step-Down Unit will have a staffing plan that reflects the trending, severity of injury, arrival of multiple trauma patients, and staffing/skill mix required to ensure the appropriated clinical care of trauma patients or the workload of the nurse which will indicate the number of nursing staff needed.
A. The maximum planned nurse-patient ratio of 1:4 on each shift to adequately provide patient care.
B. Any planned variance from this standard must obtain a variance approval. Please refer to Policy AC-105: Applying for a Variance from a Standard for additional details. |
| 4. Equipment will be available in the appropriate array of sizes for resuscitation and life support of the critically injured trauma patient.
A. Availably of equipment will be dependent on the acuity level of trauma patients cared for in the Intermediate Care /Step-Down units. |
| 5. The PIPS plan must review all ICU and Intermediate ICU admissions and transfer of ICU patients to ensure that appropriate patients are being selected to remain at the Level IV center vs being transferred to a higher level of care. |

Medical / Surgical Unit (General)

1. The institution will ensure that the general Medical/Surgical units that regularly receive trauma patients are staffed by registered nurses who have skills, commitment, continuing education and experience.
 - A. This includes, where applicable, the ability to operate pediatric equipment.
 - B. See Nursing Standard for additional details.
2. The Medical/Surgical units shall have a staffing plan that reflects the trending, severity of injury, arrival of multiple trauma patients, and staffing/skill mix required to ensure the appropriate clinical care of trauma patients or the workload of the nurse which will indicate the number of nursing staff needed to adequately provide patient care.
3. Equipment must support the current status of trauma patients of all ages
 - A. Location/Availability of the equipment is dependent upon the patient's condition, age and immediacy with which equipment is accessible.
 - B. Equipment must include, but is not limited to:
 - i. Airway control and ventilation equipment, including laryngoscopes, endotracheal tubes, bag-valve mask resuscitators and sources of oxygen
 - ii. Continuous cardiac monitoring, electrocardiograph and defibrillator.
 - a. External defibrillator paddles must be promptly available (Pediatric paddles only where applicable).
 - iii. Intravenous fluids and administration devices including intravenous catheters
 - iv. Medications and supplies necessary for emergency care
 - v. Suction devices

Laboratory & Blood Bank

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| 1. There will be provisions to provide and receive the following laboratory test results 24-hours a day:
A. Blood gases and pH determinations
B. Blood typing and cross matching
C. Coagulation studies
D. Drug and alcohol screening
E. Standard analysis of blood, urine and other body fluids |
| 2. A protocol must be in place stating that the trauma patient receives priority in laboratory request handling. |
| 3. There will be comprehensive blood bank or access to a community central blood bank and adequate storage facilities. |
| 4. There will be an evidenced-based driven massive transfusion policy that will be collaboratively reviewed by the Blood Bank and the Trauma Program.
A. Blood product supplies should be determined by the trauma program based on utilization and frequency. |
| 5. The Laboratory/Blood Bank must participate in the trauma PIPS program as defined by the Trauma Program. |
| 6. Prothrombin Complex Concentrate (PCC) must be available.
A. A guideline/policy for utilization must be present |
| 7. The Trauma Program, in collaboration with the blood bank, should consider utilization of Whole Blood. |

Radiology

1. Conventional radiological services will include 24-hour in-house technicians.
2. Diagnostic information must be communicated in a written form and in a timely manner:
 - A. Critical information that is deemed to immediately affect patient care must be verbally communicated to the trauma team.
 - B. The preliminary report must be permanently recorded.
 - C. The final report must accurately reflect the chronology and content of communications with the trauma team, including changes between the preliminary and final interpretation.
 - D. Changes in interpretation, including missed injuries, must be monitored through the PIPS program.
3. The following protocols/policies/guidelines must be in place:
 - A. Trauma Patient Priority Requests
 - B. Incidental Findings
 - C. Discrepant Radiology Findings
 - i. Changes in Interpretation
 - ii. Missed Injury / Delay in Diagnosis
4. The emergency physician or general surgeon, all of whom have been properly credentialed by the institution, will have ability to initiate CT Scans.
5. Computerized Tomography Scanning (CT) must be available for the trauma patient.
 - A. CT Technicians must be available and on-call 24-hours a day.
 - i. CT Technicians may be out of house with a maximum response time of 30 minutes.
 - a. The PIPS program must monitor compliance with response time and effects on patient care.
 - B. A protocol must be in place to give the trauma patient priority and immediate access to the CT scanner for initiation of studies in a timely manner.
 - C. A policy for the bypass or transfer of trauma patients when CT capability is unavailable due to planned maintenance or mechanical failure is required.
 - D. A minimum of one 64-slice CT capability scanner in hospitals where vascular imaging occurs or a minimum of one 16-slice CT capability scanner where vascular imaging does not occur.
 - E. CT scanner does not include mobile services, guaranteed service contracts with other institutions in-house CT scanners, or CT scanners in use at remote buildings or areas of the institution requiring transportation of the patients from the main building to the CT scanner.
6. Adequate physician and nursing personnel must be available to accompany the trauma patient during transport and while in the Radiology Department.
 - A. Personnel and patient population must be defined by the hospital, at minimum patient population must include highest level activations during resuscitative phase of care.
 - i. Providers must be appropriately trained and to fully monitor and resuscitate the trauma patient in all areas.
 - B. Documentation of care during the time that the trauma patient is physically present in the department and during transportation to and from the Radiology Department must be available.
7. Trauma Centers must have a mechanism in place to provide radiographic imaging to referring hospitals when transferring patients.
 - A. The PIPS program will review transfer reports for issues with radiograph imaging.
8. The Radiology Department must work to optimize the technical parameters of each examination so that the lowest radiation dose possible is used for each patient while still producing high-quality diagnostic images.
 - A. [PTSF Imaging Statement](#)

Collaborative Services

Medical Records

1. A copy of the discharge summary of trauma care will be made available to the patient's primary care provider.

Nutritional Services

2. The Nutritional requirements of all trauma patients must be screened and evaluated with appropriate feedback and recommendations to the admitting provider.
 - A. This must be completed within 72 hours of admission.

Organ and Tissue Donation

3. The institution will comply with Pennsylvania law regarding organ and tissue donation request, procurement and documentation.
 - A. A policy must be in place triggering the timely notification of the Organ Procurement Organization (OPO).
 - B. The Trauma Center must review its organ donation data annually.

Rehabilitation Services

4. All trauma patients will be screened for short and long term recovery/rehabilitation and treatment plans/goals. Where appropriate, a documented, comprehensive, trauma recovery plan will be an integral part of the patient's medical record.
 - A. The plan will be in place within seventy-two (72) hours of the patient's admission.
 - B. A referral will be made to the physiatrist or other appropriate medical specialist when indicated.
 - C. A physician with a special interest and training in Physical Medicine and Rehabilitation most often assumes leadership of the rehabilitation team.
 - i. This does not proscribe physicians in other disciplines, such as general surgery, neurosurgery or orthopedic surgery from having a leadership role providing they have the skill, training, dedication and are recognized by the institution as an expert in rehabilitation.
 - D. If the trauma patient is transferred to another institution for rehabilitation, outcome and follow-up must be formally requested.
 - E. Additional specialty services have defined roles in the recovery and rehabilitative care of the trauma patient. This includes but is not limited to:
 - i. Family Support Programs
 - ii. Physical Therapy
 - iii. Occupational and Speech Therapy are desired.
 - iv. Psychosocial
 - F. The clinical management guideline for the mild traumatic brain injured (TBI) patient must be developed and should include appropriate screening and referral.

Respiratory Therapy

5. A Respiratory Therapist must be available in-house 24-hours a day.

Spiritual Counseling / Pastoral Care

6. The opportunity for spiritual counseling/pastoral care should be available.
 - A. This can be accomplished by providing a listing of spiritual leaders promptly available to the institution.
 - B. Ideally, spiritual counseling/pastoral care will have a defined role in the trauma program.

Acute Pain Management

7. The utilization of a pain management resource as a consultant for trauma care is recommended.
 - A. This may be a formal pain management service, a representative from pharmacy, or an identified liaison from the trauma program.
8. A protocol for multimodal analgesia (MMA) regimens and limited duration prescriptions is recommended.

Social Services

1. Social work intervention will be available to all trauma patients and their families from the time of admission to the facility until the time of discharge. This is to include evidence of appropriate social work intervention, involvement and coordination of post-discharge plan development and rehabilitation.
 - A. This may be provided in conjunction with existing hospital staff.
2. The institution will define the protocol to ensure that there are adequate social work capabilities available to assist in the support of the patient's family and significant others during this time. This may include but is not limited to:
 - A. Assisting with the process of organ donation in the event of death.
 - B. Contacting family and providing crisis intervention counseling upon arrival and throughout the hospitalization.
 - C. Coordinating resource referrals.
 - D. Facilitating the information flow between the trauma team, patient and family.
 - E. Identifying the trauma patient.
 - F. Intervention and involvement in post-discharge plan development.
 - G. Locating family or legal next-of-kin.
 - H. Providing grief counseling, when appropriate.
 - I. Screening, reporting and interventions for suspected or confirmed abuse including but not limited to: child abuse, elder abuse, intimate partner violence, and sex trafficking.
 - J. Timely access to information related to insurance verification and financial resource availability.

Case Management

1. Case Management is not required for Level IV Trauma Programs.

Geriatric Patient Care

1. Geriatrics is defined as age sixty-five (65) and over for the purposes of PTOS.
 - A. Trauma Centers may define geriatrics for their individual institutional protocol purpose.
2. Trauma Center personnel should have continuing education, driven by registry data and the PIPS Program specific to geriatric patients.
 - A. All providers with continuing education requirements must have evidence of geriatric trauma-related hours/credits and age-related clinical competency as determined by the trauma program.
3. Every geriatric trauma patient must be screened for suspected or confirmed abuse. The institution must:
 - A. Have a policy/procedure/guideline that defines the abuse screening and management of patients with suspected or confirmed elder abuse, intimate partner violence, and sex trafficking.
 - B. Report abuse in compliance with Pennsylvania law and hospital policy/procedure/guideline.
 - C. Forward the results of any abuse screening to the receiving institution if a patient is transferred.
4. The trauma program must develop multidisciplinary geriatric trauma patient management guidelines (protocols) that include resuscitation, critical care and rehabilitation.
5. The trauma program should show evidence of routine interdisciplinary approach in the care of the geriatric trauma patient.
 - A. This may include a trauma team representative, geriatrician or medicine liaison, nursing, social work/case management and as available physical therapy and pharmacy.
6. The trauma program must use its trauma registry to identify the pattern, frequency and risks for injury to the geriatric population group within the community and use this as a guide (along with community resources) to formulate geriatric trauma prevention programs – for example osteoporosis.
7. There must be geriatric specific audit filters as defined by the trauma program.

Pediatrics

1. Pediatrics is defined as a patient less than 15 years of age (14 or younger) for purposes of PTOS submission.
 - A. Trauma Centers may define pediatrics for their individual institutional protocol purpose.
2. Trauma Center personnel should have continuing education, driven by registry data and the PIPS Program specific to pediatric patients.
 - A. All providers with continuing education requirements should have evidence of pediatrics trauma-related hours/credits and age-related clinical competency as determined by the trauma program.
3. Every pediatric trauma patient must be screened for suspected or confirmed abuse. The institution must:
 - A. Have a policy/procedure/guideline that defines the abuse screening and management of patients with suspected or confirmed child abuse, intimate partner violence, and sex trafficking.
 - B. Report abuse in compliance with Pennsylvania law and hospital policy/procedure/guideline.
 - C. Forward the results of any abuse screening to the receiving institution if a patient is transferred.
4. The trauma program must develop pediatric trauma patient management guidelines (protocols) that focus on resuscitation.
5. The trauma program should use its trauma registry to identify the pattern, frequency and risks for injury to the pediatric population group within the community and use this as a guide (along with community resources) to formulate pediatric trauma prevention programs.
6. Capacity & Ability:
 - A. All institutions which receive pediatric trauma patients must provide, at a minimum, emergency resuscitation and stabilization capabilities for the pediatric trauma patient.
 - B. The institution will assess its pediatric capabilities and establish appropriate guidelines for the transfer of severely injured children to accredited Pediatric Trauma Centers.
7. Performance Improvement:
 - A. Every pediatric patient should be reviewed by the PIPS program for:
 - i. Appropriateness of transfer or admission
 - ii. Timeliness of care
 - iii. Adequacy of Care
 - B. There must be pediatric specific audit filters as defined by the trauma program.

Inter-Facility Transfer & Consultation Requirements For Level III & IV Trauma Centers

Inter-Facility Transfer & Consultation Requirements For Level III & IV Trauma Centers

General Guidelines

To facilitate transfer, timely consultation is required with a higher-level receiving trauma center. Consultation with an attending surgeon is required in the determination of the necessity of transfer and the circumstance of transfer, including but not limited to additional diagnostic/therapeutic issues, availability of resources, and weather conditions. The development of mutually agreed upon written guidelines for the transfer of trauma patients between institutions is essential. These agreements should define which patients should be transferred and the process for doing so. Refer to Standard 2: Capacity and Ability; for transfer guideline requirements.

When transfer is necessary, the patient must be transferred to a higher-level trauma center. If the patient's condition exceeds the institution's capabilities, the patient should ideally be transferred to the closest higher-level trauma center.

In the event that patients meeting the mandatory transfer requirements below are not transferred, evidence must be presented to the site survey team on survey day showing review of those cases through the Performance Improvement process, including appropriateness of care and patient outcome.

MANDATORY TRANSFER is required for Level III and IV trauma centers caring for the critically injured adult and pediatric trauma patient with any of the following conditions:

HEAD/C-SPINE

- 1) Carotid or vertebral artery injury
- 2) Penetrating injuries or open fracture of the skull
- 3) Abnormal CT as defined as an acute finding consistent (or highly suspicious) of an acute traumatic injury.
- 4) GCS \leq 14
 - a. Exceptions
 - i. Patients who are at their normal baseline health status/GCS (e.g. this can be less than 14 if it is the patient's baseline)
 - ii. Patients with an altered GCS due to substance use/abuse
 - b. In these patients it is highly recommended that a minimal phone consultation with a neurosurgeon (who is able to view CT imaging) is completed prior to consideration for admission.
- 5) Spinal fracture or spinal cord deficit

CHEST

- 6) Cardiac rupture
- 7) Torn thoracic aorta or great vessel
- 8) Bilateral pulmonary contusion with PaO₂/FIO₂ ratio less than 200
- 9) Level III: 2 or more rib fractures with the presence of a pulmonary contusion
- 10) Level IV: Rib fractures with the presence of a pulmonary contusion
- 11) Rib fracture(s) with the presence of flail chest
- 12) Significant torso injury with advanced comorbid disease (such as coronary artery disease, chronic obstructive pulmonary disease, type 1 diabetes mellitus, or immunosuppression)
- 13) Non-ocult pneumothorax which must be further defined by the trauma program

Inter-Facility Transfer & Consultation Requirements For Level III & IV Trauma Centers

PELVIS/ABDOMEN

- 14) Major abdominal vascular injury
- 15) Grade IV or V liver injuries
- 16) Any patient requiring damage control laparotomy
- 17) Hemodynamically unstable pelvic fracture
- 18) Complex pelvis/acetabulum fractures

SPINE

- 19) Any level of spine fracture with neurologic deficit
- 20) Neurologic deficit without spine fracture

EXTREMITIES

- 21) Fracture or dislocation with loss of distal pulses

PEDIATRICS*: Age < 15 (less than or equal to 14) who:

- 22) Require admission to an ICU.
- 23) Exhibit signs of traumatic brain injury (structural abnormality on x-ray or CT, sustained GCS < 15 for greater than 2 hrs, or neurological deterioration.)
- 24) Are being treated non-operatively for solid organ injuries.

*When transfer is necessary, pediatric trauma patients should be preferentially transferred to a Pediatric Trauma Center unless, in the judgment of the referring physician, transfer would excessively delay life-saving care that could be provided at a closer Level I or II.

Consideration for Transfer: In addition to the above mandatory transfer criterion, consideration is indicated in the following circumstances:

- 1) Patients receiving anticoagulant therapy which places the patient at significant risk for intracranial hemorrhage or intracranial bleeding.
- 2) Pediatric considerations for transfer include:
 - Pediatric trauma patients ≤ 14 years of age injured seriously enough to require hospital admission should be considered for transfer to a Level I or Level II Pediatric Trauma Center.

Transfer Guidelines: Adult Trauma Centers (Level I and II) To Pediatric Trauma Centers

Transfer Guidelines: Adult Trauma Centers (Level I and II) To Pediatric Trauma Centers

Pediatric trauma patients less than or equal to 14 years of age may benefit from resources and care available at Pediatric Trauma Centers (PTCs). PTCs incorporate specialized pediatric resources typically available in children's hospitals and are therefore usually located in such hospitals. "Children's hospital" is understood to mean a free standing children's hospital or a separate administrative entity within a larger hospital organization such as a children's hospital within a hospital or a full service general hospital with comprehensive pediatric inpatient subspecialty services.

Pediatric Surgeons are a requirement for the care of injured children in PTCs. The presence of a modern pediatric intensive care unit (PICU) utilizing the services of pediatric critical care medicine (PCCM) specialists in cooperation with pediatric trauma surgeons is also a distinguishing characteristic of trauma care at PTCs. PTCs should be used to the fullest extent feasible within the trauma system. Adult Trauma Centers must have transfer agreements in place with pediatric trauma centers. (Reference: ACS, Resources for Optimal Care of the injured Patient: 2014)

For some injured children transfer would be mandatory, barring extenuating circumstances such as weather, transport capabilities and the regional deployment of resources pertaining to the needs of multiple injured patients. Each decision to transfer takes into consideration the enhanced care provided at institutions with dedicated resources for the care of injured children and the inconvenience to families when they are geographically remote from their place of residence and support structures.

A. Pediatric trauma patients, less than or equal to 14 years of age, who meet the following criteria should be transferred to a pediatric trauma center:

The decision to transfer should be consistent with the best practices of trauma care and under some circumstances may require immediate onsite neurosurgical treatment such as decompression of an expanding epidural hematoma, thoracic, abdominal, and pelvic or extremity procedures required to control hemorrhage, such as laparotomy for hemoperitoneum with hemodynamic instability.

1. Persistent physiologic derangements, shock, hemodynamically unstable, ongoing transfusion needs.
2. Traumatic brain injury (significant structural abnormality on x-ray or CT, sustained GCS less than or equal to 13 for greater than two hours, or neurologic deterioration.
3. Intubation and mechanical ventilation not expected to be weaned and extubated within 24 hours.
4. Children with special needs and those with other co-morbid conditions such as congenital heart disease, chronic lung disease or other disease processes that will benefit from the multidisciplinary care available at a pediatric trauma center.

B. Pediatric trauma patients who meet the following criteria should be considered for transfer to a pediatric trauma center:

1. Non-operative management of solid organ injuries.
2. Any assessment of "negative points" on the Pediatric Trauma Score ("negative points are assigned for: less than 10 kg, airway unmaintainable, systolic blood pressure less than 50 mmHg, coma, major open or penetrating wound, open or multiple fractures.)
3. Injury Severity Score > 9
4. Victim or non-accidental injury that requires additional resources including a child protection team.
5. When it is anticipated that the complexity of ongoing care will exceed the capabilities of the local resources at the adult trauma center.

C. See Inter-Facility Transfer & Consultation Requirements for Level III and IV Trauma Centers for additional details

Admission Considerations for Level IV Trauma Centers

Admission Considerations for Level IV Trauma Centers

The following conditions may be appropriate for admission to a Level IV Trauma Center:

- Neurotrauma:
 - GCS 15 with normal (baseline) CT
 - GCS less than or equal to 14 with a normal (baseline) CT and an in-house Neurosurgical consultation
 - Neck Strain with no neurological deficits
- Facial Injury:
 - Isolated, non-displaced facial/nasal fracture
- Orthopedic Trauma:
 - Multiple distal orthopedic injuries with intact neurovascular examination in a patient without significant concomitant head, thoracic-abdominal or proximal lower extremity injuries
 - Closed proximal orthopedic injury with intact neurovascular examination in a patient without concomitant significant head or thoracic-abdominal injuries
 - Isolated clavicle fracture
 - Simple, non-operative pelvic fractures
- Truncal Trauma:
 - Rib fractures without presence of pulmonary contusion or flail chest
 - Age > 14 (age 15 or greater)
 - Oxygen saturation > 93% on room air
 - Minimal hemothorax
 - Pneumothorax (isolated injury and asymptomatic)
 - A clinical management guideline which must include pain management, respiratory therapy involvement, admission acuity guideline (med/surg, stepdown, intensive care, etc.), and provider-specific credentialing for chest tube insertion and management
- Superficial abrasions and contusions

Glossary

TERM	DEFINITION
AACN	American Association of Critical Care Nurses
AANN	American Association of Neuroscience Nurses
ABLS	Advanced Burn Life Support. A program offered by the American Burn Association providing knowledge for immediate care of the burn patient up to the first 24-hours post injury.
ACGME	Accreditation Council for Graduate Medical Education
ACLS/PALS equivalent	A course covering advanced resuscitation training including Basic Cardiac Life Support (BCLS) and Advanced Cardiac Life Support (ACLS) including age appropriate principles. An example is the Advanced Resuscitation Training/ Basic Resuscitation Training (ART/BART) resuscitation program.
Adequate notification from the field	In relationship to the tracking of arrival time for providers to trauma activations (highest level). For example, the attending surgeon must be present on patient arrival, with adequate notification from the field – maximum acceptable response time is 15 minutes tracked from patient arrival (30 minutes for level III and IV). Adequate notification from the field is EMS/Pre-hospital notification.
Admission	The formal acceptance by a hospital of patients who are to receive physician dentist, or allied services while lodged in the hospital and all PTOS qualifiers will be included as admissions.
Advanced Practitioner	A Physician Assistant or Certified Nurse Practitioner or Certified Registered Nurse Practitioner
Allied Health Professional	Occupations whose primary function is to provide health services to promote health and well-being. Preparations for such occupations range from on-the-job training to post-graduate education. The occupations include those that direct patient care responsibilities, such as physical and occupational therapists and those with little or no direct patient contact such as medical laboratory technologists, community health educators and medical record practitioners. (Medical Record Management 11 th Edition).
Alternate Pathway	To provide criteria and mechanism for which non-board certified physicians in a trauma center can be approved to care for trauma patients by using the Alternate Pathway Criteria. This applies to only those physicians who, by PTSF Standards of Accreditation, are required to be Board Certified. See Policy AC-129: Process for Use of Non-Board Certified Physicians: Alternate Pathway.

Glossary

American Burn Association Burn Center referral criteria	<p>Burn injuries that should be referred to a burn center include the following:</p> <ul style="list-style-type: none"> • Partial-thickness burns of greater than 10% of the total body surface area • Burns that involve the face, hands, feet, genitalia, perineum, or major joints • Third-degree burns in any age group • Electrical burns, including lightning injury • Chemical burns • Inhalation injury • Burn injury in patients with preexisting medical disorders that could complicate management, prolong recovery, or affect mortality • Any patients with burns and concomitant trauma (such as fractures) in which the burn injury poses the greatest risk of morbidity or mortality. In such cases, if the trauma poses the greater immediate risk the patient's condition may be stabilized initially in a trauma center before transfer to a burn center. Physician judgment will be necessary in such situations and should be in concert with the regional medical control plan and triage protocols • Burned children in hospitals without qualified personnel or equipment for the care of children. • Burn injury in patients who will require special social, emotional, or rehabilitative intervention
AORN	Association of Operating Room Nurses
ANCC Medical-Surgical Nursing certification (RN-BC)	American Nurses Credentialing Center's Medical-Surgical Nursing Certification awarding the credential RN-BC, Registered Nurse-Board Certified. RN-BC credentialing. Other ANCC specialty certifications awarding the RN-BC are not applicable.
ATCN	Advanced Trauma Care for Nurses sponsored by Society of Trauma Nurses
ATLS Course	Advanced Trauma Life Support Course sponsored by the American College of Surgeons

Glossary

Basic Registry Course	<p>Trauma registrars must have a foundation of basic registry education. The PTSF has a Basic Trauma Registry Course available on line at www.ptsf.org (Education). It is acceptable to substitute this course for other basic registry options, however the core content of the basic education must consist of:</p> <p>Introduction, History and Insight (PA trauma system, PTSF operations, accreditation process)</p> <p>Tool Box #1 – What is trauma, why is trauma important, Trauma registry intro and state vs facility registry, where to find documentation required for abstraction, types of injuries, PTOS vs NON-PTOS</p> <p>Tool Box #2 – Patient Log</p> <p>Tool Box #3 – Reference documents to assist in abstraction (PTOS Directory, Standards, Quarterly Reports, website, PTOS manual, ICD-9 book, AIS coding book, COLLECTOR Manual, TRICODE Instructions)</p> <p>Tool Box #4 – COLLECTOR introduction</p> <p>Tool Box #5 – ICD-9-CM coding basics</p> <p>Tool Box #6 – AIS coding basics</p> <p>Tool Box #7 – TRICODE</p> <p>Tool Box #8 – Interfaces (POPIMS/PA V5, NTDS, NTRACS)</p> <p>Tool Box #9 – Timely Submissions (how to submit)</p> <p>Tool Box #10- Performance Improvement Intro</p>
Board-Eligible	Physician graduated from medical school, completed residency, trained under supervision in a specialty and is eligible to take a specialty exam by a medical specialty board
Board-Certified	Physicians certified by appropriate specialty boards. Recognized Boards are those recognized by the American Board of Medical Specialties, the Bureau of Osteopathic Specialists or Boards of Certification of the Royal College of Physicians and Surgeons of Canada.
Burn Unit	A special care unit that possesses the facilities, equipment and personnel specifically for the care of burn patients and adhering to the standards of the American Burn Association (ABA)
Bypass	A procedure put into effect by a trauma center when the facility is unable to provide the level of care designated by the trauma center accreditation and patients are referred to other accredited trauma centers.

Glossary

Case Management	Case management is a collaborative process which assesses plans, implements coordinates, monitors and evaluates the options and services to meet an individual's health needs, using communication and available resources to promote quality cost effective outcomes.
CCRN	Critical Care Registered Nurse Certification by the American Association of Critical Care Nurses
CEN	Certified Emergency Nurse certification by the Emergency Nurses Association
CFRN	Certified Flight Registered Nurse certification by the National Flight Nurse Association
CME	Continuing Medical Education – Defined educational activities for practicing physicians, often resulting in approved credit hours from the AMA, state medical society, a medical school or hospital. Continuing medical education consists of educational activities that serve to maintain, develop or increase the knowledge, skills, professional performance and relationships that a physician uses to provide services for patients, the public or profession. The content of CME is that body of knowledge and skills generally recognized and accepted by the profession as within the basic medical sciences, the discipline of clinical practice and the provision of health care to the public. Both category I and II CME can be used to comply with the standard for total CME hours.
CNOR	Certified operating room/perioperative nurse
CNRN	Certified Neuroscience Registered Nurse
Continuing Education	Planned educational activities intended to enrich the educational and experiential background of the health professional
Continuous Basis	Required certification(s) must be current and maintained with no time lapse between the date of expiration and the date of re-certification
CPAN	Certified Post Anesthesia Nurse
CPN	Certified Pediatric Nurse by the Pediatric Nursing Certification Board
Credentialed	A process in which individual institutions recognize appropriate education and training for physicians, advanced practitioners, allied health professionals and registered nurses with specialized skills
CRNP	Certified Registered Nurse Practitioner
Demonstrated capacity	Documentation of the adequacy of the institution's capacity to provide care at the level stated, including methodology for prioritization of services throughout the institution, to meet patient needs.
Demonstrated commitment	Provision of evidence, visible and written, which clearly demonstrates an institution-wide commitment to trauma care.
Desired	Desired requirement(s) for accredited trauma centers in Pennsylvania. This means the standard is not required for trauma center accreditation, however this could be a goal to strive for.

Glossary

DMIST	<ul style="list-style-type: none"> • D - Demographics, • M - Medical Complaint / Mechanism • I - Inspections / Injuries • S - Signs (vital signs) • T - Treatment <p>This process was formalized by the Pennsylvania Department of Health Bureau of EMS, Pennsylvania Emergency Health Services Council and Pennsylvania Trauma Systems Foundation as a method to standardize the verbal transfer of care process from EMS to the Trauma Center</p>
Emergency	A sudden generally unexpected occurrence or set of circumstances that require immediate attention.
ENA	Emergency Nurses Association
ENPC	Emergency Nursing Pediatric Course sponsored by ENA
Equivalent to	Equal in value, measure, function
Essential	Essential requirements indicates the standard is required for trauma center accreditation
Excused Absence (PI Attendance) and temporary variance	Peer-review meeting attendance may be waived / pro-rated for military deployment, medical leave and missionary work. The center must provide documentation to support the excused absence. Vacation, patient care, illness and contracted but not working that month are not excused absences and may not be prorated. TPMD/Liaison providing a review of the meeting minutes to the absent provider cannot be counted as attendance at the meeting. Per Diem providers, providers rotating from another hospital, and Locum Tenens providers cannot have attendance expectations prorated based on amount of call taken.
First Responder	A physician, or advanced practitioner, that is the first provider contacted for emergencies 24 hours a day in any admitted unit/floor. The institution defines which provider is designated the first responder. See ICU Standard for qualifications specific to the ICU First Responder.
Functionally Equivalent	This term as it applies to acquisition of 16 hours of trauma-related CME per year on average or by demonstrating participation in an internal educational process conducted by the trauma program based on the principles of practice-based learning and the PIPS program. The outcome of learning principles are the goal achieved and therefore equivalent to the same hours and intentions.
General Surgical Accredited Residency Program	A program approved by either the Accreditation Council for Graduate Medical Education or the American Osteopathic Association
General Surgical Trauma Call Roster	A publicized listing of attending level surgeons assigned to trauma care, including dates of coverage and back-up surgical physician (s).
Geriatric Patient	For the purposes of PTOS submission: trauma patients equal to or greater than to sixty-five (65) years of age. Trauma Centers should determine the age definition of a pediatric trauma patient for their individual institutions.

Glossary

ICD-10	The tenth edition of “International Classification of Diseases” - a standard coding system that includes all injuries and disease processes.
ICD-9	The ninth edition of “International Classification of Diseases “ - a standard coding system that includes all injuries and disease processes
ICP	Intracranial pressure, often monitored in patients with severe injuries to the brain
IEP (Internal Educational Process)	<p>Internal Educational Process: An institutional specific educational option for designated trauma providers to meet continuing education requirement.</p> <p>Examples of an IEP may include the following: in-services, case-based learning, educational conferences, grand rounds, internal trauma symposia and in-house publication dissemination of information gained from a local conference or an individual’s recent publication (through trained analysis).</p> <p>IEP’s should include presentations and discussions on a quarterly basis at a minimum.</p> <p>The total hours acquired through an IEP should be functionally equivalent to 12 hours of CME annually for a Level I, II or III trauma center or 8 hours for a level IV.</p>
Immediate / Immediately available	Implies urgency in a prompt, rapid and expeditious manner
In-House CT Scanner	In-house computerized tomography (CT) scanner does NOT include mobile services, guaranteed service contracts with other institutions with in-house CT scanners, or CT scanners in use at remote buildings or areas of the institution requiring transportation of the patient from the main building to the CT scanner.
Institution	The hospital facility, administration and physical plant, applying for and maintaining trauma center accreditation. The accreditation process does not review or accredit ALL hospitals within the health network/system. Accreditation only applies to the individual institution under review.
Interdisciplinary	The collaboration of professionals who formulate an optimal plan of patient care
Intermediate Care Step Down Unit(s)	Each institution will define the areas considered intermediate care/ step down units by the patient admission criteria. This typically is a unit providing higher acuity care than a regular Medical/Surgical Floor and frequently less than in Intensive Care Unit.
Intervention	Raises awareness of risks and motivation of the individual toward acknowledgment of a potential problem.
ISS (Injury severity score)	Injury Severity Score: the sum of the squares of the Abbreviated Injury Scale scores of the three most severely injured body regions.
Liaison	A physician with credentials in the appropriate specialty with expertise and interest in trauma care. This person optimally should be the chairperson of the specialty department.

Glossary

Licensed Helipad	Licensed by the Bureau of Aviation, Pennsylvania Department of Aviation. Air space approved by the Federal Aviation Administration.
Major Uni-system/Multi-system Trauma patient	The patient with severe multi-system or major uni-system injury, the extent of which may be difficult to ascertain, but which has the potential of producing mortality or major disability.
Mechanism of Injury	The source of forces that produce mechanical deformations and physiologic responses that causes an anatomic lesion or functional change in humans.
Monitoring Equipment	For purpose of equipment required in departments, monitoring equipment must be defined by the trauma program but includes items such as cardiac monitoring, blood pressure and pulse oximetry.
Morbidity	The relative incidence of complications related to disease
Mortality	The proportion of deaths to population
Orientation	Time period provided to acquaint new personnel with the physical facilities, philosophies, policies, role expectations, procedures, and skills required in the new environment.
PaTNCC	Pennsylvania Trauma Nursing Core Curriculum developed by the PA Trauma Systems Foundation.
PALS	Pediatric Advanced Life Support Course developed and sponsored by the American Heart Association and the American Academy of Pediatrics. This course covers the knowledge and skills necessary for the initial management of pediatric emergencies, including trauma.
Participation	The act of an individual(s) sharing or receiving information, with active involvement.
Pastoral Care/Spiritual Counseling	The delivery of spiritual or religious support usually by qualified spiritual leaders such as ministers, priests, rabbis, etc.
Patient/Practice Management Guidelines	The standardized specifications for care developed by a formal process that incorporates the best scientific evidence of effective care with expert opinion.
PATNAC	Pennsylvania Trauma Nurse Advisory Committee: A voluntary committee comprised of Trauma Program Managers (and occasionally other trauma program staff) from various hospitals across Pennsylvania.
PCCN	Progressive Care Certified Nurse
Pediatric Trauma Patient	For the purposes of PTOS submission: trauma patients less than 15 years of age. (Equal to or less than 14). Trauma Centers should determine the age definition of a pediatric trauma patient for their individual institutions.

Glossary

PGY	Post Graduate Year - Classification system for residents in post-graduate training. The number indicates the <i>year</i> the resident is in during their post-medical school residency program; for example, PGY-1 is one <i>year</i> after graduation from medical school.
Phases of Care	Pre-hospital, resuscitative care, operative care, post-anesthesia care, critical care, post resuscitative care (intermediate care/step-down unit, medical surgical unit) rehabilitative care.
PHTLS	Pre-hospital Trauma Life Support sponsored by National Association for Emergency Medical Technicians in cooperation with the American College of Surgeons Committee on Trauma
PICU (Pediatric Intensive Care Unit)	Pediatric Intensive Care Unit: Typically the PICU is geographically separated from adult intensive care units. A board certified Pediatric Critical Care Medicine Specialist is the medical director and provides oversight of other physicians providing care in the PICU as well as other care providers including residents, advanced practice nurses and others. Modern PICU's have their own performance improvement and patient safety processes whereby data is collected and analyzed to assess performance based on national standards. Pediatric Critical Care Medicine specialists provide concurrent care for injured children cooperatively with the pediatric trauma surgeons, neurosurgeons and other surgical specialists. The overall care of the pediatric trauma patient is the responsibility of the pediatric trauma surgeon, but the concurrent care model utilizing Pediatric Critical Care Medicine care specialists is an indispensable part of a process that provides the highest level of care and the best outcomes.
PIPS (Performance Improvement and Patient Safety Program)	Performance improvement emphasizes a continuous, multidisciplinary effort to measure, evaluate, and improve the process of care and its outcome. The patient safety program evaluates the overall care process to see whether it minimizes risk of harm related to the care process itself. (ACS COT 2014)
Prompt / Promptly Available	This implies the physical presence of health professionals in a stated location within a short period of time, without delay. This must be further defined by the Trauma Program Medical Director and continuously monitored by the performance improvement and patient safety program. The minimal urgent response is typically 30 minutes.
PSNA	Pennsylvania State Nurses Association

Glossary

PTOS (Pennsylvania Trauma Outcome Study)	Pennsylvania Trauma Outcome Study. -A centralized statewide registry organized to compile and maintain statistics on mortality and morbidity for major uni-system or multi-system trauma patients.
Readily Available	Implies the physical presence of required equipment in the stated unit within a short period of time and easily accessible. This should be monitored and addressed by the performance improvement and patient safety program as necessary.
Rehabilitation	Services that seek to return a trauma patient to the fullest physical, psychological, social, vocational, and educational level of functioning of which he/she is capable, consistent with physiologic or anatomic impairments and environmental limitations.
Response Time	The interval between notification and arrival of a provider to include an in-person evaluation/intervention.
Resuscitation	The intense period of patient assessment and aggressive medical care to preserve tissue perfusion of life or limb. For purposes of educational requirements of responding staff – this resuscitative period is in the trauma bay.
RTTDC (Rural Trauma Team Development Course)	The Rural Trauma Team Development Course (RTTDC) emphasizes a team approach to the initial evaluation and resuscitation of the trauma patient at a rural facility. With more than 60 percent of the country's trauma deaths occurring in rural areas, the course assists health care professionals in determining the need to transfer the patient to a higher level of care. The one-day course includes interactive lectures on both medical procedures and communication strategies and three team performance scenarios.
Staff Development	Educational activities, which allow for acquisition, maintenance and for increased competence in job knowledge, skills, and responsibilities .Promotes the professional development of staff through the utilization of orientation, in-service education, and continuing education activities
STN	Society of Trauma Nurses
TCRN	Trauma Certified Registered Nurse
Timely	A period of time deemed appropriate or suitable by the Trauma Program Medical Director and continuously monitored by the performance improvement and patient safety program
TNCC (Trauma Nurse Core Courses)	Trauma Nurse Core Courses sponsored by the Emergency Nurse's Association. Not to be confused by the PaTNCC (Pennsylvania Trauma Nursing Core Curriculum)

Glossary

Transfer Guidelines	<p>2014 Orange Book Guidelines for Transferring Patients</p> <p><i>(For all levels of trauma centers)</i></p> <p><u>Transferring physician responsibilities:</u></p> <ul style="list-style-type: none"> • Identify patients needing transfer. • Initiate the transfer process by direct contact with the receiving physician trauma surgeon. • Initiate resuscitation measures within the capabilities of the facility. • Determine the appropriate mode of transportation in consultation with the receiving surgeon. • Transfer all records, test results, and radiologic evaluations to the receiving facility. • Perform a PIPS review of all transfers (CD 4–3). <p><u>Receiving physician responsibilities:</u></p> <ul style="list-style-type: none"> • Ensure that the resources required to care for the patient are available at the receiving facility. • Provide consultation to the referring physician regarding specifics of the transfer, additional evaluation, or resuscitation before transport. • Once transfer of the patient is established, clarify who will provide medical control of the patient during transport. • Identify a PIPS process for transportation, allowing feedback from the receiving trauma surgeon to the transport team directly, or at least to the medical director for the transport team and the referring hospital. • Provide feedback to the transferring facility regarding the patient’s condition, plan of care, and any PIPS issues identified. <p><u>Management during transport:</u></p> <ul style="list-style-type: none"> • Ensure that qualified personnel and equipment are available during transport to meet anticipated contingencies <p><u>Trauma system responsibilities:</u></p> <ul style="list-style-type: none"> • Ensure prompt transport once a transfer decision is made. • Review all transfers for PIPS. • Ensure that transportation resources are commensurate with the patient’s severity of injury.
Trauma Center	A specialized hospital facility distinguished by the immediate availability of specialized surgeons (not level IV), physician specialists, anesthesiologists, nurses, and resuscitation and life support equipment on a 24-hour basis for severely injured patients or those at risk for severe injury.
Trauma Contact	Patients in which the trauma program is associated with. This must be further defined by the trauma program and noted in the PIPS plan. Examples are (but are not limited to) PTOS and Non-PTOS patients.

Glossary

Trauma Credentialed Registered Nurse	Professional registered nurse who has successfully completed the Trauma Nurse Course and fulfills education requirements mandated by the PTSF standards for trauma center accreditation. He/she must demonstrate and maintain clinical proficiency by integrating his/her knowledge and skills by regularly providing care to the trauma patient.
Trauma Fellowship	<p>Formal advanced post-residency training in the care of injured patients. (See Appendix C of the <i>“Resources for Optimal Care of the Injured Patient: 2014”</i>)</p> <p>A fellowship is the period of medical training in the United States and Canada that a physician or dentist may undertake after completing a specialty training program (residency). During this time (usually more than one year), the physician is known as a fellow. Fellows are capable of acting as attending physician or consultant physician in the generalist field in which they were trained, such as internal medicine or pediatrics. After completing a fellowship in the relevant sub-specialty, the physician is permitted to practice without direct supervision by other physicians in that sub-specialty, such as Acute care surgery, Trauma surgery, cardiology or oncology</p>
Trauma-Informed Care	Encompasses four basic components: understanding the impact of trauma on individuals; knowing how trauma may affect patients, families, and staff; utilizing knowledge about trauma responses and putting it into practice; and preventing re-traumatization. Refer to ACS TQIP Best Practice Guidelines for Trauma Center Recognition of Child Abuse, Elder Abuse, and Intimate Partner Violence, released November 2019.
Trauma Program Medical Director	Physician designated by the institution and medical staff to coordinate trauma care.
Trauma Prevention Program	Internal institutional and external outreach educational programs designed to increase awareness of methods for prevention and/or avoidance of trauma-related injuries.
Trauma Program	The individual programs have the authority to determine the resources, criterion and practice that enables the cultures to embrace the desired outcomes.
Trauma Program Manager/ Trauma Program Coordinator	A registered nurse with responsibility for oversight and coordination of all activities on the trauma service who works in collaboration with the Trauma Program Medical Director. In some programs this person may have management responsibilities and have the title of Trauma Program Manager, for the purposes of this document the title of Trauma Program Manager and Trauma Program Coordinator may be used interchangeably and title, compensation and management roles are facility specific.
Trauma Registry	Database to provide information for analysis and evaluation of the quality of patient care, including epidemiological and demographic characteristics of trauma patients.
Trauma Resuscitation Area	A space used for trauma resuscitations. It must be of adequate size to accommodate the full trauma resuscitation team, specific stocked equipment and readily available and accessible for the injured 24/7/365.

Glossary

Trauma Resuscitation Team	Major trauma resuscitations require a multidisciplinary team of health care providers who work in synergy to rapidly assess and treat the patient. The trauma attending or appropriate designee must lead the team. A formal team configuration must be defined by the institution and monitored for effectiveness
Trauma-Related Continuing Medical Education (CME)	Any approved CME (continuing medical education) or CE (continuing education) that enhances the ability of the provider to manage a trauma patient.

Glossary

Guideline and Policy Reference Tool

The following lists identify operational and clinical guidelines as referenced throughout the standards of accreditation. Each policy/guideline should be reflective of the scope of practice of the institution

REQUIRED OPERATIONAL POLICIES:

1. Trauma Activation Criteria
2. Trauma Team Member Identification and Role Definition
3. Trauma Activation, Trauma Consult and Non-Activation Provider Response Time Expectations
4. Admission Criteria
5. Level I, II and III: Transfer In
6. Transfer Out
7. Diversion / Disaster
 - a. Bypass for transfer when CT capability is unavailable due to planned maintenance or mechanical failure
8. PIPS Plan
9. Screening, Brief Intervention and Referral for Treatment (SBIRT) of Substance Abuse
10. Level I, II and III: ED physician staffing, including defining daily periods of peak utilization
11. Level I and II: Back-up trauma attending expected response time parameters
12. Level III: Back-up trauma attending plan
13. Transfer To and From the Helipad
14. OR staffing availability, immediate response parameters and participants for minimal staffing
15. Level I and II: If cardiopulmonary bypass is not available at the facility: Management/transfer of patients requiring cardiopulmonary bypass
16. Priority Laboratory
17. Priority Radiology
18. Discrepant Radiology Reports (process for changes in interpretation, missed injury/delay in diagnosis, notification, and PI tracking)
19. Incidental Radiology Findings
20. Response time expectations for radiology personnel (CT, MRI) when not in-house
21. Social work capabilities
22. Level I and II: Case management capabilities when there is no identified case manager

REQUIRED CLINICAL GUIDELINES / POLICIES:

1. Anti-coagulant reversal
2. Burn Management
3. C-spine clearance
4. Determination of Brain Death Criteria
5. DVT Prophylaxis
6. First Responder identification, parameters and indications for response
7. Long Bone Fracture Management
8. Adult Trauma Centers: Management of Geriatric Trauma Patient including critical care and rehabilitation
9. Management of Pediatric Trauma Patient including resuscitation, critical care and rehabilitation
10. Massive Transfusion Protocol
11. Level III and IV: Mild Traumatic Brain Injury (TBI)
12. Open Fracture Management
13. Prothrombin Complex Concentrate (PCC) protocol
14. Resuscitation Management: (Adult, Pediatric, and Geriatric (n/a for Pediatric Trauma Center))
15. Screening for and management of suspected or confirmed child abuse, elder abuse, intimate partner violence, and sex trafficking
16. Timeliness of response to emergency situation / patient criteria for: Anesthesia (outside of the trauma resuscitation area), Radiology (interventional), Orthopedics and Neurosurgery as applicable
17. Timely notification of Organ Procurement Organization (OPO)
18. Unstable Pelvic/Acetabular Fracture Management

**Note, this appendix may not be all inclusive.

RECOMMENDED RESOURCES:

EAST Guidelines: <https://www.east.org/education/practice-management-guidelines>
 TQIP Guidelines: <https://www.facs.org/quality-programs/trauma/tqip/best-practice>

Standards of Accreditation Revision Log

April 1, 2016		
Standard	Levels	Edit
FRONT COVER	ALL	Add Revision Date
Table of Contents	ALL	Add Appendix D: 2016 Standards of Accreditation Revision Log
5: Registry 1.A. Remove link to PTOS Manual	ALL	Change A From: 2015: PTOS Manual To: Refer to PTOS Manual found at www.ptsf.org – Resources – Trauma Registry
6: PIPS 3. K. iii. New TQIP Participation Update	Adult Levels I, II and III	Update iii: iii. Participation in risk-adjusted benchmarking is required. a. Pennsylvania Trauma Outcome Study (PTOS) participation is required. b. TQIP participation is required. <ul style="list-style-type: none"> • Submission compliance is mandatory by 1/1/2017. • Trauma Centers must demonstrate risk adjusted benchmarking incorporation into the PIPS process while transitioning into TQIP reports. • Trauma centers wishing to utilize another national benchmarking program must obtain a variance from this standard. Refer to Policy AC-105: Applying for a Variance from a Standard for details.
6: PIPS 3. K. IV New TQIP Participation Update	Peds Levels I & II	Update iv: iv. Participation in risk-adjusted benchmarking is required. a. Pediatric Trauma Quality Improvement Program (P-TQIP) participation is required. <ul style="list-style-type: none"> • Submission compliance is mandatory by 1/1/2017. • Trauma Centers must demonstrate risk adjusted benchmarking incorporation into the PIPS process while transitioning into TQIP reports. • Trauma centers wishing to utilize another national benchmarking program must obtain a variance from this standard. Refer to Policy AC-105: Applying for a Variance from a Standard for details.
10: Physicians #7. H. i. Clarification of trauma activation response times	Adult L I, II & III Peds Level I & II	Add: c. The response time is applicable to the highest-level activation at a minimum. d. For centers where the highest level of activation is direct transport to the OR, the second highest activation would apply to the activation criteria.

Standards of Accreditation Revision Log

<p>10: Physicians</p> <p>#7. G.</p> <p>Clarification of back-up trauma attending response to trauma activation response times</p>	<p>Adult Levels I, II and III</p> <p>Pediatrics Levels I & II</p>	<p>Add:</p> <p>ii. The expected response time parameters for the back-up trauma attending must be further defined by the trauma program; however, a 30-minute response time for the emergent request is expected.</p> <p>For Adults: Move this new ii to i. and move the current i. to ii.</p>
<p>10: Physicians</p> <p>#9. F Neurosurgery And #10: F Orthopedic Surgery</p> <p>Clarification of the subspecialist response time</p>	<p>Adult Levels I, II and III</p> <p>Pediatrics Levels I & II</p>	<p>Add or designee into sentence to read:</p> <p>ii. a. The surgeon or designee must be capable.....”</p> <p>Add a new c and d:</p> <p>c. The intent of this standard is to assure the subspecialist’s surgical expertise is promptly available when requested for a subset of emergent patients.</p> <p>d. If a designee is utilized, the trauma program must define parameters for and monitor the compliance with expectations of the surgeon’s response.</p> <ul style="list-style-type: none"> • A “designee” does not replace the surgeon’s presence, but rather provides emergent evaluation and intervention until the surgeon arrives. • Communication between the designee and the subspecialist during this emergent period must be documented in the medical record in order to demonstrate compliance. <p>REMOVE from the current ii: or attending trauma surgeon or general surgery resident (PGY-4 or above)</p>
<p>13: Nursing</p> <p>#7 A.</p> <p>Advanced Certification</p>	<p>Adult Levels I, II & III & Pediatrics Levels I & II</p>	<p>Add:</p> <p>A. CNRN (Certified Neuroscience Registered Nurse) to list of acceptable advanced certifications.</p>
<p>Glossary</p>	<p>All Levels</p>	<p>Add:</p> <p>CNRN: Certified Neuroscience Registered Nurse General</p>
<p>General</p>	<p>All Levels</p>	<p>Remove link to policy AC-105 and replace with Refer to Policy AC-105: Applying for a Variance from a Standard for additional details.</p>

June 1, 2016

Standard	Levels	Edit
6. PIPS	ALL	Allows for Subspecialist Liaison meeting attendance to be shared between the Liaison and a second Identified representative of the subspecialty group.
10: Physician	ALL	

Standards of Accreditation Revision Log

September 30, 2016		
Standard	Levels	Edit
10: Physician	Level IV	Clarified role of Anesthesia services as defined by the trauma program.
6: PIPS	ALL	If using two subspecialists to meet Liaison PI attendance requirements, then both representatives must comply with CME hours.
10: Physician	ALL	
6: PIPS	Adult Level I, II and III	Submission to the PA-TQIP Collaborative is required.
13: Nursing	ALL	TCRN certification paired with a hospital-specific competency module meets the PTNCC curriculum requirements.
14: EMS	ALL	Add Medical Command, as recognized by the PaDOH Bureau of EMS must be maintained.
December 12, 2016		
Standard	Levels	Edit
6: PIPS	Level III and IV	Clarified PA-TQIP and Risk Adjusted Benchmarking requirements and POPIMS Central Site Submissions.
10: Physicians	Level IV	Clarified minimal requirements for Emergency Department Physician credentials.
11: Nursing	ALL	Clarification of Pa TNCC requirements for accredited trauma centers opening new nursing units.
April 14, 2017		
Standard	Levels	Edit
6: PIPS	Adult & Pediatric Level I & II Combined Centers	Requires representative from adult/pediatric general surgery on the opposite adult/pediatric multidisciplinary peer-review committee
7: Continuing Education 10: Physicians	Adult & Pediatric Combined Centers	In Trauma Centers with both and Adult and Pediatric Accredited program, a minimum of 4 hours (of 16) of the required annual continuing education must be related to pediatric trauma care.
8: Injury Prevention	ALL	Clarified that substance abuse screening includes both drugs and alcohol.
10: Physicians	ALL	Increased the amount of continuing education credits for physicians completing board certification / re-certification from 4 hours to 33 hours.
10: Physicians	Levels I, II and III Adult and Pediatric	Removed specifics related to requiring pre-hospital notification in order to track attending response times to trauma activations.
10: Physicians	Levels I, II and III Adult and Pediatric	Vascular Surgeons may meet Interventional Radiology emergent response qualifications.

Standards of Accreditation Revision Log

10: Physicians	Adult Levels I, II, and III	Clarified that Level III trauma centers do not need trauma surgeons to be in-house.
15: Helipad	Level IV	Remove verbiage requiring the team direct access to the helipad/patient.
16: Emergency Department	Level IV	Required waveform capnography. Made tourniquets plural
23: Radiology	Levels I, II and III	Clarified that emergent (30-minute) response is not required for Level III trauma centers.
25: Social Services	Levels I, II and III Adult and Pediatric	Removed requirement for active participation in local, state and national trauma Social work related activities.

August 21, 2017

Standard	Levels	Edit
1: Commitment	ALL	Clarified that a trauma activation policy must include the defined role expectations of the trauma team participants.
2: Capacity and Ability	ALL	Clarified that diversion applies to the entire trauma center and not just the Emergency Department.
6: PIPS #3	ALL	Removed JCAHO initials from taxonomy, as it is not proprietary owned by JCAHO.
8: Injury Prevention	ALL	Clarified that SBIRT at a minimum must be completed on patients admitted greater than 24 hours.
Appendix A: Level III & IV Transfer Guidelines	ALL	Transfer Out Criteria: Updated the Head/C-Spine criteria
Appendix C: Level IV Admission Guidelines	ALL	Admission Criteria: Updated Neurotrauma criteria
New Appendix D	ALL	Guideline and Policy Reference Tool. This is a list of guidelines and policies that are referenced throughout the Standards of Accreditation. Old Appendix D (Revision Log) now becomes Appendix E

Standards of Accreditation Revision Log

January 1, 2018		
Standard	Levels	Edit
1: Commitment	ALL	New Standard Effective 10/1/2018 If a center has more than one level of trauma activation/alert, the response time expectation for each level must be defined by the trauma program.
6: PIPS	Adult Level I, II and III and Pediatrics Level I & II	<ul style="list-style-type: none"> Clarification on TQIP participation for pursuing and newly accredited centers. Clarification on the PA TQIP Collaborative submission requirements.
8: Injury Prevention	ALL	The established minimal threshold for SBIRT screening is 80% compliance.
10: Physicians – Emergency Medicine	Level IV	New Standard Effective 10/1/2018 Clarification on use of Residents as “moonlighters” for Emergency Physician Coverage.
10: Physicians – Other Surgical and Non-Surgical Providers	Adult Level I & II and Pediatrics Level I & II	Clarification that coverage is expected to be continuous (meaning 24/7/365).

April 1, 2018		
Standard	Levels	Edit
1: Commitment	ALL	Added to highest level of activation: <ul style="list-style-type: none"> Penetrating Injuries to the head Added for consideration in some level of trauma activation <ul style="list-style-type: none"> Anticoagulants or Bleeding Disorders Partial or Full Thickness Burns ≥ 20% Total Body Surface Area (TBSA) – if not a designated Burn Center.
3:TPMD	Level I-III	Added variance pathway for Level III TPMD requesting a variance from standard requiring a Fellowship in Surgical Critical Care, Trauma or Acute Care Surgery.
6: PIPS	ALL	Added standard addressing confidentiality of PA V5/POPIMS Central Site, PA TQIP Collaborative and PTOS data.
11: Advanced Practitioners	ALL	Corrected typo noting CRNA from Certified Registered Nurse Practitioners to CRNA =Certified Registered Nurse Anesthetists.

Standards of Accreditation Revision Log

11: Advanced Practitioners	ALL	Clarified that ATLS is required for APPs participating as a member of the team caring for trauma activation patients via assessment or interventions and excluded 'main/FastTrack ED, Neurosurgical, Orthopedic or other consultants. This does not affect the ICU First Responder expectations.
13: Nursing	Level I, II and III Adult Level I and II Pediatrics	EFFECTIVE 1/1/2020: Updates acceptable courses that meet advanced certification expectations are: ATCN and TNCC.

August 1, 2018

Standard	Levels	Edit
Standard 5: Registry	ALL	Changed the word abstracted (within 42 days of discharge) to submitted in coordination with the submission policy. Clarification.
Standard 3: Trauma Program Medical Director Standard 10: Physicians Standard 11: Advanced Practitioners	ALL	Change – If a physician maintains board certification in applicable specialty, additional continuing education tracking is not required. <ul style="list-style-type: none"> • Not applicable to TPMD • Not applicable to Physicians with an approved alternate pathway. Decreased the annual hours from sixteen per year / 48 in 3 years to twelve per year / 36 in 3-years. For Level IVs: 8 hours per year or 24 hours in 3 years. Eliminate annual CME tracking for Advanced Practitioners. Effective immediately.
Standard 8: Injury Prevention	ALL	Clarified that SBIRT eligibility expectations. Clarification.
Standard 8: Injury Prevention	ALL	Stop the Bleed initiatives should be included in the injury prevention plan. New standard as a 'should' – effective immediately.
Standard 10: Physicians – Anesthesia	Level I, II and III Adult Level I and II Pediatrics	Clarified that the anesthesiologist is required to respond to emergent operating room cases within 15 minutes (L 1 & 2) and 30 minutes (L3). Congruent with Standard 17: Operating Room. Clarification.

Standards of Accreditation Revision Log

Standard 10: Physicians	ALL	Telemedicine is not an acceptable form of consultation. Clarification.
Standard 17: Operating Room	ALL	The Trauma Program must define the participants for minimal OR staffing. Clarification.
Standard 23: Radiology And Appendix D: Policies and Guideline Reference	ALL	Added policy/guideline expectations for Incidental Findings New expectation: Effective June 2019.

January 1, 2019

Standard	Levels	Edit
1: Commitment	All Levels	Clarification within the minimal trauma alert criteria. F. i. was updated as age 10 was not previously accounted for in either category. Age 10 and younger belongs in the pediatric systolic blood pressure category. F. i. was changed to reflect: Systolic blood pressure <70 + (2x age in years) at any time in a patient 10 and younger.
5: Registry	All Levels	Clarified that Trauma Contacts at a minimum must equal PTOS volume.
5: Registry	All Levels	Clarified that an example of inter-rater reliability is to re-abstract records.
5: Registry	All Levels	Registrars maintaining CSTR are not required to maintain continuing education logs.
6: PIPS	Level IV	Clarified that NTDB submission is encouraged but not required for Level IV centers.
6: PIPS And 10: Physicians	Level IV	New Standard: Compliance Date of October 1, 2019: In a level IV program where trauma patients are regularly admitted to an in-patient unit, a medical service representative/liaison must participate on the peer-review committee. Liaison expectations apply.
8: Injury Prevention	Pediatrics	Clarified that all PTOS (pediatric) patients must undergo a screening for abuse and this must be documented. Positive screenings must result in evaluation/investigation of the cause of abuse.
11: Advanced Practitioners	All Levels	Clarified that Certified Registered Nurse Anesthetists (CRNAs) functioning in a supportive/specialist role (such as airway) are exempt from ATLS certification requirements.

Standards of Accreditation Revision Log

13: Nursing	All Levels	Clarified/New standard: Compliance date of October 1, 2019 Units requiring compliance with Nursing standards includes admission/holding/observation areas used as an extension of the Emergency Department.
13: Nursing	All Levels	Nurses maintaining a trauma advanced certification are not required to maintain continuing education logs. Not applicable to the TPM or PI Coordinator. Effective immediately.
22: Laboratory and Blood Bank	All Levels	New standard: Expected compliance October 1, 2019. Prothrombin Complex Concentrate (PCC) must be available and a guideline/policy for utilization must be present.

April 1, 2019

Standard	Levels	Edit
6: PIPS	Adult Level I, II and III Pediatric Level I and II	Clarified that Any RN fulfilling any component of the PI Role/FTE must maintain 75% attendance at the Trauma PIPS meetings. Expected compliance of 1.1.2020
7: Continuing Education	ALL	Clarified that internal audience continuing education programs must occur annually.
7: Continuing Education	Adult Level I and II	Clarified that there will be programs in continuing education provided by the institution concerning the treatment of trauma patients of all ages for each of the following <u>external</u> audiences. This may be fulfilled by multidisciplinary programs.
10: Physicians	Adult Level I, II and III Pediatric Level I and II	Clarified that an Emergency Medicine physician must respond to the highest level of trauma alert. In an Emergency Department where a trauma surgeon is present in the ED at all times, the EM Physician is not required to respond to highest level activations.
13: Nursing	ALL	Added that in circumstances where a patient is admitted to the unit under the care of a non-trauma credentialed RN there must be oversight by a trauma credentialed RN, which must include at a minimum immediate availability as a resource. Expected compliance of 1.1.2020

Standards of Accreditation Revision Log

13: Nursing	ALL	Added to the list of advanced certifications that exempt a nurse from completing a continuing education log: CNOR, CPAN, and ANCC Medical-Surgical Nursing board certification (RN-BC). See Glossary for details.
13: Nursing	Adult Level I, II, III and IV	<p>Affirmed that the PaTNCC is transferable between Level I, II and III trauma center, however the transferring nurse must complete a hospital-specific module within one year of hire.</p> <p>RNs transferring from a Level IV trauma center must complete the higher-level trauma center PaTNCC</p> <p>RNs transferring from a pediatric trauma center to an adult trauma center must complete a geriatric module if not completed at the previous trauma center.</p> <p>Expected compliance of 1.1.2020.</p>
13 Nursing	Pediatric Level I and II	<p>Affirmed that the geriatric module of the PaTNCC is optional. The PaTNCC is transferable between pediatric Level I and II trauma centers, however the transferring nurse must complete a hospital-specific module within one year of hire.</p> <p>RNs transferring from an adult Level I, II, or III trauma center can transfer the PaTNCC, at the discretion of the trauma program</p> <p>RNs transferring from a Level IV trauma center must complete the PaTNCC.</p> <p>Expected compliance of 1.1.2020.</p>
23: Radiology	ALL	<p>Added CT scanner slice capability requirements:</p> <p>Level I & II: A minimum of one 64-slice CT capability scanner</p> <p>Level III & IV: A minimum of one 64-slice CT capability scanner in hospitals where vascular imaging occurs or a minimum of one 16-slice CT capability scanner where vascular imaging does not occur.</p> <p>Expected compliance of 1.1.2020</p>

Standards of Accreditation Revision Log

Glossary	ALL	<p>Added:</p> <p>Excused Absence (PI Attendance) and temporary variance: Peer-review meeting attendance may be waived / pro-rated for military deployment, medical leave and missionary work.</p> <p>CNOR: Certified operating room/perioperative nurse</p> <p>CPAN: Certified Post Anesthesia Nurse</p> <p>ANCC Medical-Surgical Nursing certification (RN-BC): American Nurses Credentialing Center's Medical-Surgical Nursing Certification awarding the credential RN-BC, Registered Nurse - Board Certified. RN-BC credentialing. Other ANCC specialty certifications awarding the RN-BC are not applicable.</p>
Appendix A	ALL	<p>Added Flail Chest, and Non-ocult pneumothorax defined by the trauma program to the list of conditions that require transfer to a higher-level of care.</p> <p>Expected compliance of 1.1.2020</p>
Appendix C	ALL	<p>Added Pneumothorax (isolated injury and asymptomatic) and a clinical practice guideline for chest tube insertion and management to the list of conditions that are appropriate for admission to a Level IV trauma center.</p> <p>Expected compliance of 1.1.2020</p>

August 1, 2019

Standard	Levels	Edit
2: Capacity & Ability	Adult Level I, II and III Pediatric Level I and II	Added clarification that communication from Level IV referring hospitals may be by a physician or advanced practitioner.
10: Physicians	ALL	Added clarification to Other Surgical Specialties that regardless of the surgical or admission capabilities, every trauma center must immediately evaluate, stabilize, treat and, if indicated, transfer trauma patients that exceed the capabilities of the trauma center.
10: Physicians	Level IV	Added that best practice is for the medical service who primarily covers in-patient care to maintain ATLS.

Standards of Accreditation Revision Log

11: Advanced Practitioners	ALL	Added that AP's involved as first responders in any phase of trauma care must have ACLS/PALS (as applicable) Expected compliance of 1.1.2021
14: Emergency Medical Services	ALL	Added the suggestion to collaborate with EMS to adopt a universal format for the verbal transfer of care of the trauma patient, recommending the standard DMIST communication format.
17: Operating Room	Adult Level I, II and III	Added End-Tidal CO2 Determination to the list of required equipment. Expected compliance of 5.1.2020
17: Operating Room	Level IV	Added Monitoring equipment to the list of required equipment. Expected compliance of 5.1.2020
23: Radiology	Adult Level I, II and III Pediatric Level I and II	Added clarification of an MRI log to monitor compliance with response times expectations.
Glossary	ALL	Added: DMIST <ul style="list-style-type: none"> • D - Demographics • M - Medical Complaint / Mechanism • I - Inspections / Injuries • S - Signs (vital signs) • T - Treatment <p>This process was formalized by the Pennsylvania Department of Health Bureau of EMS, Pennsylvania Emergency Health Services Council and Pennsylvania Trauma Systems Foundation as a method to standardize the verbal transfer of care process from EMS to the trauma center.</p>
Appendix D	All Levels	Clarified that all Clinical Guidelines/Policies listed are required, and should be reflective of the scope of practice of the institution.

Standards of Accreditation Revision Log

January 1, 2020		
Standard	Levels	Edit
1: Commitment	Adult Level I, II and III	New Standard per Legislation: New Level I, II and III must be 25 miles from an accredited trauma center. Waiver process in place to waive the 25 mile restriction.
1: Commitment	Adult Level IV	New Standard: Expected compliance January 1, 2021. The Emergency Medicine Physician and/or Advanced Practitioner response to highest level activation is 15 minutes.
2: Capacity & Ability	Adult Level I, II and III	New Standard per Legislation: Level II must have 600 PTOS patients.
2: Capacity & Ability	Adult Level I, II and III Pediatric Level I and II	Added clarification that communication from Level IV referring hospital to a higher level center may be completed by a physician or advanced practitioner.
6: Performance Improvement & Patient Safety Program	Adult Level I, II, III and IV Pediatric Level I and II	New Standard for programs utilizing the <u>optional</u> role of a PI Medical Director/Associate Medical Director. Expected compliance January 1, 2021. The individual functioning in this role must meet the following requirements: be a physician with Board Certification/Eligibility in specialty field, have a job description, be included in the PIPS plan, maintain a CME log, attend TOPIC course, and attend 75% of the multidisciplinary peer review PI meeting and trauma program operational meeting.
10: Physicians	Adult Level I, II, III and IV Pediatric Level I and II	Clarified that Board Certified and Board Eligible physicians are not required to maintain a CME log.
10: Physicians	Adult Level IV	Clarified that trauma programs with Orthopedic Surgery, Neurosurgery, and/or Anesthesiology involved in the care of the trauma patient at any time must maintain on-call coverage 24/7/365.
Appendix C	Adult Level I, II, III and IV Pediatric Level I and II	Changed Appendix title to Admission Considerations for Level IV Trauma Centers. Removed INR <2 from Neurotrauma, Facial Injury, and Truncal Trauma sections of the of the admission considerations.

Standards of Accreditation Revision Log

May 1, 2020		
Standard	Levels	Edit
1: Commitment	Adult Level IV	Added clarification that the trauma program must define the response expectations for non-activation trauma patients. See Standard 10 below.
2: Capacity & Ability and Appendix A	Adult Level I, II, III and IV Pediatric Level I and II	Added clarification that patients must be transferred to higher-level trauma centers.
3: Trauma Program Medical Director	Adult Level I, II and III Pediatric Level I and II	Added clarification that years of experience can include years in Fellowship but not years in Residency.
8: Injury Prevention	Adult Level I, II, III and IV Pediatric Level I and II	New Standard as a recommendation Providers participating in the care of the injured patient should have access to trauma-informed care training. Definition of trauma-informed care added to Glossary.
10: Physicians	Adult Level IV	Added clarification that the trauma program must define response times for the Emergency Physician for all activation levels and non-activation trauma patients. Response time expectations for non-activation trauma patients may be a tiered response time expectation based on triage level, such as ESI levels.
10: Physicians	Adult Level I, II and III Pediatric Level I and II	Added clarification that the Orthopedic Attending or designee must be able to respond at bedside when consulted.
10: Physicians	Adult Level III and IV	New Standard: Effective immediately The second representative from Anesthesia for the PIPS meeting may be a CRNA.
11: Advanced Practitioners	Adult Level I, II, III and IV Pediatric Level I and II	Clarified that APs must complete ATLS prior to participating independently in activations and prior to functioning independently as a first responder.
27: Geriatrics	Adult Level I, II, III and IV Pediatric Level I and II	New Standard: Expected compliance May 1, 2021 The institution must have a policy/procedure/guideline that defined the abuse screening and management of geriatric patients with suspected for confirmed elder abuse, intimate partner violence, and sex trafficking. Reporting of abuse must be in compliance with Pennsylvania law and hospital policy.

Standards of Accreditation Revision Log

August 15, 2020		
Standard	Levels	Edit
3: Trauma Program Medical Director	Adult Level I, II, III and IV Pediatric Level I and II	Clarified that Trauma Program Medical Directors are not eligible to participate in an Alternate Pathway if not appropriately Board certified.
10: Physicians	Adult Level I, II Pediatric Level I and II	Clarified that Other Surgical Specialties for Level I and II centers must be available at the bedside when requested.
13: Nursing	Adult Level I, II, III and IV Pediatric Level I and II	Added the requirement for all PACU nurses to maintain ACLS provider status, this is in addition to completing the trauma nursing education and annual continuing education. Upgraded expectation. Compliance due by 5.1.2021.
Appendix A: Inter-Facility Transfer & Consultation Requirements For Level III & IV Trauma Centers	Adult Level I, II, III and IV Pediatric Level I and II	Added an exception to the mandatory transfer of Head/C-Spine patients with a GCS \leq 14: patients at their normal baseline GCS less than 14 are not required to be transferred. Revised rib fracture in the presence of pulmonary contusion clarification differences for Level III and Level IV centers.
Appendix C: Admission Considerations for Level IV Trauma Centers	Adult Level I, II, III and IV Pediatric Level I and II	Revised the suggested rib fracture admission considerations details for Level IV centers.
Glossary	Adult Level I, II, III and IV Pediatric Level I and II	Clarified the definition of a First Responder: A physician, or advanced practitioner that is the first provider contacted for emergencies 24 hours a day in any admitted unit/floor. The institution defines which provider is designated the first responder.

Standards of Accreditation Revision Log

January 1, 2021		
Standard	Levels	Edit
5: Registry	Adult Level I, II, III and IV Pediatric Level I and II	<p>Clarified that the AIS coding course should be the AIS coding version utilized within the PTOS submission software. When a new AIS coding version is implemented in the PTOS submission software, a registrar will have 1 year to complete the updated AISU Coding Course.</p> <p>Currently, the PTOS submission software utilizes AIS 08. PTSF expects to update to AIS15 following the update of Collector to version 5, approximately in January 2022. For AIS15, the AAAM is offering an abbreviated, less expensive “update course” for registrars who have taken the AIS 08 course within the last five years.</p> <p>Upgraded expectation, compliance due 1 year after AIS 15 implementation in PTOS Registry – date to be determined.</p>
5: Registry	Adult Level I, II, III and IV Pediatric Level I and II	<p>Clarified that the trauma registry staffing plan must include a workload analysis for all trauma programs supported that defines the personnel needs necessary to comply with PTOS data submission requirements, this includes (for example) a centralized registry model.</p> <p>Compliance due by 9.1.2021.</p>
10: Physicians	Adult Level I, II and III Pediatric Level I and II	<p>Clarified that Level I, II and III trauma centers must have a minimum of two physicians in the Emergency Department during daily periods of peak utilization. The trauma program must define peak hours, supported by data, and review it annually.</p>
13: Nursing	Adult Level I, II, III and IV Pediatric Level I and II	<p>Added CPN (Certified Pediatric Nurse) to the list of approved trauma advanced certifications.</p>
22: Laboratory & Blood Bank	Adult Level I, II, III and IV Pediatric Level I and II	<p>Added the recommendation for trauma programs, in collaboration with the blood bank, to consider utilization of Whole Blood. This is optional and not a requirement.</p>

Standards of Accreditation Revision Log

April 1, 2021		
Standard	Levels	Edit
1: Commitment	Adult Level I, II, III and IV Pediatric Level I and II	Clarified that all programs must have Trauma Resuscitation Management guidelines that include at a minimum ATLS principles and c-spine clearance. This is consistent with the existing required guidelines and policies listed in Appendix D.
5: Capacity & Ability	Adult Level I, II, III and IV Pediatric Level I and II	Clarified that all programs must have policy(s) for admission of the trauma patient to the institution that includes at a minimum: criteria for admission, most common units admitted to, non-trauma service admissions, and special populations such as pediatrics, burns, geriatrics and obstetrics if applicable. This is consistent with the existing required guidelines and policies listed in Appendix D.
6: PIPS	Adult Level I, II, III and IV Pediatric Level I and II	The PIPS indicator section at the end of Standard 6 has been reformatted to clearly identify the required PI indicators that must be monitored by the Trauma Program at a minimum and additional PI indicators that are recommended for consideration by the Trauma Program to monitor. Screening for Substance Abuse, Brief Intervention, and Referral for Treatment (SBIRT) was added to the list PI indicators that are required to be tracked consistent with the Standards.
10: Physicians	Adult Level I, II and III Pediatric Level I and II	Clarified the language of one of the required Orthopedic Surgery practice management guidelines that must be in place is unstable pelvis and acetabular fractures. This is consistent with language of the existing required guidelines listed in Appendix D.
Appendix D	Adult Level I, II, III and IV Pediatric Level I and II	This appendix has been updated to include additional policies and guidelines existing within the Standards. The goal of the revision is to clearly identify the required operational and patient care policies and guidelines from the Standards.

Standards of Accreditation Revision Log

August 1, 2021		
Standard	Levels	Edit
1: Commitment	Adult Level I, II, III and IV Pediatric Level I and II	Added "Tourniquet utilization" to the list of criteria that is recommended for hospitals to consider including in any level of trauma activation criteria.
3: Trauma Program Medical Director 4: Trauma Program Manager 6: PIPS	Adult Level IV	Added STN-Rural TOPIC course as an option for Performance Improvement process education for Level IV TPMD, TPM and other PI Personnel. Level IV Personnel can take either traditional TOPIC or Rural TOPIC. Level I-III: Note that Rural TOPIC is not an approved Performance Improvement process course.
8: Injury Prevention, Public Education & Outreach	Adult Level I, II, III and IV Pediatric Level I and II	Clarified the SBIRT Standard. Specifically clarified that 80% of all injured patients (PTOS), regardless if activated or not activated, and regardless of admitting service must be screened. Specifically clarified that 100% of those patients that screen positive must have a brief intervention offered to them. Patients refusing resources counts as the hospital offering an intervention.
10: Physicians	Adult Level I, II and III Pediatric Level I and II	Revised the expectation for Board Eligible physicians to become Board Certified. PTSF no longer has a time-frame for achieving Board Certification. Board eligibility will be determined by the appropriate Board, and only when no-longer Board Eligible the provider would be unacceptable for inclusion on the trauma team until an alternate pathway is approved.
16: Emergency Department 23: Radiology	Adult Level I, II, III and IV Pediatric Level I and II	Clarified that hospitals must define the patient population that requires monitoring during transport and while in Radiology, but at a minimum this population must include those patients activated at the highest level of trauma alert during the resuscitative phase of care. Clarified that hospitals must define the appropriate personnel to accompany and monitor the patient during transport and while in Radiology.

Standards of Accreditation Revision Log

27: Geriatrics	Adult Level I, II, III, and IV	<p>Clarified that multidisciplinary geriatric trauma patient management guidelines (protocols) that include resuscitation, critical care and rehabilitation are required.</p> <p>Expected compliance by 6.1.2022</p>
28: Pediatrics	Adult Level I,II, III, and IV	<p>Clarified that pediatric trauma patient management guidelines (protocols) are required. At Level I, II and III trauma centers the protocol must include resuscitation, critical care and rehabilitation. At Level IV trauma centers the protocol must include resuscitation.</p> <p>Expected compliance by 6.1.2022</p>
Appendix D	Adult Level IV	<p>Added the following to the list of required clinical management guidelines at Level IV trauma centers, with the expectation that the guideline will be consistent with the hospital's capabilities and provides guidance on patient management prior to transfer to higher-level trauma center for further management.</p> <ol style="list-style-type: none"> 1. Unstable pelvic and acetabular fractures 2. Long bone fracture management 3. Open fracture management <p>Expected compliance by 6.1.2022</p>

Standards of Accreditation Revision Log

October 15, 2021		
Standard	Levels	Edit
6: PIPS	Adult Level I, II, III and IV Pediatric Level I and II	Clarified that registrars functioning in the PI role must be an RN.
6: PIPS 10: Physicians Glossary	Adult Level I, II, III and IV Pediatric Level I and II	<p>Clarified Multidisciplinary Peer Review Meeting attendance requirements.</p> <p>All Trauma/General Surgeons must attend 50% of meetings, regardless of the amount of call. Back-up Trauma Surgeons who only serve in this capacity on the back-up call schedule, and not on the primary trauma call roster, are not expected to participate in 50% of multidisciplinary peer review committee meetings.</p> <p>The definition of excused absences was expanded to include situations that are not excused and included within Standard 6.</p> <p>Excused Absences definition: Peer-review meeting attendance may be waived / pro-rated for military deployment, medical leave, and missionary work. The center must provide documentation to support the excused absence. Vacation, patient care, illness and contracted but not working that month are not excused absences and may not be prorated. TPMD/ Liaison providing a review of the meeting minutes to the absent provider cannot be counted as attendance at the meeting. Per Diem providers, providers rotating from another hospital, and Locum Tenens providers cannot have attendance expectations prorated based on amount of call taken.</p> <p>A new reference for calculating meeting attendance is available on the last page of Standard 6. The reference includes examples of unique provider situations that can affect meeting attendance tracking.</p>

Standards of Accreditation Revision Log

10: Physicians 11: Advanced Practitioners 12: Residency Programs 13: Nursing 16: ED 19: ICU	Adult Level I, II, III and IV Pediatric Level I and II	PTSF acknowledges the value of ACLS and PALS (or equivalents) in the care of patients. However, as the accrediting body for Trauma Centers, the scope of PTSF must be specific to Trauma Center operations and trauma patient care. Therefore, the Standards have been revised to reflect that PTSF will not include within its purview the maintenance of ACLS and PALS. Hospitals should define which clinicians require maintenance of ACLS and/or PALS and monitor their compliance.
24: Collaborative Services	Adult Level I, II, III and IV Pediatric Level I and II	Added a new subcategory to this standard: Acute Pain Management. The utilization of a pain management resource as a consultant for trauma care is recommended. This may be a formal pain management service, a representative from pharmacy, or an identified liaison from the trauma program. A protocol for multimodal analgesia (MMA) regimens and limited duration prescriptions is recommended.

April 15, 2022

Standard	Levels	Edit
8: Injury Prevention, Public Education & Outreach	Adult Level I, II, III and IV Pediatric Level I and II	Reduced the minimum requirement for completion of brief interventions to 80% of patients who screened positive for substance use. Effective Immediately
13: Nursing	Adult Level I, II, III and IV Pediatric Level I and II	Clarified that new nurses may have education requirements prorated based on start date/calendar year.

Standards of Accreditation Revision Log

June 15, 2022		
Standard	Levels	Edit
10: Physicians	Adult Level IV	<p>Revised the General Surgery Standards to be dependent on the level of participation in the care of the injured patients. The hospital will determine if General Surgeons will not participate, will participate as a Trauma Service, or participate as subspecialty consultants.</p> <ul style="list-style-type: none"> • General Surgeons are considered a Trauma Service if they meet at least 1 of the following: involved in trauma activations, admitting injured patients, and/or performing operative care to injured patients. General Surgery as a Trauma Service must have 24/7/365 coverage, and each General Surgeon must maintain board certification/eligibility, ATLS, and 50% attendance at the Multidisciplinary Peer Review meeting. • General Surgeons are considered a subspecialty consultant service if they meet all of the following: not involved in trauma activations, not admitting injured patients, and not performing operative care to injured patients. General Surgeons can be consulted for wound management, wound debridement, and external hematoma management. General Surgery as a subspecialty consultant service must have 24/7/365 coverage, assign 1 Liaison to attend 50% of the Multidisciplinary Peer Review meeting, and each General Surgeon must maintain board certification/eligibility. <p>This is an optional addition, effective immediately</p>

Standards of Accreditation Revision Log

Standard	Levels	Edit
10: Physicians	Adult Level I and II Pediatric Level I and II	<p>Clarified that Other Surgical Specialties (#12) and Other Non-Surgical Specialties (#13) must have 24/7/365 call schedules without gaps in coverage.</p> <p>Clarified the expectation for the surgical specialist Oral/Maxillofacial Surgery. Revised the verbiage to: Craniofacial Expertise. Clarified that Level I Trauma Centers must have Craniofacial Expertise capable to diagnose and manage acute facial fractures of the entire craniomaxillofacial skeleton, including the skull, cranial base, orbit, midface, and occlusal skeleton. Clarified that Level II Trauma Centers must have Craniofacial Expertise and may transfer highly complex/low-volume patients. Clarified if highly complex/low-volume patients will be transferred from Level II Trauma Centers, a transfer plan and PIPS review of all patients transferred must be in place. Clarified that call coverage can be a combination of a single specialty or multiple specialties from the following specialists: Otolaryngology, Oral Maxillofacial Surgery, and Plastic Surgery.</p> <p>Added the surgical specialty of Replantation Expertise. Level I and II Trauma Centers must have either 24/7/365 coverage of Replantation Expertise or have a triage and transfer plan in place with a Trauma Center with Replantation Expertise. Physicians providing Replantation Expertise must be capable of replanting a severed limb, digit or other body part (for example, ear, scalp, or penis), including critical revascularization or care of a mangled extremity. The triage and transfer plan should ensure optimal care with a view toward minimizing time to replantation.</p> <p>Effective Immediately</p>

Standards of Accreditation Revision Log

Standard	Levels	Edit
10: Physicians 23: Radiology	Adult Level I and II Pediatric Level I and II	<p>Revised the response expectation for Intervention Radiology to 60 minutes from the time of request to arterial puncture in endovascular or interventional radiology procedures for hemorrhage control. Added that interventional procedures can be performed by Neurosurgeons, Neurologists and Cardiologists who are credentialed and capable to function in the role.</p> <p>Expected compliance by 1.1.24. Prior to 1.1.24 either parameter will be accepted:</p> <ul style="list-style-type: none"> • 30 minutes from time of request to time of arrival at the bedside • 60 minutes from time of request to time of arterial puncture to signify the start of the procedure <p>On and after 1.1.24 the only acceptable parameter will be 60 minutes from time of request to time of arterial puncture to signify the start of the procedure.</p>
10: Physicians 16: Emergency Department 17: Operating Room	Adult Level IV	<p>Added that trauma centers with Orthopedic Surgery involved in the care of the injured patient must have at least 1 intra-compartmental pressure monitoring device in the hospital.</p> <p>Expected compliance by 6.1.2023.</p>
23: Radiology	Adult Level I, II, and III Pediatric Level I and II	<p>Revised the expectation for Magnetic Resonance Imaging (MRI) response for emergent tests. An emergent MRI test is expected to be initiated within 2 hours of request. The Trauma Program must define the parameters of an emergent test based on level of acuity and monitor compliance.</p> <p>Removed the expectation to have Nuclear Scanning available 24-hours a day with a maximum response time of 30 minutes for emergent/immediate response.</p> <p>Effective Immediately</p>
24: Collaborative Services	Adult Level I, II, and III Pediatric Level I and II	<p>Added the requirement to have an affiliation with an organ procurement organization (OPO).</p> <p>Effective Immediately</p>

Standards of Accreditation Revision Log

October 1, 2022		
Standard	Levels	Edit
2: Capacity & Ability	Adult Level I, II and III Pediatric Level I and II	<p>Added that every bypass/diversion event must be reviewed at the trauma operations committee.</p> <p>Expected compliance by 1.1.24</p>
3: Trauma Program Medical Director	Adult Level I, II and III Pediatric Level I and II	<p>Revised the board certification requirements for TPMDs. TPMDs must be a board certified or board eligible general surgeon. TPMDs can no longer be a general surgeon who is an ACS Fellow with special interest in trauma care.</p> <ul style="list-style-type: none"> • Effective immediately <p>Clarified that the TPMD must be credentialed by the hospital to provide trauma care.</p> <ul style="list-style-type: none"> • Effective immediately <p>Added that Pediatric TPMDs who are board certified in general surgery but not board certified/board eligible in pediatric surgery must maintain Pediatric Advanced Life Support (PALS) certification and have a written affiliation agreement with a pediatric TPMD who is board certified in pediatric surgery from an accredited Level I pediatric trauma center.</p> <ul style="list-style-type: none"> • Effective Immediately <p>Added that Level I TPMD must hold active membership in at least one national trauma organization and have attended at least one meeting during the survey cycle. Membership in the Pennsylvania COT is not equivalent to membership in a national trauma organization.</p> <ul style="list-style-type: none"> • Expected compliance by 1.1.24 <p>Added that Level II-III TPMD must hold active membership in at least one regional, state, or national trauma organization and have attended at least one meeting during the survey cycle.</p> <ul style="list-style-type: none"> • Expected compliance by 1.1.24 <p>Revised that the 36 hours of CME in a 3-year period for Pediatric TPMDs must include 9 hours of pediatric-specific content.</p> <ul style="list-style-type: none"> • Expected compliance by 1.1.24

Standards of Accreditation Revision Log

Standard	Levels	Edit
		<p>Added that TPMDs at hospitals pursuing trauma accreditation undergoing an initial site survey must have 12 hours of trauma-related CME during the reporting period.</p> <ul style="list-style-type: none"> • Expected compliance by 1.1.24 <p>Clarified that TPMDs must have authority to ensure providers meet all requirements and adhere to institutional standards of practice, and correct deficiencies across departments and other administrative units.</p> <ul style="list-style-type: none"> • Effective immediately
6: PIPS	Adult Level I, II and III Pediatric Level I and II	<p>Clarified the following, which are effective immediately:</p> <ul style="list-style-type: none"> • The trauma PI program must be independent of the hospital PI program with an organizational chart showing the relationship and bidirectional flow of information between the two programs. • The trauma PI program must have a means to report events and actions to the hospital PI program and the hospital PI program must provide feedback and loop closure to the trauma PIPS program. • The trauma PI program must be empowered to identify opportunities for improvement and develop actions to reduce the risk of patient harm, irrespective of the department, service, or provider. • The trauma program must use the results of benchmarking data (such as TQIP) to determine whether there are opportunities for improvement in patient care and registry data quality. • Pa V5 Outcomes must be utilized for documenting event identification, analysis, verification, corrective actions, loop closure and strategies for sustained improvement measured over time. • Trauma Centers with both adult and pediatric accredited programs must have separate adult and pediatric trauma multidisciplinary PIPS meetings with distinct minutes.

Standards of Accreditation Revision Log

Standard	Levels	Edit
		<p>Revised the requirements for the trauma PI Plan. Expected compliance by 1.1.24.</p> <ul style="list-style-type: none"> • Added that there must be an organizational chart demonstrating the structure of the trauma PI process, with a clearly defined relationship to the hospital PI program. • Clarified the trauma PI program must identify events from all phases of care from prehospital care to hospital discharge. • Clarified the use of PI indicator, opportunities for improvement, hospital events and audit filters definitions in the PTOS Manual and Outcomes Manual. • Added that each level of review must be defined, including which cases are reviewed at that level, who performs the review at that level and when cases can be closed or advanced to the next level of review. • Added that the Multidisciplinary PIPS Committee must be defined, including membership and responsibilities. • Clarified that action plan development and issue resolution (loop closure) must each be distinctively included in the trauma PI Plan. • Added the outline of an annual process for identification of priority areas for PI, based on audit filters, event reviews, and benchmarking reports, with the requirement that priority focus areas be data driven. <p>Added PI specifics for Non-surgical admissions (NSA). NSA with surgical consultation, an ISS \leq 9, or without other identified opportunities for improvement may be closed in primary review, however NSA without surgical consultation, an ISS $>$ 9, or identified opportunities for improvement must, at a minimum, be reviewed by the TPMD in secondary review. Includes the recommendation of utilization of the Nelson tool to review NSA.</p> <ul style="list-style-type: none"> • Expected compliance by 1.1.24

Standards of Accreditation Revision Log

Standard	Levels	Edit
		<p>Added that all traumatic injury related mortality (DOA, died in ED or inpatient, and withdrawal of life-sustaining care) must be reviewed, and classified for potential opportunities for improvement (OFI). Best practice is for review at tertiary level, however at a minimum those with OFI must go to tertiary level while those without OFI can go to secondary review. The categories include event/mortality with an OFI, event/mortality without an OFI, and undetermined OFI. A death should be designated as “mortality with OFI” if any of the following criteria are met: anatomic injury or combination of severe injuries but may have been survivable under optimal conditions; standard protocols were not followed, possibly resulting in unfavorable consequences; provider care was suboptimal. Includes the recommendation to review patients discharged to hospice to ensure there were no OFI in care that might have significantly changed the clinical course that ultimately led to the decision for hospice care.</p> <ul style="list-style-type: none"> • This is an addition to the Standards but a clarification from the Outcomes Manual • Effective immediately

Standards of Accreditation Revision Log

Standard	Levels	Edit
10: Physicians	Adult Level I, II and III Pediatric Level I and II	<p>Revised requirements for board certification/board eligibility. At Level I & II Trauma Centers, board certification/board eligibility in the appropriate specialty board is required for Anesthesiology, Emergency Medicine, General Surgery, Neurosurgery, Orthopedic Surgery and Radiology. Other surgical and non-surgical specialties must be a board certified or board eligible physician with credentialed expertise (privileges at the institution through the institution's credentialing process for the specialty) in the specific specialty. At Level III Trauma Centers, board certification/board eligibility is required for Emergency Medicine, General Surgery and Orthopedic Surgery.</p> <ul style="list-style-type: none"> • Effective immediately <p>Revised the requirement from Microvascular Surgery to Soft Tissue Coverage Expertise at Level I and II Trauma Centers. At Level I Trauma Centers the provider with soft tissue coverage expertise must be capable to address comprehensive soft tissue coverage of wounds, including microvascular expertise for free flaps, all open fractures, soft tissue coverage of a mangled extremity, and soft tissue defects of the head and neck. At Level II Trauma Centers there must be soft tissue coverage expertise 24/7/365, however it is acceptable to transfer highly complex/low-volume patients. If a Level II Trauma Center will transfer highly complex/low-volume patients, then a transfer plan and PIPS review of all patients transferred must be in place.</p> <ul style="list-style-type: none"> • Effective immediately
22: Laboratory & Blood Bank	Adult Level I, II and III Pediatric Level I and II	<p>Clarified that the blood bank in-house supplies must be based on the needs of the trauma center.</p> <ul style="list-style-type: none"> • Effective Immediately