Standards Quick Reference Guide

Standard #	Standard Name	Type	LI	LII	LIII (LIII-N)*	PTCI	PTCII	Evidence Standards Are Met
1 | Institutional Administrative Commitment								
1.1	**Administrative Commitment** Institutional governing body, hospital leadership, and medical staff must demonstrate continuous. Provide necessary human and physical resources to administer trauma care consistently with the level of trauma center verification, throughout the verification cycle.	TYPE I	x	x	x	x	x	Hospital Board of Directors (or other Administrative governing authority) approval of the establishment of trauma center level and requirements. Commitment to adherence to the standards required for the level of trauma center. Commitment to ensuring that the necessary personnel, facilities, and equipment are available to meet compliance.
1.2	**Research Support** The hospital administration of a Level I trauma must demonstrate support for the research program.	TYPE II	x			x		Documentation that demonstrates support of the research program, such as the following: Basic lab space Sophisticated research equipment Advanced information systems Biostatistical support Salary support for basic and translational scientists, or seed grant for junior investigators.
2 | Program Scope and Governance								
2.1	**State and Regional Involvement** Participation in state and regional trauma advisory committees. Leadership in state and regional medical audit committees. Collaboration with regional trauma advisory committees, EMS, or other to promote the development of state and regional systems. Participation in media and legislative education to promote and develop trauma systems. Participation in state and regional trauma	TYPE II	x	x	x	x	x	Written documentation that demonstrates compliance to participation, such as agendas or meeting minutes.

				x	x	x	x	x	
	needs assessment or injury surveillance. Participation in the development of a state or regional trauma plan or state trauma registry plan. Provision of technical assistance and education to hospitals and their providers within the region to improve system performance.								
2.2	**Hospital Regional Disaster Committee** All trauma centers must participate in regional disaster/emergency management committees, health care coalitions, and regional mass casualty exercises.	TYPE II	x	x	x	x	x	Attendance records from disaster/emergency management committee meetings, health care coalition meetings, and regional mass casualty exercises. Evidence of participation in the hospital disaster / emergency management plan.	
. 2.3	**Disaster Management Planning** All trauma programs must be integrated into the hospital's disaster plan to ensure a robust surgical response: A trauma surgeon from the trauma panel must be included as a member of the hospital's disaster committee and be responsible for the development of a surgical response to mass casualty event. The surgical response must outline the critical personnel, means of contact, initial surgical triage (including subspecialty triage when appropriate), and coordination of secondary procedures. The trauma program must participate in two hospital drills or disaster plan activations per year that include a trauma response and are designed to refine the hospital's response to mass casualty events. Level I trauma centers must also include an orthopedic surgeon from the orthopedic trauma call panel as a	TYPE II	x	x	x	x	x	Attendance records demonstrating trauma surgeon participation in disaster committee meetings. Hospital disaster plan that includes a surgical response. Dates and nature of drills or activations during the reporting year.	

#	Criteria	Type						Documentation
	member of the hospital's disaster committee.							
2.4	**Level I Adult Trauma Patient Volume Criteria** Level I trauma center must care 1,200 trauma patients per year or at least 240 trauma patients with Injury Severity Score (ISS) greater than 15 per year.	TYPE I	x					Admission data that demonstrates compliance for reporting period.
2.5	**Level I Pediatric Trauma Patient Volume Criteria** Level I pediatric trauma center must care for 200 or more injured patients under 15 years of age per year.	TYPE I				x		Admission data that demonstrates compliance for the reporting period.
2.6	**Adult Trauma Centers Admitting Pediatric Patients** Adult trauma centers that care for 100 or more injured children under 15 years of age must have the following: -Pediatric emergency department area -Pediatric intensive care area -Appropriate resuscitation equipment, as outlined in the pediatric readiness toolkit	TYPE I	x	x	x			Admission data for the reporting year Evidenced through the facility review during verification site survey.
2.7	**General Surgical Coverage** All trauma centers must have continuous general surgical coverage.	TYPE I	x	x	x	x	x	All schedules over the course of the reporting period.
2.8	**Trauma Multidisciplinary PIPS Committee** All trauma centers must have a trauma multidisciplinary PIPS committee chaired by the TMD or associate TMD. Combined adult (Level I/II) and pediatric (Level II) trauma centers must hold separate adult and pediatric trauma multidisciplinary PIPS meetings with distinct minutes.	TYPE I	x	x	x	x	x	Terms of Reference that define the committee's scope, membership, frequency of meetings, and decision-making process. Meeting minutes from the trauma multidisciplinary PIPS committee meeting during the reporting period.
2.9	**Trauma Medical Director Requirements** In all trauma centers, the TMD must fulfill the following requirements:	TYPE II	x	x	x	x	x	-Evidence of current board certification or board eligibility -Role and responsibility of the TMD

-Hold current board certification or board eligibility in general surgery or pediatric surgery by the American Board of Medical Specialties ABMS, American Osteopathic Association (AOA), or Royal College Physicians and Surgeons of Canada (RCPS-C) -Service as the director of a single trauma program -Be credentialed to provide trauma care -Hold current Advanced Trauma Life Support (ATLS) certification -Participate on the trauma call panel -Provide evidence of 36 hours of trauma-related continuing medical education (CME) during the verification cycle. Pediatric TMDs 9 of the 36 hours must be pediatric-specific CME. -In Level I trauma centers, the TMD must hold active membership in at least one national trauma organization and have attended at least one meeting during the -verification cycle. -In Level II and III trauma centers, the TMD must hold active membership in at least one regional, state, or national trauma organization and have attended at least one meeting during the verification cycle. If a board-certified general surgeon who is not board-certified or board-eligible in pediatric surgery serves as the pediatric TMD, they must also; -Hold current Pediatric Advanced Life Support (PALS) -Have a written affiliation agreement with a pediatric TMD at another verified Level I pediatric trauma center whose role is to assist with process improvement, guideline development, and complex case discussion (NOTE: A total of 30 hours of trauma-							(job description) -Credentialing letter -Evidence of ATLS certification -Call schedules -CME certificates or Maintenance of Certification transcript -Proof of membership in trauma organizations For pediatric TMDs who are not board certified in pediatric surgery, the following additional Measures of Compliance are required: -Evidence of PALS certification -Written affiliation agreement

	related CME obtained from board certification or recertification may be applied once to the CME criteria during the verification cycle.							
2.10	**Trauma Medical Director Responsibility and Authority** In all trauma centers, the TMD must be responsible for and have the authority to: -Develop and enforce policies relevant to care of the injured patient -Ensure providers meet all requirements and adhere to institutional standards of practice -Work across departments and/or other administrative units to address deficiencies in care -Determine (with their liaison) provider participation in trauma care, which might be guided by findings from the PIPS process or an Ongoing Professional Practice Evaluation (OPPE). -Oversee the structure and process of the trauma PIPS program	TYPE II	x	x	x	x	x	Roles and responsibilities of the TMD (job description and contract)
2.11	**Trauma Program Manager Requirements** In all trauma centers, the TPM must fulfill the following requirements: -Have 1.0 full-time equivalent (FTE) commitment to the trauma program -Provide evidence of 36 hours of trauma-related continuing education (CE) during the verification cycle -Hold current membership in a national or regional trauma organization In Level II and III trauma centers, at least 0.5 FTE of the TPM's time must be spent on the trauma program management related activities. The remaining time must be dedicated to other roles within the trauma program. In combined programs that are Level II adult and Level II pediatric trauma centers, it is	TYPE II	x	x	x	x	x	-Roles and responsibilities of the TPM (job description) -Time dedicated to the trauma program in relation to the concurrent program operations, PI and concurrent trauma registry -CE certificates or transcripts -Proof of membership in trauma organizations

	acceptable for the pediatric TPM of a level II pediatric trauma center to serve at least 0.5 FTE as the pediatric TPM. The remaining time must be dedicated to other roles within the adult or pediatric trauma program.								
2.12	**Trauma Program Manager Reporting** Structure In all trauma centers, the TPM must have a reporting structure that includes the TMD. The reporting structure must, at a minimum include a "dotted line" to the TMD that allows for additional oversight and guidance to the TPM in execution of activities. The intent is to ensure that the TMD has the opportunity to provide leadership to the TPM and partner with them in setting goals for the benefit of the program.	Type II	x	x	x	x	x	Relevant to the organizational chart.

2.13	**Injury Prevention Program**
	All trauma centers must have an injury prevention program that:
	-Has a designated injury prevention professional
	-Prioritizes injury prevention work based on trends identified in the trauma registry and local epidemiological data
	-Implements at least two activities over the course of the verification cycle wit specific objectives and deliverables that address separate major causes of injury in the community
	-Demonstrates evidence of partnerships with community organizations to support their injury prevention efforts
	
	In Level I trauma centers, the injury prevention professional must be someone other than the TPM
	
	While there are no specific certification requirements for an injury prevention professional, this individual would have skills to lead trauma center efforts to
		TYPE II	x	x	x	x	x	-Job description for relevant staff
								-Graphs/tables highlighting recent injury mechanisms trends from registry
								-Report of injury prevention activities Including the following:
								  - Activity name
								  - Activity date
								  - Participation date
								Evaluation of outcomes (where feasible)
								-Program objectives and deliverables for each injury prevention activity
								-Any materials (including posters, flyers, press releases, etc.) relevant to the injury prevention initiatives.

	develop and maintain an organized, interdisciplinary, public health approach to injury prevention. Examples of injury prevention areas of focus include: -Motor vehicle occupant safety --Child safety seat education --Distracted driving --Impaired driving -Alcohol related injury risk -Motorcycle and bicycle safety/helmet initiatives -Pedestrian safety -Fall prevention -Firearm injury prevention programs -Violence interventions and screening programs -STOP THE BLEED* program Specific goals, objectives, and deliverables for each of the prevention initiatives should be documented in advance to implementation of the program with targeted measurable outcomes to describe the success of the program relative to their stated goals.								
2.14	**Organ Procurement Program** In all trauma centers, an organ procurement program must be available and consist of at least the following: -An affiliation with an organ procurement organization (OPO) -A written policy for notification of the regional OPO -Protocols defining clinical criteria and confirmatory test for the diagnosis of brain death	TYPE II	x	x	x	x	x	OPO affiliation agreement Regional OPO notification policy Protocol for brain death
2.15	**Child Life Program** All pediatric trauma centers must have a child life program.	TYPE II				x	x	Roles and responsibilities are defined for the Child Life Program through job descriptions and organizational structure. This is assessed during the

								verification/designation site review process.

**3	Facilities and Equipment Resources**								
3.1	**Operating Room Availability** In Level I and II trauma centers, an operating room (OR) must be staffed and available within 15 minutes from notification, and in Level III trauma centers within 30 minutes of notification.	TYPE I	x	x	x	x	x	OR staffing policy Documentation of time of notification to time of response Evaluated during the site visit process
3.2	**Additional Operating Room** In Level I and II trauma centers, if the first OR is occupied, an additional OR must be staffed and available.	TYPE II	x	x		x	x	OR policies or related materials outlining processes, staffing, and expectations related to preparing a second OR, both during regular working hours and after hours.
3.3	**Operating Room for Orthopaedic Trauma Care** Level I and II trauma centers must have a dedicated OR prioritized for fracture care in nonemergent orthopedic trauma. In Level III trauma centers, access to the OR must be made available for orthopedic trauma care.	TYPE II	x	x	x	x	x	OR orthopedic schedule
3.4	**Blood Products** Level I and II trauma centers must have an adequate supply of blood products available. Level III trauma centers must have an adequate supply of red blood cells and plasma available.	TYPE I	x	x	x	x	x	An "adequate supply" is based on the needs of the trauma center.
3.5	**Medical Imaging** In Level I and II trauma centers, the following services must be available 24 hours per day and be assessable for patient care within the time interval specified: -Conventional radiology: 15 min. -Computerized tomography (CT): 15 min. -Point-of-care ultrasound: 15 min -Interventional radiologic procedures: 1	TYPE I	x	x	x	x	x	Equipment is evaluated during site visit process. Policies and procedures that ensure availability of services. (medical record case reviews)

	hr. -Magnetic resonance imaging (MRI): 2 hr. In Level III trauma centers, the following services must be available 24 hours per day and be accessible for patient care within the time interval specified: -Conventional radiography: 30 minutes -Computerized tomography: 30 minutes -Point of care ultrasound: 15 minutes								
3.6	**Remote Access to Radiographic Imaging** Level I and II trauma centers must have a mechanism to remotely view radiographic images from referring hospitals within their catchment area.	TYPE II	x	x		x	x	Description of the mechanism for remote access to imaging is documented. (medical record reviews)
3.7	**Cerebral Monitoring Equipment** Level I, Level II, and Level III-N trauma centers must have cerebral monitoring equipment available.	TYPE I	x	x	x*	x	x	This is evaluated during the site visit process. (medical record review)
3.8	**Cardiopulmonary Bypass Equipment** In Level I and II trauma centers, cardiopulmonary bypass equipment must be immediately available when required, or a contingency plan must exist to provide emergency cardiac surgical care.	TYPE II	x	x		x	x	Equipment is evaluated during the site visit process or through the contingency plan. (medical record review)

Standard #	Standard Name	Type	LI	LII	LIII (LIII-N)*	PTCI	PTCII	Evidence Standards are Met
4 | Personnel and Services								
4.1	**Trauma Surgeon Requirements** Trauma surgeons who are involved in the care of trauma patients must meet the following qualifications: -Complete the ATLS course at least once -Have privileges in general and/or pediatric surgery -Hold current board certification or board eligibility in general surgery, or have been approved through the Alternate Pathway - Level I pediatric trauma centers must have at least two surgeons board certified or board eligible in pediatric surgery. - Level II pediatric trauma centers must have at least one surgeon board certified or board eligible in pediatric surgery.	TYPE II	x	x	x	x	x	Review of evidence of ATLS certification. Review of credentialing letter. Review of evidence of board certification, board eligibility, or Alternate Pathway approval.
4.2	**Trauma Surgeon Availability** In Level I and II trauma centers, the trauma surgeon must be dedicated to a single trauma center while on call.	TYPE I	x	x		x	x	Evaluated during the verification review and through call schedules.
4.3	**Trauma Surgery Backup Call Schedule** Level I and II trauma centers must have a published backup call schedule for trauma surgery. Level III trauma centers must have a documented backup call schedule or a backup plan for trauma surgery.	TYPE II	x	x	x	x	x	Backup trauma call schedules (LI and LII) are documented. Backup trauma call schedules or backup plan (LIII) are documented
4.4	**Trauma Surgeon Presence in Operating Room** In all trauma centers, the trauma surgeon must be present in the operating suite for key portions of operative procedures for which they are the responsible surgeon and must be immediately available throughout the procedure.	TYPE II	x	x	x	x	x	Evaluated during the verification review and medical record review.
4.5	**Specialty Liaisons to the Trauma Service** In Level I, Level II, Pediatric Level I, and Pediatric Level II trauma centers the trauma program must have the following designated	TYPE II	x	x	x	x	x	Documentation reviewed through the verification review, specific to the designated liaisons, and evidence of board certification or board eligibility, or

	trauma liaisons: -Board certified or board eligible emergency medicine physician -Board certified or board eligible orthopedic surgeon -Board certified or board eligible anesthesiologist -Board certified for board eligible neurosurgeon -Board certified or board eligible radiologist -Board certified or board eligible intensive care (ICU) physician Level I and Level II trauma centers must have a Geriatric provider liaison Level III trauma programs must have designated liaison -Board certified or board eligible emergency medicine physician -Board certified or board eligible orthopedic surgeon -board certified or board eligible anesthesiologist -Board certified for board eligible neurosurgeon (applies to LIII-N only) -Board certified or board eligible intensive care (ICU) physician Level III-N trauma centers are those that provide neurotrauma care to patients with moderate to severe TBI, defied as a GCS of 12 or less at the time of arrival to the emergency department. In Level I trauma centers, the orthopedic surgeon program liaison must have completed an orthopedic traumatology fellowship approved by the Orthopedic Trauma Association. In Level I Pediatric trauma centers, this requirement may be met by having a pediatric fellowship-								Alternate Pathway approval.

	trained orthopedic surgeon.							
4.6	**Emergency Department Director** All trauma centers must have a board certified or board eligible emergency department physician medical director. In Level I and Level II trauma centers the emergency department medical director must be board certified or board eligible in emergency medicine or pediatric emergency medicine.	TYPE I	x	x	x	x	x	Reviewed of the role and responsibilities of the emergency department medical director. Documented evidence of board certification or board eligibility.
4.7	**Emergency Department Physician Requirements** In all trauma centers, the emergency medicine physicians involved in care of the trauma patient must be currently board certified or board eligible or have been approved through the Alternate Pathway. In Level I and II trauma centers, physicians must be board certified or board eligible in emergency medicine or pediatric emergency medicine. -Physicians who complete primary training in a specialty other than emergency medicine or pediatric emergency medicine prior to 2016 may participate in trauma care. In Level I pediatric trauma centers, at least one physician must be board certified or board eligible in pediatric emergency medicine. In Level III trauma centers, physicians must be board certified or board eligible in emergency medicine, pediatric emergency medicine, or a specialty other than emergency medicine. All emergency medicine physicians must have completed the ATLS course at least once. Physicians who are board certified or board eligible in a specialty other that emergency medicine must hold a current ATLS	TYPE II	x	x	x	x	x	There must be documented evidence of board certification, or board eligibility, or approved Alternate Pathway. Documented evidence of the board certified or board eligible emergency medicine physicians must have documentation of ATLS certification at least one time. Physicians who are board certified or board eligible in a specialty other than emergency medicine must have documentation of a current ATLS certification. Reviewed during the trauma verification or site surgery process.

	certification.							
4.8	**Emergency Department Physician Coverage** In Level I and II trauma center, a board certified or board eligible emergency medicine physician must be present in the emergency department at all times.	TYPE I	x	x		x	x	Documented evidence of the emergency medicine physician call schedules demonstrating trauma coverage. Documented evidence of board certification or board eligibility or approved Alternate Pathway. Reviewed during the verification review.
4.9	**Pediatric Critical Care Staffing** In Level I pediatric trauma centers, there must be at least two physicians are board certified or board eligible in pediatric surgery and surgical critical care. These two physicians must practice at least part their time in the ICU where the majority of pediatric trauma patients are cared for.	TYPE II				x		Documented evidence of board certification or board eligibility. Document evidence of ICU call schedules and pediatric ICU admissions.
4.10	**Neurotrauma Care** Level I and II trauma centers must have board certified or board eligible neurosurgeons continuously available for the care of neurotrauma patients. Level III-N trauma centers must have board certified or board eligible neurosurgeons. Level III-N trauma centers are those that provide neurotrauma care for patients with moderate to severe TBI, defined as a GCS of 12 or less at the time of emergency department arrival. In Level I pediatric trauma centers, there must be at least one board certified or board eligible neurosurgeon who has completed a pediatric neurosurgery fellowship.	TYPE I	x	x	x*	x	x	Documentation of the trauma neurosurgery call schedules. Documented evidence of board certification or board eligibility or approved Alternate Pathway. Level I pediatric trauma center: CV or a board certified or board eligible neurosurgeon who completed a pediatric neurosurgery fellowship.
4.11	**Orthopaedic Trauma Care** Trauma centers must have board certified or board eligible orthopedic surgeons continuously available for the care of orthopedic trauma patients and must have	TYPE I	x	x	x	x	x	Evidence of orthopedic call schedule demonstrating continuous (24/7/365) orthopedic coverage without gaps. Documented orthopedic surgery contingency plan.

	contingency plan for when orthopedic trauma capabilities become encumbered or overwhelmed. In Level I pediatric trauma centers, at least one board certified or board eligible orthopedic surgeon must have completed a pediatric orthopedic fellowship.							Documented evidence the orthopedic contingency plan is utilized if orthopedic services become encumbered or overwhelmed. Documented evidence of board certification or board eligibility or approved Alternate Pathway. In Level I pediatric trauma centers, the CV of a board certified or board eligible orthopedic surgeon reflects completion of a pediatric orthopedic fellowship.
4.12	**Specialized Orthopaedic Trauma Care** Trauma centers must have an orthopedic surgeon who has completed an OTA-approved fellowship or has met the alternate training criteria. This criteria may also be met by having transfer protocols specifying the type of patients/injuries that will be transferred to a center with an orthopedic surgeon who has completed an OTA -approved fellowship or meets the alternate training criteria.	TYPE II		x		x	x	Documented evidence in the CV of an orthopedic surgeon who is board certified or board eligible who has completed the OTA-approved fellowship or credentials for alternate training (refer to standard 4.5 criteria). Documented transfer protocols that reflect the type of patients/injuries that will be transferred to a center with an orthopedic surgeon who has completed the OTA-approved fellowship or meets the alternate training criteria.
4.13	**Anesthesia Services** In Level I and II trauma centers, anesthesia services must be available within 15 minutes of request. Furthermore, the attending anesthesiologist must be present within 30 minutes of request for all operations. In Level III trauma centers, anesthesia services must be available within 30 minutes. Anesthesia services may be composed of anesthesiologist, CA-3, CA-4 residents, CRNAs, or CAAs.	TYPE I	x	x	x	x	x	Anesthesia services response documentation that includes the following: -Anesthesia clinician -Time of request to time of response -Medical record review during verification review
4.14	**Radiologist Access**	TYPE	x	x	x	x	x	Radiology policy or guidelines and

No.	Standard	Type						Measure of Compliance
	In all trauma centers, a radiologist must have access to patient images and be available for imaging interpretation, in person, or by phone, within 30 minutes of request. Time is measured from time of request to time of interpretation.	I						evaluation during the verification review process.
4.15	**Interventional Radiology Response for Hemorrhage Control** Level I and II trauma centers must have the necessary available human and physical resources available so that an endovascular or interventional radiology procedure for hemorrhage control begins within 60 minutes of request. Response time is tracked from request to arterial puncture. Physician resources could include an interventional radiologist, a neurosurgeon/neurologist, or vascular surgeon credentialed to perform angiography and embolize or stent placement.	TYPE II	x	x		x	x	Radiology report that includes the following: -Physician's name and specialty -Documentation of time of request and time of arterial puncture Reviewed through the verification survey and medical record reviews.
4.16	**ICU Director** All trauma centers must have an ICU surgical director who is board certified or board eligible in general surgery and actively participates in unit administration. Active participation in unit administration, is defined as participating in the development of pathways and protocols for the care of the trauma patients and in unit-based PI activities. It is expected that the ICU surgical director participate in the care of patient in the ICU where the majority of trauma patients are cared for. In Level I adult trauma centers, the ICU surgical director must be board certified or board eligible in surgical critical care.	TYPE I	x	x	x	x	x	Role and responsibilities of the surgical ICU director and / or codirector. Protocols/pathways and PI initiatives specific to the care of the injured patient. Evidence of board certification or board eligibility.

#	Requirement	Type						Measure/Documentation
	In all trauma centers, the TMD may serve as the ICU director or codirector.							
4.17	**ICU Physician Coverage** In Level I and II trauma centers, the ICU must be staffed with physicians who are continuously available within 15 minutes of request and whose primary responsibility is to the ICU. Physicians include residents, fellows, or attendings. "Continuously" is defined as 24.7/365 and implies there are not gaps.	TYPE I	x	x		x	x	ICU/PICU call schedule documentation. Evaluated during the verification review.
4.18	**Intensivist Staffing** In Level II adult trauma centers, at least one intensivist must be board certified or board eligible in surgical critical care.	TYPE II		x				Documentation ref board certification or board eligibility.
4.19	**ICU Provider Coverage for Level III Trauma Centers** In Level III trauma centers, provider coverage of the ICU must be available within 30 minutes of request, with a formal plan in place for emergency coverage. Coverage may include an intensivist, hospitalist, or APP. The formal plan for emergency coverage should allow for patients' immediate needs to be met until the attending surgeon is available.	TYPE I			x			Documentation reflected in the ICU call schedules. Documented ICU emergency coverage plan. Evaluated during the verification review and medical record reviews.
4.20	**ICU Nursing Staffing Requirement** In all trauma centers, the patient-to-nurse ratio in the ICU must be 1:1 or 2:1, depending on patient acuity as defined by the hospital policy for ICU nursing staffing.	TYPE II	x	x	vi	x	x	Evidence of compliance evaluated through the hospital policy for ICU nursing staffing, and the verification review process.
4.21	**Surgical Specialists Availability**	TYPE	x	x		x	x	Evidence of compliance is evaluated

	Level I and II trauma centers must have continuous availability of the surgical expertise listed below: - Orthopedic surgery - Neurosurgery - Cardiothoracic surgery - Vascular surgery - Hand surgery - Plastic surgery - Obstetrics - Gynecology surgery - Ophthalmology - Otolaryngology - Urology "Continuous" is defined as 24/7/365 and implies there are no gaps in coverage.	I						through the specialty surgeons' trauma call schedules.
4.22	**Soft Tissue Coverage Expertise** Level I trauma centers must have the capability for comprehensive soft tissue coverage of wounds, including microvascular expertise for free flaps. Comprehensive soft tissue coverage capability includes coverage of a mangled extremity, and soft tissue defects of the head and neck.	TYPE I	x			x		Evidence of compliance is defined through the specialty surgeon trauma call schedules.
4.23	**Craniofacial Expertise** Level I trauma centers must have the capability to diagnosis and manage acute facial fractures of the entire craniomaxillofacial skeleton, including the skull, cranial base, orbit, midface, and occlusal skeleton, with expertise contributed by any of the following specialist: -Otolaryngology -Oral maxillofacial surgery -Plastic surgery Trauma centers may have a variety of different models of care for patients with	TYPE I	x			x		Evidence of compliance is evaluated through the specialty surgeon trauma call schedules.

	craniofacial injuries, including a single specialty service covering all injuries, a rotating schedule, or involvement of specific expertise depending on the nature of the injuries. All are acceptable models of care.							
4.24	**Replantation Services** Level I and II trauma centers must have replantation capabilities continuously available or must have a plan in place for triage and transfer process with replant center. "Replantation capability" in this context refers to the replantation of severed limb, digit, or other body part (e.g., ear, scalp, or penis). It may also include critical revascularization or care of a mangled extremity. A triage and transfer process should ensure optimal care with a view toward minimizing time to replantation. The triage process might include diverting selected patients directly to a replant center if replantation is unavailable at the trauma center.	TYPE II	x	x		x	x	Evidence of compliance is evaluated through the specialty surgeon trauma call schedules, documentation of a regional and/or state triage and transfer process for centers without capability or continuous coverage. Trauma centers reporting that they provide 24/7/365 coverage for severe hand injuries – including replantation, revascularization, and care of the mutilated hand – are listed as part of the National Hand Trauma Center Network, and initiative of the American Society for Surgery of the Hand: https://www.assh.org/s/hand-trauma-center-network.
4.25	**Medical Specialists** Level I and II trauma centers must have all of the following medical specialist: -Cardiology* -Gastroenterology* -Internal medicine or pediatrics* -Infectious disease* -Nephrology* -Pain management (with expertise to perform regional blocks) -Physiatry -Psychiatry -Pulmonary medicine* An asterisk denotes services that must be continuously available.	TYPE II	x	x	x	x	x	Evaluated through the physician call schedules. Evaluated during the verification review.

	Level III trauma centers must have internal medicine continuously available.							
4.26	**Child Abuse (Nonaccidental Trauma) Physician** Level I and II pediatric trauma centers must have either a physician on the medical staff who is board certified or board eligible in child abuse pediatrics or a physician with a special interest in child abuse (nonaccidental trauma) who provides expertise to the trauma center. The purpose of this role is to provide leadership in addressing the needs of children with nonaccidental trauma. This leadership includes the development of relevant policies and procedures, and when necessary inpatient assessment and care.	TYPE II				x	x	This is evaluated through the documented defined job responsibilities, policies, and procedures of the identified physician leader for nonaccidental trauma. Evaluated through the medical record review process during the verification review.
4.27	**Allied Health Services** Trauma centers must have the following allied health services available. Level I, II, PTCI, PTCII -Respiratory therapy (24/7/365) -Nutritional support -Physical therapy (7 days per week) -Speech therapy -Social worker (7 days per week) -Occupational therapy (7 days per week) Level III -Respiratory therapy (24/7/365) -Nutritional support -Social worker -Occupational therapy -Physical therapy -Speech therapy	TYPE II	x	x	x	x	x	Evidence evaluated through the schedules and during the verification review.
4.28	**Renal Replacement Therapy Services** Level I and Level II trauma centers must have renal replacement therapy services available to support patients with acute renal failure.	TYPE II	x	x	x	x	x	Evidence is evaluated during the verification review. Transfer agreements are evaluated during the verification visit.

	Level III trauma centers must have renal replacement therapy services available to support patients with acute renal failure or a transfer agreement in place if this service is not available. Renal replacement might include intermittent hemodialysis or any form of continuous renal replacement therapy to support patients with acute renal failure. Continuous is defined as 24/7/365.								
4.29	**Advanced Practice Providers** In all trauma centers, trauma and/or emergency department APPs who are clinically involved in the initial evaluation and resuscitation of trauma patients during the activation phase must have a current ATLS certification. (This standard is not applicable to the following: APPS for neurosurgery and orthopedic surgery, CRNAs, CAAs, Scribes)	TYPE II	x	x	x	x	x	Evaluated by reviewing the list of APPS involved in the initial evaluation and resuscitation of trauma activations and their compliance with a current ATLS certification. The list is compared to the medical record review during the verification/designation site review process.
4.30	**Trauma Registry Staffing Requirements** In all trauma centers, there must be at least 0.5 FTE dedicated to the trauma registry per 200-300 annual patient entries. The count of entries is defined as all patients who meet inclusion criteria for hospital, local, regional, and state purposes. Combined adult and pediatric programs (Level I/II adult trauma centers with Level II pediatric trauma center) may share resources, but someone must be identified as the lead pediatric registrar. Trauma centers must take into account the additional tasks, beyond the abstraction and entry of patient data, tat are assigned to the registrar. Processes such as report generation,	TYPE II	x	x	x	x	x	Evaluated through the number of registrars per registry entries annually.

	data analysis, research assistance, and meeting various submission requirements will decrease the amount of time dedicated to the meticulous collection of patient data.							
4.31	**Certified Abbreviated Injury Scale Specialist** In all trauma centers, at least one registrar must be a current Certified Abbreviated Injury Scale Specialist (CAISS).	TYPE II	x	x	x	x	x	There must be documented evidence of CAISS. This is evaluated during the verification review.
4.32	**Trauma Registry Course** In all trauma centers, all staff members who have a trauma registry role in data abstraction and entry, injury coding, ISS calculation, data reporting, or data validation for the trauma registry must fulfill all of the following requirements: -Participate in and pass the most recent version of the AAAM's Abbreviated Injury Scale (AIS) Course -Participate in a trauma registry course that includes all of the following content: --Abstraction --Data management --Reports/report analysis --Data validation --HIPAA -Participate in an ICD-10 refresher course every five years	TYPE	x	x	x	x	x	Trauma center must list all individuals assisting in the trauma registry with the date of hire. Each registry staff member must have documented evidence of attending: -AAAM AIS Course Certificate -Certificate from a trauma registry course that provides education on the required elements - ICD-10 Course Certificate dated within the past five years

Standard #	Standard Name	Type	LI	LII	LIII (LIII-N)*	PTCI	PTCII	Evidence Standards Are Met
4.33	**Trauma Registrar Continuing Education** In all trauma centers, each trauma registrar must accrue at least 24 hours of trauma-related CE during the verification cycle. Trauma related CE can be obtained internally, externally, or online.	TYPE II	x	x	x	x	x	CE certificates must be available during the verification review.
4.34	**Performance Improvement Staffing Requirements** In all trauma centers there must be 0.5 FTE dedicated performance improvement (PI) personnel when the annual volume of registry patient entries exceeds 500 patients. The count of entries is defined as all patients who meet inclusion criteria for hospital, local, regional, and state purposes. When the annual volume exceeds 1,000 registry patient entries, the trauma center must have at least 1 FTE PI personnel. Trauma centers are expected to have the necessary human resources to comply with the standards in Category 7 – Performance Improvement and Patient Safety. Greater trauma center volumes might necessitate additional personnel.	TYPEII	x	x	x	x	x	Annual trauma registry report that shows the total volume of entries compared to the PI personnel. The role and responsibilities of the PI personnel is defined
4.35	**Disaster Management and Emergency Preparedness Course** In all Level I adult and pediatric trauma centers, the trauma surgeon liaison to the disaster committee must successfully complete the Disaster Management and Emergency Preparedness (DMEP) course at least once.	TYPE II	x			x		Evidence of DMEP course certificate.
5	Patient Care: Expectations and Protocols							
5.1	**Clinical Practice Guidelines** All trauma centers must have evidence-based clinical practice guidelines, protocols, or algorithms that are reviewed at least every three years. Guidelines and best practices are available	TYPE II	x	x	x	x	x	Documented evidence of evidence-based clinical practice guidelines specific to the trauma center.

	through the following sites: Eastern Association for the Surgery of Trauma: http://www.east.org/education-career-development/practice-management-guidelines. ACS : https://www.facs.org/quality-programs/trauma/tqp/center-programs/tqip/best-practice AAST: https://www.aast.org/resources/guidelines Western Trauma Association: https://www.westerntrauma.org/western-trauma-association-algorithms/							
5.2	**Trauma Surgeon and Emergency Medicine Physician Shared Responsibilities** In all trauma centers, the shared roles and responsibilities of trauma surgeons and emergency medicine physicians for trauma resuscitation must be defined and approved by the TMD.	TYPE II	x	x	x	x	x	Documented guidelines outlining shared roles and responsibilities of trauma surgeons and emergency medicine physicians for trauma resuscitation.
5.3	**Levels of Trauma Activation** In all trauma centers, the criteria for tiered activations must be clearly defined. For the highest level of activation, the following eight criteria must be included: 1. Confirmed blood pressure less than 90mm Hg at any time in adults, and age-specific hypotension in children 2. Gunshot wounds to the neck, chest, or abdomen 3. GCS less than 9 (with mechanism attributed to trauma) 4. Transfer patients from another hospital who require ongoing blood transfusion 5. Patients intubated in the field and directly transported to the trauma center 6. Patients who have respiratory compromise or are in need of an emergent	TYPE II	x	x	x	x	x	Criteria elements must be included in the documented and approved trauma activation criteria.

	airway 7. Transfer patients from another hospital with ongoing respiratory compromise (excludes patients intubated at another facility who are now stable from a respiratory standpoint) 8. Emergency physician's discretion The trauma program may choose to have additional criteria and, or a tiered trauma activation criteria protocol.								
5.4	**Trauma Surgeon Response to Highest Level of Activation** For the highest level of activation, at least 80 percent of the time, the trauma surgeon must be at the patient's bedside within 15 minutes for level I and II trauma centers, and within 30 minutes of patient arrival in level III trauma centers. The trauma surgeon must meet this target in aggregate. While postgraduate trainees might initiate resuscitation, their presence does not count toward meeting this standard.	Type I	x	x	x	x	x	Reports that include the number of highest-level trauma activations and the proportion for which the trauma surgeon was present within 15 minutes for the Level I and II trauma centers, or 30 minutes for the Level III trauma centers.
5.5	**Trauma Surgical Evaluation for Activations below the Highest Level** The trauma program must define and meet the acceptable response time to trauma surgical evaluation for activations other than the highest level. The response time is measured from the initial trauma activation (or initial consultation) and trauma surgery team evaluation	TYPE II	x	x	x	x	x	Criteria for lower-level activation where a trauma surgical evaluation is required is monitored for compliance based on the trauma programs established trauma surgeon's response time. The trauma program has response report for the time to trauma surgical evaluation for the lower-level activations.
5.6	**Care Protocols for the Injured Older Adult** Level I and II trauma centers must have the following protocols for care of the injured older adult: -Identification of vulnerable geriatric patients -Identification of patient who will benefit from the input of a health provider with geriatric expertise	TYPE II	x	x				Evidence of documented protocols that are monitored for compliance.

	-Prevention, identification, and management of dementia, depression, and delirium -Process to capture and document what matters to patients, including preferences and goals of care, code status, advanced directives, and identification of a proxy decision maker -Medication reconciliation and avoidance of inappropriate medications -Screening for mobility limitations and assurance of early, frequent, and safe mobility -Implementation of safe transition to home or other health care facility							
5.7	**Assessment of Children for Nonaccidental Trauma** All trauma centers must have a process in place to assess children for nonaccidental trauma. The process should demonstrate evidence of integration with child protective services, child advocacy center, etc.	TYPE II	x	x	x	x	x	Pediatric nonaccidental screening guidelines are document and there is evidence of monitoring for compliance to the guidelines.
5.8	**Massive Transfusion Protocol** All trauma centers must have a massive transfusion protocol (MTP) that is developed in collaboration between the trauma service and blood bank. The MTP includes a trigger for activation, a process for cessation, and strategies for preservation of unused blood. Appropriate clotting studies should be immediately available.	TYPE I	x	x	x	x	x	There is a documented evidence of massive transfusion protocol that is monitored for compliance.
5.9	**Anticoagulation Reversal Protocol** All trauma centers must have a rapid reversal protocol in place for patients on anticoagulants.	TYPE II	x	x	x	x	x	There is evidence of a rapid reversal protocol that is monitored for compliance.

	The protocol should include the therapeutic options and indications for the use of each reversal agent.							
5.10	**Pediatric Readiness** In all trauma centers, the emergency department must evaluate its pediatric readiness and have a plan to address any deficiencies. "Pediatric Readiness" refers to the infrastructure, administration and coordination of care, personnel, pediatric-specific policies, equipment, and other resources that ensure the center is prepared to provide care to an injured child. The components that define readiness are available in the Resources section below. Pediatric readiness assessment: https://emscimprovements.center/domains/pediatric-readiness-project/assessment/	Type II	X	x	x	x	x	Documented evidence of completing the pediatric readiness assessment and a defined gap analysis with a corrective action plan to address deficiencies in the pediatric readiness.
5.11	**Emergency Airway Management** All trauma centers must have a provider and equipment immediately available to establish an emergency airway. The emergency airway provider must be capable of advanced airway techniques, including surgical airway.	TYPE I	x	x	x	x	x	The plan for emergency airway management that specifies the provider and process for escalation is documented and monitored for compliance. This is evaluated along with the equipment during the verification review.
5.12	**Transfer Protocols** All trauma centers must have clearly defined transfer protocols that include the types of patients, expected time frame for initiating and a transfer, and predetermined referral centers for outgoing transfers.	TYPE II	x	x	x	x	x	A documented transfer protocol that is monitored for compliance.
5.13	**Decision to Transfer** In all trauma centers, the decision to transfer an injured patient must be based solely on the needs of the patient, without consideration of their health plan or payor status. Subsequent decisions regarding transfer to a	TYPE II	x	x	x	x	x	This is evaluated during the verification review.

	facility within a managed care network should be made only after the stabilization of the patient's condition and in accordance with the ACS Statement on Managed Care and the Trauma System (https://www.facs.org/about-acs/statements/210managed-trauma)								
5.14	**Transfer Communication** In all trauma centers, when trauma patients are transferred, the transferring provider must directly communicate to the receiving provider to ensure safe transition of care. This communication may occur through a transfer center.	TYPE II	x	x	x	x	x	Evidence of transfer communication is evaluated during the verification review.
5.15	**Trauma Diversion Protocol** In all trauma centers, diversion protocols must be approved by the TMD and include: -Agreement of the trauma surgeon in the decision to divert -Notification of dispatch and EMS agencies -A diversion log to record reasons for and duration of diversion	TYPE II	x	X	x	x	x	Documented diversion protocol that includes the criteria listed that is monitored for compliance and overall diversion hours by the trauma center and reported through the trauma operations committee.
5.16	**Trauma Diversion Hours** All trauma centers must not exceed 400 hours of diversion during the reporting period.	TYPE II	x	x	x	x	x	Diversion hours are monitored and reported through the trauma operations committee.
5.17	**Neurosurgeon Response** Neurosurgical evaluation must occur within 30 minutes of request for the following: -Severe TBI (GCS less than 9) with head CT evidence of intracranial trauma -Moderate TBI (GCS 9-12) with a head CT evidence of potential intracranial mass lesion -Neurologic deficit as a result of potential spinal cord injury (applicable to spine surgeon, whether a neurosurgeon or orthopedic surgeon) -Trauma surgeon discretion	TYPE II	x	x	x*	x	x	The is documented evidence of the monitoring of the neurosurgery arrival time following the requested consult, and this information is reported through the trauma operations committee. This is reviewed during the verification/designation site survey.

	In Level I, II, and III-N trauma centers, neurosurgical provider response times must be documented. In all levels of trauma centers, the neurosurgery attending must be involved in clinical decision-making. Level III-N trauma centers are those that provide neurotrauma care for patients with moderate to severe TBI, defined as GCS of 12 or less at the time of emergency department arrival. A neurosurgery resident or APP may act as a consultant as long as there is documented communication with the neurosurgery attending. The time is measured from the time of request until start of the neurosurgical evaluation. -							
5.18	**Neurotrauma Plan of Care for Level III Trauma Centers** All Level III trauma centers must have a written plan approved by the TMD that defines the types of neurotrauma injuries that may be treated at the center.	TYPE II			x			A written neurotrauma treatment plan is approved by the TMD and trauma operations committee.
5.19	**Neurotrauma Contingency Plan** Level I and II trauma centers must have a neurotrauma contingency plan and must implement the plan when neurosurgery capabilities are encumbered or overwhelmed. Level III-N trauma centers must have a neurotrauma contingency plan that includes the potential for diversion and must be implemented when the neurosurgery capabilities are encumbered, overwhelmed, or unavailable.	TYPE II	x	x	x*	x	x	There is a written neurotrauma treatment plan and a written neurotrauma contingency plan that is monitored through the trauma PIPS process and reported through the trauma operations committee.

	The plan must include the following criteria: -A thorough review of each instance by the PIPS program -Monitoring of the effectiveness of the process by the PIPS program Neurosurgery capabilities are encumbered or overwhelmed when there is an inability to meet standards of care for patients with time-sensitive injuries. Since Level III-N centers are not required to have continuous availability of neurosurgery, it is expected that be an established plan for diversion of patients who might require time-sensitive neurotrauma care to lessen the need for secondary transfers.							
5.20	**Treatment for Orthopaedic Injuries** All trauma centers must have treatment guidelines for, at minimum, the following orthopedic injuries: -Patients who are hemodynamically unstable attributable to pelvic ring injuries -Long bone fractures in patients with multiple injuries (e.g., time to fixation, order of fixation, and damage control versus definitive fixation strategies) -Open extremity fractures (e.g., time to antibiotics, time to OR for operative debridement, and time to wound coverage for open fractures) - Hip fractures in geriatric patients (e.g., expected time to OR) (Level I, II, III)	TYPE II	x	x	x	x	x	There are written treatment guidelines for orthopedic injuries that are approved, and monitored for compliance through the trauma PIPS processes and reported at the trauma operations committee.
5.21	**Orthopaedic Surgeon Response** In all trauma centers, an orthopedic surgeon must at bedside within 30 minutes of request for the following: -Hemodynamically unstable, secondary to pelvic fracture	TYPE II	x	x	x	x	x	The orthopedic response time to the request for consult on these identified patient is monitored through the trauma PIPS process and reported through the trauma operations committee.

	-Suspected extremity compartment syndrome -Fractures/dislocations with risk of vascular necrosis (e.g., femoral head or talus) -Trauma surgeon discretion The orthopedic surgeon must be involved in the clinical decision-making for care of these patients. An orthopedic surgery resident or APP may act as a consultant as long as there is documented communication with the orthopedic surgeon attending. The time is measured from time of request until orthopedic surgeon arrival at bedside.							This is evaluated during the verification/designation site survey process.
5.22	**Operating Room Scheduling Policy** All trauma centers must have an OR booking policy that specifies targets for timely access to the OR based on level of urgency and includes access targets for a range of clinical trauma priorities.	Type II	x	x	x	x	x	A written OR scheduling policy is available and trauma patient access to the OR is monitored through the trauma PIPS process and reported through the trauma operations committee.
5.23	**Surgical Evaluation of ICU Patients** In all trauma centers, trauma patients requiring ICU admission must be admitted to, or be evaluated by, a surgical service. There must be a policy that defines the hospital's expectations of the time frame within which a trauma consult is performed for an ICU trauma patient. For example, a tertiary exam can be done before the trauma service off, or completed within 2 hours, 6 hours, or 24 hours, or as determined by the hospital policy. The ICU policy includes notification of changes in care to the trauma service.	TYPE II	x	x	x	x	x	There is a written policy reflecting this criterion that is monitored through the trauma PIPS process and reported through the trauma operations committee.
5.24	**Trauma Surgeon Responsibility for ICU Patients** In all trauma centers, the trauma surgeon must	TYPE II	x	x	x	x	x	This is defined in the ICU guidelines and is monitored through the trauma PIPS process and overall compliance is reported

	retain responsibility for the trauma patient in the ICU up to the point where the trauma surgeon documents transfer of primary responsibility to another service. The trauma surgeon will retain responsibility while the trauma patient is under their care; this requires that they be kept informed of and concur with major therapeutic and management decisions when care is being provided by a dedicated ICU team.								through the trauma operations committee.
5.25	**Communication of Critical Imaging Results** In all trauma centers, documentation of preliminary diagnostic imaging must include evidence that the critical findings were communicated to the trauma team. The final report must accurately reflect the chronology and content of communications with the trauma team, including changes between the preliminary and final interpretations.	TYPE II	x	x	x	x	x	This is monitored through the trauma PIPS process. This is reviewed through the trauma verification/designation site survey process.

Standard #	Standard Name	Type	LI	LII	LIII (LIII-N)*	PTCI	PTCII	Evidence Standards Are Met
5.26	**Timely CT Scan Reporting** In all trauma centers, documentation of the final interpretation of CT scans must occur no later than 12 hours after completion of the scan.	TYPE II	x	x	x	x	x	This is monitored through the radiology PI Process. Radiology reports are evaluated during the site survey process.
5.27	**Rehabilitation Services During Acute Phase of Case** All trauma centers must meet the rehabilitation needs of trauma patients by: -Developing protocols that identify which patients will require rehabilitation services during acute inpatient stay -Establishing processes that determine the rehabilitation care, needs, and services required during acute inpatient stay -Ensuring that the required services during acute inpatient stay are provided in a timely manner Early multidisciplinary assessment of patients to determine their rehabilitation needs and provide the relevant services during the acute phase of care is critical to ensuring optimal functional recovery. Multidisciplinary assessment might include input from physicians, (including physiatry, where applicable), physiotherapy, occupational therapy, speech language pathology, and mental health providers. These needs should be met as early as possible during the initial hospitalization.	TYPE II		x	x	x	x	Protocols that outline the process for identifying patients in need of rehabilitation services are documented and implemented. Chart review showing evidence of an interdisciplinary plan of care established through input across rehabilitation providers is documented. Chart reviews demonstrating the assessment of rehabilitation need and that these needs were met in a timely manner is reflected through the documentation.
5.28	**Rehabilitation and Discharge Planning** All trauma centers must have a process to determine the level of care patients require after trauma center discharge, as well as the specific rehabilitation care services required at the next level of care. The level of	TYPE II	x	x	x	x	x	These processes will be reviewed during the chart review of the verification / designation site survey.

	care and services required must be documented in the medical record. The level of care identifies the optimal disposition of the patient taking into account their needs; options include home with services, outpatient rehabilitation, an inpatient rehabilitation hospital, a skilled nursing facility, or a long-term acute care hospital. The specific services required might include rehabilitation expertise that focuses on spinal cord injury, TBI, musculoskeletal rehabilitation, or others relevant to the needs of the patient. Discharge planning should also ensure a patient-centered approach. The core of a patient-centered approach is the acknowledgement that patient's perspectives can be integrated into all aspects of the planning, delivery, and evaluation of trauma center care. Level I and II trauma centers should adopt a means of facilitating the transition of patients into the community using patient-centered strategies such as the following: -Peer-to-peer mentoring -A trauma survivor's program -Participation in the American Trauma Society's Trauma Survivor's Network program -Continuous case management that elicits and addresses patient concerns and links trauma center services with community care								
5.29	**Mental Health Screening** All trauma centers must meet the mental health	TYPE II	x	x	x	x	x	LI, LII, PTCLI, PTCLII have a documented mental health screening and

	needs of trauma patients by having: -A protocol to screen patients at high risk for psychological sequelae with subsequent referral to a mental health provider (LI, LII, PTCLI, PTCLII) -A process for referral to a mental health provider when required (LIII) Level I and II trauma centers are required to have a structured approach to identify patients at high risk for mental health problems while Level III trauma centers are required to have a means of referral should a problem or risk be identified during inpatient admission.							referral protocol. LIII trauma centers have a documented mental health referral protocol. These protocols are monitored through the trauma PIPS process and aggregate data is reported through the trauma operations committee.
5.30	**Alcohol Misuse Screening** All trauma centers must screen all admitted trauma patients greater than 12 years old for alcohol misuse with a validated tool or routine blood alcohol content testing. Programs must achieve a screening rate of at least 80%. , This standard applies to all admitted trauma patients regardless of their activation status.	TYPE II	x	x	x	x	x	Alcohol misuse screening is monitored through the trauma PIPS process and aggregate data is reported through the trauma operations committee with the goal of 80% compliance.
5.31	**Alcohol Misuse Intervention** In all trauma centers, at least 80% of the patients who have screened positive for alcohol misuse must receive a brief intervention by appropriately trained staff prior to discharge. Level III trauma centers must have a mechanism for referral if brief intervention is not available as an inpatient. Appropriately trained staff will be determined and	TYPE II	x	x	x	x	x	A documented screening, brief intervention and referral protocol is implemented and monitored through the trauma PIPS process. Aggregate data reported at the trauma operations committee reflects that 80% of the admitted trauma patients who screened positive for alcohol misuse had a brief intervention completed prior to discharge.

	credentialed by the institution. This may include nurses, APP, and social workers, etc.							
6 | Data Surveillance and Systems								
6.1	**Data Quality Plan** All trauma centers must have a written data quality plan and demonstrate compliance with that plan. At a minimum, the plan must require quarterly review of data quality. The plan should allow for a continuous process that measures, monitors, identifies and corrects data quality issues and ensures the fitness of the data for use. Ensuring data validity is an important part of a data quality plan. Validation may be internal or external. Examples of external data validation include the Trauma Quality Program (TQP) Data Center Validation Summary Report and the TQP Data Center Submission Frequency Report. High-quality data are necessary for focused quality improvement efforts.	TYPE II	x	x	x	x	x	A written data quality plan is implemented and there is evidence of efforts to improve the quality of the data. Written results summarizing internal and external data validation are available and reviewed by the trauma program to identify opportunities for improvement. There is evidence of a comprehensive review of the TQP Data Center Validation Summary Report. There is evidence of a comprehensive review of the TQP Data Center Submission Frequency Report (as applicable).
6.2	**Trauma Registry Patient Record Completion** In all trauma centers, the trauma registry must be concurrent, defined as having a minimum of 80% of the registry patient records completed within 60 days of the patient's discharge date. A completed record is one where all of the required data have been entered in the registry and record has been closed. Timeliness of data abstraction is necessary so that centers can validate their data and	TYPE II	x	x	x	x	x	Registry report covering the reporting period demonstrating that data for 80% of the registry patient records are completed within 60 days of the patient's discharge date.

	identify opportunities for improvement at the earliest possible time.							
6.3	**Trauma Registry Data Collection and Submission** In all trauma centers, trauma registry data must be collected in compliance with the NTDS inclusion criteria following the data element definitions and must have been submitted to the TQP Data Center in the most recent call for data. The "most recent call for data" is defined as the most recent call for data that occurred more than 30 days prior to the site visit. Data collection using standardized definitions is necessary to allow centers to compare their processes and outcomes with other centers. Timeliness of data collection and submission is necessary to ensure that opportunities for improvement are readily identified.	TYPE II	x	x	x	x	x	There is evidence of submission of all records meeting NTDS inclusion criteria. All submitted records must pass the NTDS validation requirements (containing no level I or II flags). Submitted records must include at least 12 continuous and complete months of trauma registry data eligible for submission in the most recent call for data (defined above).
7 | Performance Improvement and Patient Safety								
7.1	**Trauma PIPS Program** In all trauma centers, the trauma PIPS program must be independent of the hospital or departmental PI program, but it must report to the hospital or department PI program. The PIPS 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 expected frequency and level of review require the PIPS program to function independently from the hospital/departmental PI program. However, the PIPS program must have a means to report events and actions to the departmental/hospital PI program.	TYPE II	x	x	x	x	x	There is a documented hospital organizational chart reflecting the relationship of the trauma PIPS program to the organizational PI program and demonstrates bidirectional flow of information.

	The hospital or departmental quality program must provide feedback and loop closure to the trauma program.

Trauma care typically involves many providers across several disciplines and departments. The PIPS program is most effective when it brings the providers together to review and implement opportunities for improvement. | | | | | | | | |
| 7.2 | **PIPS Plan**
All trauma centers must have a written trauma PIPS plan that:
-Outlines the organizational structure of the trauma PIPS process, with a clearly defined relationship with the hospital PI program.
-Specifies the process for event identification
-Includes a list of routine events or audit filters for review, that must include, at a minimum, those listed below
-Defines the levels of review (primary, secondary, tertiary, and/or quaternary), with a listing for each level that clarifies:
--Which cases are to be reviewed
--Who performs the review
--When cases can be close or must be advanced to the next level of review
-Specifies the members and responsibilities of the multidisciplinary trauma PIPS committee
_Outlines an annual process for identification of priority areas for PI, based on the routine event reviews, audit filters, and benchmarking reports | TYPE II | x | x | x | x | x | The documented trauma PIPS plan must meet the criteria outlined in this standard.

The trauma PIPS processes and plan are reviewed and evaluated during the verification/designation site survey process.

Routine screening events/audit filters
-Surgeon arrival time for the highest level of trauma team activation
-Delay in response for urgent assessment by the neurosurgery and orthopedic specialist
-Compliance to prehospital triage criteria, as dictated by regional protocols
-Delays or adverse events associated with prehospital trauma care
-Compliance of trauma team activations, as dictated by the trauma center
-Accuracy of trauma team activation protocols
-Delays in care due to the unavailability |

								of emergency department physician (Level III)
								-Unanticipated return to the OR
								-Unanticipated transfer to the ICU or intermediate care unit
								-Transfers out of the facility for appropriateness and safety
								-All nonsurgical admissions (excludes isolated hip fractures)
								-Radiology interpretation errors or discrepancies between the preliminary and final reports
								-Delays in access to time-sensitive diagnostic or therapeutic interventions
								-Compliance with policies related to timely access to the OR for urgent surgical intervention
								-Delays in response to the ICU for patients with critical needs
								-Lack of availability of essential equipment for resuscitation or monitoring
								-MTP activations
								-Significant complications (hospital events) and adverse events
								-Transfers to hospice
								-All deaths: inpatient, died in the emergency department (DIED), dead-on-arrival (DOA)
								-Inadequate or delayed blood product availability
								-Patient referral and organ procurement rates
								-Screening of eligible patients for

								psychological sequelae -Delays in providing rehab services -Screening eligible patients for alcohol misuse -Pediatric admission to nonpediatric trauma centers -Neurotrauma care at Level III centers -Neurotrauma diversion
7.3	**Documented Effectiveness of the PIPS Program** All trauma centers must have documented evidence of event identification; effective use of routine event or audit filter screening; corrective action plan, loop closure, and strategies for sustained improvement measured over time.	TYPE II	x	x	x	x	x	The trauma PIPS documentation including the monitoring of event rates, the multidisciplinary trauma peer review minutes, loop closure documentation, OPPE, benchmarking reports, and other relevant data to inform and evaluate the effectiveness of the trauma PIPS process. This documentation is reviewed during the verification / designation site survey process.
7.4	**Participation in Risk-Adjusted Benchmarking Programs** All trauma centers must participate in a risk-adjusted benchmarking program and use the results to determine whether there are opportunities for improvement in patient care and registry data quality. TQIP meets the participation requirements for a risk-adjusted benchmarking program. Risk-adjusted benchmarking programs other than the TQIP must meet criteria listed on the TQP website, found on www.facs.org. Participation in a risk-adjusted	TYPE II	x	x	x	x	x	During the verification / designation site review process, preset the opportunities for improvement and actions taken to improve patient care and registry data quality from the evaluation of the risk-adjusted benchmarking report. Trauma centers participating in an alternate risk-adjusted benchmarking program -Documented proof of participation in a risk-adjusted benchmarking program that meets the defined criteria listed -Copies of the two most recent risk-adjusted benchmarking reports, at least

	benchmarking program with regular review of data provides the best opportunities for centers to understand were there might be gaps in their quality of care.							one of which must have been received during the reporting period.
7.5	**Physician Participation in Prehospital** Performance Improvement In all trauma centers, a physician from the emergency department must participate in the prehospital PI process, including assisting in the development of prehospital care protocols relevant to the care of trauma patients.	TYPE II	x	x	x	x	x	Documented evidence of attendance records from the prehospital PI meetings. Prehospital care protocols relevant to the care of trauma patients are documented and implemented.
7.6	**Trauma Multidisciplinary PIPS (peer review) Committee Attendance** All trauma centers must meet the following trauma multidisciplinary PPS committee attendance thresholds: -60 percent of meetings for the TMD (cannot be delegated) -50 percent of meetings for each trauma surgeon -50 percent of meetings for the liaisons (or one predetermined alternate) from emergency medicine, neurosurgery, orthopedic surgery, critical care medicine, anesthesia, and radiology Combined adult and pediatric trauma centers (LI / LII or Level II) must have 50 percent attendance by a representative (TMD or one predetermined alternate) from the other program; this representative is responsible for disseminating information to panel members of the other program.	TYPE II	x	x	x	x	x	The dates of the Trauma Multidisciplinary PIPS committee meeting and attendance record throughout the reporting period are reviewed during the verification/designation site review process. .

	Attendance requirements may be met by teleconference. Trauma multidisciplinary PIPS committee meeting attendance may be waived for military deployment, medical leave, and missionary work. Documentation in support of absences must be provided by the trauma center. The minimum attendance for a liaison is defined by the combined attendance for the liaison and the alternate. If the TMD also serves as the ICU director, they must meet the TMD attendance requirement. If a surgeon only serves as a backup (e.g. they are never first call for trauma), they are not subject to attendance requirements.							
7.7	**Trauma Mortality Review** In all trauma centers, all cases of trauma-related mortality and transfer to hospice must be reviewed and classified for potential opportunities for improvement. Deaths must be categorized as: -Mortality with opportunity for improvement -Mortality without opportunity for improvement Trauma mortalities include DOA, died in the emergency department (DIED), inpatient deaths, and patients who died after withdrawal of life-sustaining care. A death is defined as "mortality with opportunity for improvement", if any of the following criteria are met:	TYPE II	x	x	x	x	x	The trauma multidisciplinary PIPS committee meeting minutes documenting the review of mortalities is reviewed during the verification / designation site review process.

	-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							
7.8	**Nonsurgical Trauma Admissions Review** In all trauma centers, all nonsurgical trauma admissions must be reviewed by the trauma program. Nonsurgical admissions (NSA) without trauma or other surgical consultation with an ISS>9, or with identified opportunities for improvement must, at a minimum, be reviewed by the TMD in secondary level of review.	TYPE II	x	x	x	x	x	The trauma written PIPS plan includes the NSA review process (an element of 7.2). There are documented reports reflecting the NSA. There is trauma PIPS documentation reflecting the review of the NSA cases.
7.9	**Trauma Diversions Review** In all trauma centers, all instances of diversion must be reviewed by the trauma operations committee.	TYPE II	x	x	x	x	x	The trauma operations committee meeting minutes reflect the review of diversion hours and appropriate actions items.
7.10	**Prehospital Care Feedback** All trauma centers must have a process of reviewing and providing feedback to: -EMS agencies, related accuracy of triage and provision of care -Referring providers, related to the care and outcomes of their patients and any potential opportunities for improvement in the initial care.	TYPE II	x	x	x	x	x	The trauma PIPS plan defines the process for reviewing and providing feedback to EMS agencies and referring providers. There is documented evidence of communication (feedback) between the trauma center and EMS agencies and referring providers.
**8	Education: Professional and Community Outreach**							
8.1	**Public and Professional Trauma Education**	TYPE II	x	x	x	x	x	There is documentation of the scheduled public and professional education

	All trauma centers must provide public and professional trauma education. Examples of public and professional trauma education include: -Advanced Trauma Life Support * (ATLS*) -International Trauma Life Support* (ITLS*) -Prehospital Trauma Life Support* (PHTLS*) -STOP THE BLEEED* -Trauma Evaluation and Management ™							provided by the trauma center with a course summary.
8.2	**Nursing Trauma Orientation and Education** All trauma centers must provide trauma orientation to new nursing staff caring for trauma patients. Nurses must participate in trauma CE corresponding to their scope of practice and patient populations served. Examples of orientation may include: -Center-developed educational program that integrates the trauma PIPS process and trauma center issues specific to their unit -Education specific to the trauma patient population served Nursing orientation may include simulation sessions, online learning, conferences, and annual training events. Examples of nursing education may include: -ATCN -TNCC -PCAR -TCAR -TNATC – Transport Nurse Advanced Trauma	TYPE II	x	x	x	x	x	There is documented materials and processes for trauma orientation for new nursing staff caring for trauma patients. There CE certificates or transcripts are documented and available for review during the verification/designation site review process.

#	Requirement	Type						Documentation
	Course							
8.3	**Prehospital Provider Training** In all trauma centers, the trauma program must participate in the training of prehospital personnel.	TYPE II	x	x	x	x	x	There must documentation that describes the prehospital training to include the subject, educator, objectives, and an evaluation of the training.
8.4	**General Surgery Resident Education** Level I and PTC Level I trauma centers must have a trauma rotation with defined objectives and curriculum for PGY3, PGY4, or PGY5 general surgery residents.	TYPE II	x			x		There must be evidence of learning objectives and curriculum for resident trauma rotation.
8.5	**General Surgery Senior Resident Rotations** In Level I trauma centers, all general surgery residents must be assigned to the trauma rotation for a minimum of three months during their PGY 4 or PGY 5 to ensure sufficient exposure to trauma care. For pediatric trauma centers, PGY3 surgical residents are acceptable.	TYPE II	x			x		The general surgical resident rotation schedule for 12 months is reviewed during the verification/designation site review process.
8.6	**General Surgery Resident Coverage** Level I trauma centers must have a trauma surgery coverage by PGY4 or PGY5 general surgery residents. If the number of PGY4 or PGY5 residents is insufficient to ensure coverage, PGY3 surgical residents and/or fellows are acceptable. Acceptable fellowships include trauma surgery, acute care surgery, surgical critical care, or pediatric surgery.	TYPE II	x			x		
9 | Research								
9.1	**Research and Scholarly Activities** Level I trauma centers must demonstrate the following scholarly activities during the verification cycle: -At least 10 trauma-related research articles* -Participation by at least one trauma program	TYPE II	x			x		The documented evidence of these standards are tracked by the trauma program annually and available for review during the verification/designation site review process.

	faculty member as a visiting professor, invited lecturer, or speaker at a regional, national, or international trauma conference -Support of residents or fellows in any of the following scholarly activities: laboratory experiences; clinical trials; resident trauma paper competitions at the state; regional, or national level; and other resident trauma research presentations. *Fulfillment of the research requirement must also meet the following criteria: -At least three articles must be authored by general surgery/pediatric surgery trauma providers -Research activity must be performed at the trauma center -If case series are to be counted, they must include more than five patients -Basic science research must involve topics directly related to the pathophysiology of injury -At least three articles must be from disciplines other than general/pediatric surgery -All articles must be published or accepted for publication in peer-reviewed and indexed journals -Authors from the trauma center must meet accepted authorship requirements of the International Committee of Medical Journal Editors -One paper from acute care surgery may be included							