

Criteria for designation of Level III trauma centers are based upon ***Resources Optimal Care of the Injured Patient, COT/American College of Surgeons, 2014.*** Criteriato verify that services and systems are in place to insure optimal care of the trauma patient are defined in that document. The following elements are referenced by chapter and must be met for designation as a Level III trauma center in Utah.

 **Survey Date:** **Facility:**

| Chapter  | Criteria Element | Met | Not Met |
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| **1** | **Trauma System Participation** |  |  |
| **Type II** | 1. There is evidence that the trauma program staff is involved in trauma system planning, development and operation within the state and the region. |  |  |
| **Type II** | 2. The individual trauma center and health care providers are essential system resources and engaged participants |  |  |
| **Type II** | 3. The trauma center and its providers function in a way to support trauma center based standardization, integration and PIPS out to the region while engaging in inclusive trauma system planning and development. |  |  |
| **\*\*****Type II****\*\*** | 4. Attendance and participation threshold at regional and State Trauma Systems meetings of 75% are required. (State Criteria)\*\*\*Provide evidence of attendance (at time of survey).\*\*\* |  |  |
| **2** | **The Role in the Trauma System** |  |  |
| **Type I** | 1. This trauma center must have an integrated, concurrent performance improvement and patient safety (PIPS) program to ensure optimal care and continuous improvement in care (CD 2–1). |  |  |
| **Type I** | 2. Surgical commitment is essential for a properly functioning trauma center (CD 2–2). |  |  |
| **Type II** | 3. Trauma centers must be able to provide the necessary human and physical resources (physical plant and equipment) to properly administer acute care consistent with their level of verification (CD 2–3). |  |  |
| **Type II** | 4. Through the trauma PIPS program and hospital policy, the trauma director must have responsibility and authority for determining each general surgeon’s ability to participate on the trauma panel based on an annual review (CD 2–5). |  |  |
| **Type I** | 5. It is expected that the surgeon will be in the emergency department on patient arrival, with adequate notification from the field. The maximum acceptable response time for the highest-level activation tracked from patient arrival is 30 minutes for Level III trauma centers. The minimum criteria for full trauma team activation are provided in Table 2 in Chapter 5. The program must demonstrate that the surgeon’s presence is in compliance at least 80 percent of the time (CD 2–8). |  |  |
| **Type II** | 6. A Level III trauma center must have continuous general surgical coverage (CD 2–12). |  |  |
| **Type II** | 7. Well-defined transfer plans are essential (CD 2–13). |  |  |
| **Type II** | 8. A trauma medical director and trauma program manager knowledgeable and involved in trauma care must work together with guidance from the trauma peer review committee to identify events, develop corrective action plans, and ensure methods of monitoring, reevaluation, and benchmarking. (CD 2-17). |  |  |
| **Type II** | 9. The multidisciplinary trauma peer review committee must meet regularly, with required attendance of medical staff active in trauma resuscitation, to review systemic and care provider issues, as well as propose improvements to the care of the injured (CD 2–18). |  |  |
| **Type II** | 10. The PIPS program must have audit filters to review and improve pediatric and adult patient care (CD 2–19). |  |  |
| **Type II** | 11. The facility must participate in regional disaster management plans and exercises (CD 2–22). |  |  |
| **Type II** | 12. Any adult trauma center that annually admits 100 or more injured children younger than 15 years must fulfill the following additional criteria demonstrating their capability to care for injured children: trauma surgeons must be credentialed for pediatric trauma care by the hospital’s credentialing body (CD 2–23). |  |  |
| **Type II** | 13. There must be a pediatric emergency department area, a pediatric intensive care area, appropriate resuscitation equipment, and a pediatric-specific trauma PIPS program (CD 2–24). |  |  |
| **Type II** | 14. For adult trauma centers annually admitting fewer than 100 injured children younger than 15 years, these resources are desirable. These hospitals, however, must review the care of their injured children through their PIPS program (CD2–25). |  |  |
| **3** | **Pre-hospital Trauma Care** |  |  |
| **Type II** | 1. The trauma program must participate in the training of prehospital personnel, the development and improvement of prehospital care protocols, and performance improvement and patient safety programs (CD 3–1). |  |  |
| **Type II** | 2. The protocols that guide prehospital trauma care must be established by the trauma health care team, including surgeons, emergency physicians, medical directors for EMS agencies, and basic and advanced prehospital personnel (CD 3-2) |  |  |
| **Type II** | 3. Rigorous multidisciplinary performance improvement is essential to evaluate overtriage and undertriage rates to attain the optimal goal of less than 5 percent undertriage (CD 3–3). |  |  |
| **Type II** | 4. The trauma director must be involved in the development of the trauma center’s bypass (diversion) protocol (CD 3–4). |  |  |
| **Type II** | 5. The trauma surgeon must be involved in the decision regarding bypass (diversion) each time the center goes on bypass (CD 3–5). |  |  |
| **Type II** | 6. The trauma center must not be on bypass (diversion) more than 5 percent of the time (CD 3–6). |  |  |
| **Type II** | 7. When a trauma center is required to go on bypass or to divert, the center must have a system to notify dispatch and EMS agencies (CD 3–7). The center must do the following:* Prearrange alternative destinations with transfer agreements in place
* Notify other centers of divert or advisory status
* Maintain a divert log
* Subject all diverts and advisories to performance improvement procedures
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| **4** | **Inter-hospital Transfer** |  |  |
| **Type II** | 1. Direct physician-to-physician contact is essential (CD 4–1). |  |  |
| **Type II** | 2. The decision to transfer an injured patient to a specialty care facility in an acute situation must be based solely on the needs of the patient and not on the requirements of the patient’s specific provider network (for example, a health maintenance organization or a preferred provider organization) or then patient’s ability to pay (CD 4–2). |  |  |
| **Type II** | 3. A very important aspect of interhospital transfer is an effective PIPS program that includes evaluating transport activities (CD 4–3). |  |  |
| **Type II** | 4. There is PIPS review of all transfers. (CD 4-3) |  |  |
| **5** | **Hospital Organization/Trauma Program** |  |  |
| **Type I** | 1. A decision by a hospital to become a trauma center requires the commitment of the institutional governing body and the medical staff (CD 5–1). |  |  |
| **Type I** | 2. Documentation of administrative commitment is required from the governing body and the medical staff (CD 5–1) |  |  |
| **Type II** | 3. This [administrative] support must be reaffirmed continually (every 3 years) and must be current at the time of verification (CD 5–2). |  |  |
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| **Type II** | 4. The [medical staff] support must be reaffirmed continually (every 3 years) and must be current at the time of verification (CD 5–3). |  |  |
| **Type II** | 5. The trauma program must involve multiple disciplines and transcend normal departmental hierarchies (CD 5–4). |  |  |
| **Type I** | 6. The trauma medical director must participate in the trauma call. The TMD must be a current board-certified general surgeon (or a general surgeon eligible for certification by the American Board of Surgery according to current requirements) or a general surgeon who is an American College of Surgeons Fellow with a special interest in trauma care and must participate in trauma call (CD 5-5). |  |  |
| **Type II** | 7. The TMD must be current in Advanced Trauma Life Support® (ATLS®) (CD 5–6). |  |  |
| **Type II** | 8. The TMD must have the authority to manage all aspects of trauma care (CD 5–9). |  |  |
| **Type II** | 9. The TMD must chair and attend a minimum of 50% of the multidisciplinary trauma peer review committee meetings. (CD 5-10) |  |  |
| **Type II** | 10. The TMD, in collaboration with the TPM, must have the authority to correct deficiencies in trauma care and exclude from trauma call the trauma team members who do not meet specified criteria (CD 5-11). |  |  |
| **Type II**  | 11. In addition, the TMD must perform an annual assessment of the trauma panel providers in the form of Ongoing Professional Practice Evaluation (OPPE) andFocused Professional Practice Evaluation (FPPE) when indicated by findings of the PIPS process (CD 5-11). |  |  |
| **Type II** | 12. The TMD must have the responsibility and authority to ensure compliance with the above requirements and cannot direct more than one trauma center (CD 5-12). |  |  |
| **Type II** | 13. The criteria for a graded activation must be clearly defined by the trauma center, with the highest level of activation including the six required criteria listed in Table 2 (CD 5–13). |  |  |
| **Type II** | 14. In Level III and IV trauma centers the team must be fully assembled within 30 minutes (CD 5-15). |  |  |
| **Type II** | 15. Other potential criteria for trauma team activation that have been determined by the trauma program to be included in the various levels of trauma activation must be evaluated on an ongoing basis in the PIPS process (CD 5-16)  |  |  |
| **Type II** | 16. The emergency physician may initially evaluate the limited-tier trauma patient, but the center must have a clearly defined response expectation for the trauma surgical evaluation of those patients requiring admission (CD 5-16). |  |  |
| **Type II** | 17. In Level III centers, injured patients may be admitted to individual surgeons, but the structure of the program must allow the trauma director to have oversight authority for the care of these patients. (CD 5-17) |  |  |
| **Type II** | 18. Programs that admit more than 10% of injured patients to non-surgical services must review all non-surgical admissions through the trauma PIPS process (CD 5–18). |  |  |
| **Type I** | 19. There must be a method to identify the injured patients, monitor the provision of health care services, make periodic rounds, and hold formal and informaldiscussions with individual practitioners (CD 5–21). |  |  |
| **Type II** | 20. In addition to administrative ability, the TPM must show evidence of educational preparation and clinical experience in the care of injured patients (CD 5-22) |  |  |
| **Type II** | 21. The trauma center’s PIPS program must have a multidisciplinary trauma peer review committee chaired by the TMD (CD 5-25). |  |  |
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| **6** | **Clinical Functions: General Surgery** |  |  |
| **Type II** | 1. General surgeons caring for trauma patients must meet certain requirements, as described herein (CD–6-1). Requirements may be considered to be in four categories: current board certification, clinical involvement, performance improvement and patient safety, and education. |  |  |
| **Type II** | 2. Board certification or eligibility for certification by the American Board of Surgery according to current requirements or the alternate pathway is essential for general surgeons who take trauma call in Level I, II, and III trauma centers (CD 6–2).  |  |  |
| **Type II** | Acceptable professional organization as a Fellow status of the American College of Emergency Physicians (FACEP). (CD 6-3) |  |  |
| **Type II** | 3. Alternate Criteria (CD 6-3) for non–Board-Certified Surgeons in a Level I, II, or III Trauma Centers.). |  |  |
| **Type II** | If a physician has not been certified within the time frame by the certifying board after successful completion of an ACGME or Canadian residency, the physician is not eligible for inclusion in the trauma team. Such a physician may be included when given recognition as a fellow by a major professional organization (for example, the American College of Emergency Physicians). (CD 6-3) |  |  |
| **Type II** | 4. Trauma surgeons must have privileges in general surgery (CD 6–4). |  |  |
|  | 5. For Level III and Level IV trauma centers, the maximum acceptable response time is 30 minutes. Response time will be tracked from patient arrival rather than from notification or activation. An 80 percent attendance threshold must be met for the highest-level activations (CD 2–8). |  |  |
| **Type II** | 6. For Level III trauma centers, the attending surgeon is expected to be present in the operating room for all operations. A mechanism for documenting this presence is essential (CD 6–7). |  |  |
| **Type II** | 7. In III trauma centers, there must be a multidisciplinary trauma peer review committee chaired by the trauma medical director (CD 5-25) and representatives from general surgery (CD 6-8), and liaisons from orthopedic surgery (CD 9-16), emergency medicine (CD 7-11), ICU (CD 11-62), and anesthesia (CD 11-13) – and for Level I and II trauma centers, neurosurgery (CD 8-13) and radiology (CD 11-39). |  |  |
| **Type II** | 8. Each member of the group of general surgeons must attend at least 50 percent of the multidisciplinary trauma peer review committee meetings (CD 6–8). |  |  |
| **Type II** | 9. All general surgeons on the trauma team must have successfully completed the Advanced Trauma Life Support® (ATLS®) course at least once (CD 6–9). |  |  |
| **7** | **Clinical Functions: Emergency Medicine** |  |  |
| **Type I** | 1. The emergency department must have a designated emergency physician director supported by an appropriate number of additional physicians to ensure immediate care for injured patients (CD 7–1). |  |  |
| **Type II** | 2. Occasionally, in a Level III trauma center, it is necessary for the physician to leave the emergency department for short periods to address in-house emergencies. Such cases and their frequency must be reviewed by the performance improvement and patient safety (PIPS) program to ensure that this practice does not adversely affect the care of patients in the emergency department (CD 7–3). |  |  |
| **Type II** | 3. In institutions in which there are emergency medicine residency training programs, supervision must be provided by an in-house attending emergency physician 24 hours per day (CD 7–4). |  |  |
| **Type II** | 4. These roles and responsibilities must be defined, agreed on, and approved by the director of the trauma service (CD 7–5). |  |  |
| **Type II** | 5 Board certification or eligibility for certification by the appropriate emergency medicine board according to current requirements or the alternate pathway is essential for physicians staffing the emergency department and caring for trauma patients. (CD 7–6). |  |  |
| **Type II** | 6. Alternate Criteria (CD 6-3) for Non–Board-Certified Emergency Medicine Physicians. |  |  |
| **Type II** | 7. Emergency physicians on the call panel must be regularly involved in the care of injured patients (CD 7–7). |  |  |
| **Type II** | 8. A representative from the emergency department must participate in the prehospital PIPS program (CD 7–8). |  |  |
| **Type II** | 9. A designated emergency physician liaison must be available to the trauma director for PIPS issues that occur in the emergency department (CD 7–9). |  |  |
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| **Type II** | 10. Emergency physicians must participate actively in the overall trauma PIPS program and the multidisciplinary trauma peer review committee (CD 7–10)  |  |  |
| **Type II** | 11. The emergency medicine liaison on the multidisciplinary trauma peer review committee must attend a minimum of 50 percent of the committee meetings (CD 7–11). |  |  |
| **Type II** | 12. All board-certified emergency physicians or those eligible for certification by an appropriate emergency medicine board according to current requirements must have successfully completed the ATLS course at least once (CD 7–14). |  |  |
| **Type II** | 13. Physicians who are certified by boards other than emergency medicine who treat trauma patients in the emergency department are required to have current ATLS status (CD 7–15). |  |  |
| **8** | **Clinical Services: Neurosurgery (if available)** |  |  |
| **Type II** | 1. A formal, published contingency plan must be in place for times in which a neurosurgeon is encumbered upon the arrival of a neurotrauma case (CD 8–5). The contingency plan must include the following:* A credentialing process to allow the trauma surgeon to provide initial evaluation and stabilization of the neurotrauma patient. • Transfer agreements with a similar or higher-level verified trauma center.

• Direct contact with the accepting facility to arrange for expeditious transfer or ongoing monitoring support.• Monitoring of the efficacy of the process by the PIPS program |  |  |
| **Type II** | 2. If one neurosurgeon covers two centers within the same limited geographic area, there must be a published backup schedule (CD 8-6.) |  |  |
| **Type II** | 3. In addition, the performance improvement process must demonstrate that appropriate and timely care is provided (CD 8–6). |  |  |
| **Type II** | 4. A Level III trauma center must have a plan approved by the trauma medical director that determines which types of neurosurgical injuries may remain and which should be transferred (CD 8–7). |  |  |
| **Type II** | 5. Transfer agreements must exist with appropriate Level I and Level II trauma centers (CD 8–8) |  |  |
| **Type I** | 6. In all cases, whether patients are admitted or transferred, the care must be timely, appropriate, and monitored by the PIPS program (CD 8–9). |  |  |
| **Type II** | 7. Board certification or eligibility for certification by an appropriate neurosurgical board according to the current requirements or the alternate pathway is essential for neurosurgeons who take trauma call (CD 8–10). |  |  |
| **Type II** | 8. Alternate Criteria (CD 6-3) for Non–Board-Certified Neurosurgeons.  |  |  |
| **Type II** | 9. Level III centers with any emergent neurosurgical cases must also have the participation of neurosurgery on the multidisciplinary trauma peer review committee (CD 8–13). |  |  |
| **9** | **Clinical Services: Orthopedic Surgery (if available)** |  |  |
| **Type I** | 1. Operating rooms must be promptly available to allow for emergency operations on musculoskeletal injuries, such as open fracture debridement and stabilization, external fixator placement, and compartment decompression (CD 9–2) |  |  |
| **Type II** | 2. There must be an orthopedic surgeon who is identified as the liaison to the trauma program (CD 9–4). |  |  |
| **Type II** | 3. Level III facilities vary significantly in the staff and resources that they can commit to musculoskeletal trauma care, but they must have an orthopaedic surgeon on call and promptly available 24 hours a day (CD 9-11). |  |  |
| **Type II** | 4. If the orthopedic surgeon is not dedicated to a single facility while on call, then a published backup schedule is required (CD 9-12). |  |  |
| **Type II** | 5. The PIPS process must review the appropriateness of the decision to transfer or retain major orthopedic trauma cases (CD 9-13). |  |  |
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| **Type II** | 6. The orthopedic service must participate actively with the overall trauma PIPS program and the multidisciplinary trauma peer review committee (CD 9–15). |  |  |
| **Type II** | 7. The orthopedic liaison to the trauma PIPS program must attend a minimum of 50 percent of the multidisciplinary trauma peer review committee meetings (CD 9–16). |  |  |
| **Type II** | 8. Board certification or eligibility for certification by an appropriate orthopedic board according to the current requirements, or the alternate pathway is essential for orthopedic surgeons who take trauma call. (CD 9–17). |  |  |
| **Type II** | 9. Alternate Criteria (CD 6-3) for Non–Board-Certified Orthopedic Surgeons in a Level III Trauma Center |  |  |
| **11** | **Collaborative Clinical Services** |  |  |
| **Type I** | 1. Anesthesiology services are critical in the management of severely injured 30 minutes for emergency operations (CD 11–1) |  |  |
| **Type I** | 2. Anesthesiology services are critical in the management of severely injured patients and must be available within 30 minutes for managing airway problems (CD 11–2). |  |  |
| **Type I** | 3. A qualified and dedicated physician anesthesiologist must be designated as the liaison to the trauma program (CD 11–3), |  |  |
| **Type II** | 4. The availability of anesthesia services and delays in airway control or operations must be documented by the hospital performance improvement and patient safety (PIPS) process (CD 11–6). |  |  |
| **Type I** | 5. In-house anesthesia services are not required, but anesthesiologists or CRNAs must be available within 30 minutes (CD 11–7). |  |  |
| **Type I** | 6. Without in-house anesthesia services, protocols must be in place to ensure the timely arrival at the bedside by the anesthesia provider within 30 minutes of notification and request. (CD 11–8). |  |  |
| **Type I** | 7. Under these circumstances, the presence of a physician skilled in emergency airway management must be documented (CD 11–9). |  |  |
| **Type II** | 8. Participation in the trauma PIPS program by the anesthesia liaison is essential (CD 11–12). |  |  |
| **Type II** | 9. The anesthesiology liaison to the trauma program must attend at least 50 percent of the multidisciplinary peer review meetings, with documentation by the trauma PIPS program (see Chapter 16, Performance Improvement and Patient Safety) (CD 11–13). |  |  |
|  | 10. An operating room must be adequately staffed and available within 30 minutes (CD 11–17). |  |  |
| **Type II** | 11. If an on-call team is used, the availability of operating room personnel and the timeliness of starting operations must be continuously evaluated by the trauma PIPS process, and measures must be implemented to ensure optimal care (CD 11–18)..  |  |  |
| **Type I** | 12. All trauma centers must have rapid fluid infusers, thermal control equipment for patients and resuscitation fluids, intraoperative radiologic capabilities, equipment for fracture fixation, and equipment for bronchoscopy and gastrointestinal endoscopy (CD 11–19).. |  |  |
| **Type I** | 13. Level III trauma centers must have the necessary equipment to perform a craniotomy (CD 11–20). Only Level III trauma centers that do not offer neurosurgery services are not required to have craniotomy equipment. |  |  |
| **Type I** | 14. A PACU with qualified nurses must be available 24 hours per day to provide care for the patient if needed during the recovery phase (CD 11–24). |  |  |
| **Type II** | 15. If this availability requirement is met with a team on call from outside the hospital, the availability of the PACU nurses and compliance with this requirement must be documented by the PIPS program (CD 11–25). |  |  |
| **Type I** | 16. The PACU must have the necessary equipment to monitor and resuscitate patients, consistent with the process of care designated by the institution (CD 11–26). |  |  |
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| **Type II** | 17. The PIPS program, at a minimum, must address the need for pulse oximetry, end-tidal carbon dioxide detection, arterial pressure monitoring, pulmonary artery catheterization, patient rewarming, and intracranial pressure monitoring (CD 11–27). |  |  |
| **Type II** | 18. The trauma center must have policies designed to ensure that trauma patients who may require resuscitation and monitoring are accompanied by appropriately trained providers during transportation to, and while in, the radiology department (CD 11–28). |  |  |
|  | 19. Changes in interpretation as well as missed injuries must be monitored by the trauma PI process.  |  |  |
| **Type I** | 20. Conventional radiography must be available in all trauma centers 24 hours per day (CD 11–29). |  |  |
| **Type I** | 21. Computed tomography (CT) must be available in centers 24 hours per day (CD 11–30) |  |  |
| **Type II** | 22. Qualified radiologists must be available within 30 minutes in person or by teleradiology for the interpretation of radiographs. (CD 11-32) |  |  |
| **Type II** | 23. Diagnostic information must be communicated in a written or electronic form and in a timely manner (CD 11–34). |  |  |
| **Type II** | 24. Critical information deemed to immediately affect patient care must be verbally communicated to the trauma team in a timely manner (CD 11–35).. |  |  |
| **Type II** | 25. The final report must accurately reflect the chronology and content of communications with the trauma team, including changes between the preliminary and final interpretations (CD 11–36).. |  |  |
| **Type II** | 26. Changes in interpretation between preliminary and final reports, as well as missed injuries, must be monitored through the PIPS program (CD 11–37). |  |  |
| **Type II** | 27. In Level III centers, if the CT technologist takes call from outside the hospital the PIPS program must document the technologist’s time of arrival at the hospital (CD 11–47). |  |  |
| **Type II** | 28. A surgeon must serve as co-director or director of the ICU and be actively involved in, and responsible for, setting policies and administrative decisions related to trauma ICU patients (CD 11–53). |  |  |
| **Type II** | 29. The ICU director or co-director should be currently board certified or eligible for certification in surgical critical care. The ICU director or co-director must be a surgeon who is currently board certified or eligible for certification by the current standard requirements (CD 11–54). |  |  |
| **Type I** | 30. Physician coverage of the ICU must be available within 30 minutes, with a formal plan in place for emergency coverage (CD 11–56). |  |  |
| **Type II** | 31. The PIPS program must review all ICU admissions and transfers of ICU patients to ensure that appropriate patients are being selected to remain at the Level III center vs. being transferred to a higher level of care (CD 11–57). |  |  |
| **Type I** | 32. The trauma surgeon must retain responsibility for the patient and coordinate all therapeutic decisions (CD 11–58). |  |  |
| **Type I** | 32. Many of the daily care requirements can be collaboratively managed by a dedicated ICU team, but the trauma surgeon must be kept informed and concur with major therapeutic and management decisions made by the ICU team (CD 11–59). |  |  |
| **Type II** | 33. For all levels of trauma centers, the PIPS program must document that timelyand appropriate ICU care and coverage are being provided (CD 11–60). |  |  |
| **Type II** | 34. The timely response of credentialed providers to the ICU must be continuously monitored as part of the PIPS program (CD-11-60). |  |  |
| **Type II** | 35. There must be a designated ICU liaison to the trauma service (CD 11–61). |  |  |
| **Type II** | 36. This [ICU] liaison must attend at least 50 percent of the multidisciplinary peer review meetings, with documentation by the trauma PIPS program (CD 11–62). |  |  |
| **Type I** | 37. Qualified critical care nurses must be available 24 hours per day to provide care for patients during the ICU phase (CD 11–65). |  |  |
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| **Type II** | 38. The patient-to-nurse ratio in the ICU must not exceed two to one (CD 11–66). |  |  |
| **Type I** | 39. The ICU must have the necessary equipment to monitor and resuscitate patients (CD 11–67). |  |  |
| **Type I** | 40. Intracranial pressure monitoring equipment must be Available in Level III trauma centers with neurosurgical coverage that admit neurotrauma patients (CD 11–68). |  |  |
| **Type II** | 41. Trauma patients must not be admitted or transferred by a primary care physician without the knowledge and consent of the trauma service, and the PIPS program should monitor adherence to this guideline (CD 11–69). |  |  |
| **Type I** | 42. Level III trauma centers must have the availability and commitment of orthopedic surgeons (CD 11–72). |  |  |
| **Type II** | 43. For all patients being transferred for specialty care, such as burn care, microvascular surgery, cardiopulmonary bypass capability, complex ophthalmologic surgery, or high-complexity pelvic fractures, agreements with a similar or higher-qualified verified trauma center should be in place. If this approach is used, a clear plan for expeditious critical care transport, follow-up, and performance monitoring is required (CD 8–5). If complex cases are being transferred out, a contingency plan should be in place and must include the following:• A credentialing process to allow the trauma surgeon to provide initial evaluation and stabilization of the patient.• Transfer agreements with similar or higher-verified trauma centers.• Direct contact with the accepting facility to arrange for expeditious transfer or ongoing monitoring support.• Monitoring of the efficacy of the process by the PIPS programs. |  |  |
| **Type II** | 44. In a Level III facility, internal medicine specialists must be available on the medical staff (CD 11–74). |  |  |
| **Type I** | 45. There must be a respiratory therapist on call 24 hours per day (CD 11–76). |  |  |
| **Type II** | 46. Level III trauma centers that do not have dialysis capabilities must have a transfer agreement in place (CD 11–78). |  |  |
| **Type I** | 47. Laboratory services must be available 24 hours per day for the standard analyses of blood, urine, and other body fluids, including microsampling when appropriate (CD 11–80). |  |  |
| **Type I** | 48. The blood bank must be capable of blood typing and cross-matching (CD 11–81). |  |  |
| **Type I** | 49. The blood bank must have an adequate supply of packed red blood cells and fresh frozen plasma available within 15 minutes (CD 11– 83). |  |  |
| **Type I** | 50. There must be massive transfusion protocoldeveloped collaboratively between the trauma service and the blood bank (CD 11–84). |  |  |
| **Type I** | 51. Coagulation studies, blood gas analysis, and microbiology studies must be available 24 hours per day (CD 11–85). |  |  |
| **Type I** | 52. Advanced practitioners who participate in the initial evaluation of trauma patients must demonstrate current verification as an Advanced Trauma Life Support® provider (CD 11–86). |  |  |
| **Type II** | 53. The trauma program must also demonstrate appropriate orientation, credentialing processes, and skill maintenance for advanced practitioners, as witnessed by an annual review by the trauma medical director (CD 11–87). |  |  |
| **12** | **Rehabilitation**  |  |  |
| **Type I** | 1. Physical Therapy must be provided. Physical therapy (CD 12–3) must be provided. |  |  |
| **Type II** | 2. Social services (CD 12–4) must be provided |  |  |
| **13** | **Rural Trauma Care** |  |  |
| **Type II** | 1. Direct contact of the physician or midlevel provider with a physician at the receiving hospital is essential (CD 4–1). |  |  |
| **Type II** | 2. Transfer guidelines and agreements between facilities are crucial and must be developed after evaluating the capabilities of rural hospitals and medical transport agencies (CD 2–13). |  |  |
| **Type II** | 3. All transfers must be evaluated as part of the receiving trauma center’s performance improvement and patient safety (PIPS) process (CD 4–3), and feedback should be provided to the transferring center. |  |  |
| **Type II** | 4. The foundation for evaluation of a trauma system is the establishment and maintenance of a trauma registry (CD 15–1). |  |  |
| **Type II** | 5. Issues that must be reviewed will revolve predominantly around (1) system and process issues such as documentation and communication; (2) clinicalcare, including identification and treatment of immediate life- threatening injuries (ATLS®); and (3) transfer decisions (CD 16-10). |  |  |
| **Type II** | 6. The best possible care for patients must be achieved with a cooperative and inclusive program that clearly defines the role of each facility within the system (CD 1–1). |  |  |
| **14** | **Guidelines for the Operation of Burn Centers** |  |  |
| **Type II** | Trauma centers that refer burn patients to a designated burn center must have in place written transfer agreements with the referral burn center (CD 14–1) |  |  |
| **15** | **Trauma Registry** |  |  |
| **Type II** | 1. Trauma registry data must be collected and analyzed by every trauma center (CD 15–1). |  |  |
| **Type II** | 2. Finally, these data must be collected in compliance with the National Trauma Data Standard (NTDS) and submitted to the National Trauma Data Bank® (NTDB®) every year in a timely fashion so that they can be aggregated and analyzed at the national level (CD 15–2). |  |  |
| **Type II** | 3. The trauma registry is essential to the performance improvement and patient safety (PIPS) program and must be used to support the PIPS process (CD 15–3). |  |  |
| **Type II** | 4. Furthermore, these findings must be used to identify injury prevention priorities that are appropriate for local implementation (CD 15–4). |  |  |
| **Type II** | 5. All trauma centers must use a risk adjusted benchmarking system to measure performance and outcomes (CD 15-5). |  |  |
| **Type II** | 6. Trauma registries should be concurrent. At a minimum, 80 percent of cases must be entered within 60 days of discharge (CD 15–6) |  |  |
| **Type II** | 7. [Registrar] They must attend or have previously attended two courses within 12 months of being hired: (1) the American Trauma Society’s Trauma Registrar Course or equivalent provided by a state trauma program; and (2) the Association of the Advancement of Automotive Medicine’s Injury Scaling Course (CD 15–7).  |  |  |
| **Type II** | 8. The trauma program must ensure that appropriate measures are in place to meet the confidentiality requirements of the data (CD 15–8). |  |  |
| **Type II** | 9. One full-time equivalent employee dedicated to the registry must be available to process the data capturing the NTDS data set for each 500–750 admitted patients annually (CD 15–9).  |  |  |
| **Type II** | 10. Strategies for monitoring data validity are essential (CD 15–10). |  |  |
| **16** | **Performance Improvement and Patient Safety** |  |  |
| **Type II** | 1. Trauma centers must have a PIPS program that includes a comprehensive written plan outlining the configuration and identifying both adequate personnel to implement that plan and an operational data management system (CD 16–1). |  |  |
| **Type II** | 2. The PIPS program must be supported by a reliable method of data collection that consistently obtains the information necessary to identify opportunities for improvement (CD 15–1). |  |  |
| **Type II** | 3. The processes of event identification and levels of review must result in the development of corrective action plans, and methods of monitoring, reevaluation, and benchmarking must be present (CD 2–17). |  |  |
| **Type II** | 4. Problem resolution, outcome improvements, and assurance of safety (“loop closure”) must be readily identifiable through methods of monitoring, reevaluation, benchmarking, and documentation (CD 16–2). |  |  |
| **Type II** | 5. Peer review must occur at regular intervals to ensure that the volume of cases is reviewed in a timely fashion (CD 2–18). |  |  |
| **Type II** | 6. The trauma PIPS program must integrate with the hospital quality and patient safety effort and have a clearly defined reporting structure and method for provision of feedback (CD 16–3). |  |  |
| **Type I** | 7. Because the trauma PIPS program crosses many specialty lines, it must be empowered to address events that involve multiple disciplines and be endorsed by the hospital governing body as part of its commitment to optimal care of injured patients (CD 5–1). |  |  |
| **Type I** | 8. There must be adequate administrative support to ensure evaluation of all aspects of trauma care (CD 5–1). |  |  |
| **Type I** | 9. The trauma medical director and trauma program manager must have the authority and be empowered by the hospital governing body to lead the program (CD 5–1). |  |  |
| **Type II** | 10. The trauma medical director must have sufficient authority to set the qualifications for the trauma service members, including individuals in specialties that are routinely involved with the care of the trauma patient (CD 5–11). |  |  |
| **Type II** | 11. Moreover, the trauma medical director must have authority to recommend changes for the trauma panel based on performance review (CD 5–11). |  |  |
| **Type II** | 12. The peer review committee must be chaired by the TMD (CD 5-25). |  |  |
| **Type II** | 13. Representation from general surgery (CD 6-8), and liaisons to the trauma program from emergency medicine (CD 7–11), orthopedics (CD 9–16), and anesthesiology (CD 11–13), critical care (CD 11- 62)—and for Level I and II centers, neurosurgery (CD 8–13), and radiology (CD 11–39)—must be identified and participate actively in the trauma PIPS program with at least 50 percent attendance at multidisciplinary trauma peer review committee. |  |  |
| **Type II** | 14. Any emergent neurosurgical cases must also have the participation of neurosurgery on the multidisciplinary trauma peer review committee (CD 8–13). |  |  |
| **Type II** | 15. The trauma center must demonstrate that all trauma patients can be identified for review (CD 15–1). |  |  |
| **Type II** | 16. The trauma registry must submit the required data elements to the NTDB (CD 15–2). |  |  |
| **Type II** | 17. The trauma PIPS program must be supported by a registry and a reliable method of concurrent data collection that consistently obtains information necessary to identify opportunities for improvement (CD 15–3). |  |  |
| **Type II** | 18. All trauma centers must use a risk adjusted benchmarking system to measure performance and outcomes (CD 15-5). |  |  |
| **Type II** | 19. To achieve this goal, a trauma program must use clinical practice guidelines, protocols, and algorithms derived from evidenced-based validated resources (CD 16–4). |  |  |
| **Type II** | 20. All process and outcome measures must be documented within the trauma PIPS program’s written plan and reviewed and updated at least annually (CD 16–5). |  |  |
| **Type II** | 21. Mortality Review (CD 16–6). All trauma-related mortalities must be systematically reviewed and those mortalities with opportunities for improvement identified for peer review.1. Total trauma-related mortality rates. Outcome measures for total, pediatric (younger than 15 years), and geriatric (older than 64 years) trauma encounters should be categorized as follows:
	1. a. DOA (pronounced dead on arrival with no additional resuscitation efforts initiated in the emergency department).
	2. b. DIED (died in the emergency department despite resuscitation efforts).
	3. c. In-hospital (including operating room).
2. Mortality rates by Injury Severity Scale (ISS) subgroups and Death categories as noted in the PRQ and Review Agenda: –Mortality with opportunity for improvement –Mortality without opportunity for improvement –Unanticipated Mortality with opportunity for improvement
 |  |
| **Type II** | 22. Trauma surgeon response to the emergency department (CD 2–9). See previous detail. |  |  |
| **Type II** | 23. Trauma team activation (TTA) criteria (CD 5–13). See previous detail. |  |  |
| **Type II** | 24. All Trauma Team Activations must be categorized by the level of response and quantified by number and percentage, as shown in Table 2 (CD 5–14, CD 5–15). |  |  |
| **Type II** | 25. Trauma surgeon response time to other levels of TTA, and for back-up call response, should be determined and monitored. Variances should be documented and reviewed for reason for delay, opportunities for improvement, and corrective actions (CD 5–16) |  |  |
| **Type II** | 26. Response parameters for consultants addressing time-critical injuries (for example, epidural hematoma, open fractures, and hemodynamically unstable pelvic fractures) must be determined and monitored (CD 5–16). |  |  |
| **Type II** | 27. Rates of undertriage and overtriage must be monitored and reviewed quarterly (CD 16–7). |  |  |
| **Type II** | 28. Acute transfers out (CD 9–14). All trauma patients who are diverted (CD 3–4) or transferred (CD 4–3) during the acute phase of hospitalization to another trauma center, acute care hospital, or specialty hospital (for example, burn center, reimplantation center, or pediatric trauma center) or patients requiring cardiopulmonary bypass or when specialty personnel are unavailable must be subjected to individual case review to determine the rationale for transfer, appropriateness of care, and opportunities for improvement. Follow-up from the center to which the patient was transferred should be obtained as part of the case review. |  |  |
| **Type II** | 29. Emergency physicians covering in-house emergencies at Level III trauma centers (CD 7–3). See previous detail. |  |  |
| **Type II** | 30. Trauma center diversion-bypass hours must be routinely monitored, documented, and reported, including the reason for initiating the diversion policy (CD 3–6), and must not exceed 5 percent. |  |  |
| **Type II** | 31. Appropriate neurosurgical care at Level III trauma centers (CD 8–9). |  |  |
| **Type II** | 32. Availability of the anesthesia service (CD 11–4, CD 11-7, CD 11–16, CD 11-18). • In-house anesthesia service (emergency department, intensive care unit, floor, and postanesthesia care unit) must be available for the care of trauma patients • Operating room delays involving trauma patients because of lack of anesthesia support services must be identified and reviewed to determine the reason for delay, adverse outcomes, and opportunities for improvement. |  |  |
|  |
| **Type II** | 33. Delay in operating room availability (CD 11–16, CD 11–18) must be routinely monitored. Any case that is associated with a significant delay or adverse outcome must be reviewed for reasons for delay and opportunities for improvement. |  |  |
| **Type II** | 34. Response times of operating room and postanesthesia care unit personnel when responding from outside the trauma center (CD 11–16, CD 11–18, CD 11–25) must be routinely monitored. |  |  |
| **Type I** | 35. Rate of change in interpretation of radiologic studies (CD 11–32, CD 11–37) should be categorized by RADPEER or similar criteria (describe process/scoring metric used). |  |  |
| **Type I** | 36. Response times of computed tomography technologist(30 minutes)/magnetic resonance imaging (60 minutes) Technologist/interventional radiology team (30 minutes) when responding from outside the trauma center (CD 11–29, CD 11–30, CD 11–31, CD 11–32, CD 11–33, CD 11–34, CD 11–35, CD 11–36, CD 11-37, and CD 11–46.) |  |  |
| **Type II** | 37. Transfers to a higher level of care within the institution (CD 16–8). |  |  |
| **Type II** | 38. Solid organ donation rate (CD 16–9). |  |  |
| **Type II** | 39. Trauma registry (CD 15–6). See previous detail. |  |  |
| **Type II** | 40. Multidisciplinary trauma peer review committee attendance. (CD 5-10, CD 6-8, CD 7-11, CD 9-16, CD 11-13, CD 11-62 ) |  |  |
| **Type II** | 41. Sufficient mechanisms must be available to identify events for review by the trauma PIPS program (CD 16–10). |  |  |
| **Type II** | 42. Once an event is identified, the trauma PIPS program must be able to verify and validate that event (CD 16–11). |  |  |
| **Type II** | 43. There must be a process to address trauma program operational events (CD 16–12). |  |  |
| **Type II** | 44. Documentation (minutes) reflects the review of operational events and, when appropriate, the analysis and proposed corrective actions (CD 16–13). |  |  |
| **Type II** | 45. Mortality data, adverse events and problem trends, and selected cases involving multiple specialties must undergo multidisciplinary trauma peer review (CD 16–14) |  |  |
| **Type II** | 46. This effort may be accomplished in a variety of formats but must involve the participation and leadership of the trauma medical director (CD 5–10); the group of general surgeons on the call panel; and the liaisons from emergency medicine, orthopaedics, neurosurgery, anesthesia, critical care, and radiology ((Level I, II and III, CD 6-8, CD 7-11, CD 9-16, CD 11-13, CD 11-62). |  |  |
| **Type II** | 47. Each member of the committee must attend at least 50 percent of all multidisciplinary trauma peer review committee meetings (CD 16–15). |  |  |
| **Type II** | 48. When these general surgeons cannot attend the multidisciplinary trauma peer review meeting, the trauma medical director must ensure that they receive and acknowledge the receipt of critical information generated at the multidisciplinary peer review meeting to close the loop (CD 16–16). |  |  |
| **Type II** | 49. The multidisciplinary trauma peer review committee must systematically review mortalities, significant complications, and process variances associated with unanticipated outcomes and determine opportunities for improvement (CD 16–17). |  |  |
| **Type II** | 50. When an opportunity for improvement is identified, appropriate corrective actions to mitigate or prevent similar future adverse events must be developed, implemented, and clearly documented by the trauma PIPS program (CD 16–18). |  |  |
| **Type II** | 51. An effective performance improvement program demonstrates through clear documentation that identified opportunities for improvement lead to specific interventions that result in an alteration in conditions such that similar adverse events are less likely to occur (CD 16–19). |  |  |
| **17** | **Outreach and Education** |  |  |
| **Type II** | 1. All trauma centers, however, must engage in public and professional education (CD 17–1). |  |  |
| **Type II** | 2. The hospital must provide a mechanism to offer trauma-related education to nurses involved in trauma care (CD 17–4). |  |  |
| **Type II** | 3. The successful completion of the ATLS® course, at least once, is required in all levels of trauma centers for all general surgeons (CD 6-9), emergency medicine physicians (CD 7-14) and midlevel providers (CD 11-86) on the trauma team. |  |  |
| 18 | **Injury Prevention** |  |  |
| **Type II** | 1. Trauma centers must have an organized and effective approach to injury prevention and must prioritize those efforts based on local trauma registry and epidemiologic data (CD 18–1). |  |  |
| **Type II** | 2. Each trauma center must have someone in a leadership position that has injury prevention as part of his or her job description (CD 18-2) |  |  |
| **Type II** | 3. Universal screening for alcohol use must be performed for all injured patients and must be documented (CD 18–3) |  |  |
| **20** | **Disaster Planning and Management** |  |  |
| **Type II** | 1. Trauma centers must meet the disaster-related requirements of the Joint Commission (CD 20–1). |  |  |
| **Type II** | 2. A surgeon from the trauma panel must be a member of the hospital’s disaster committee (CD 20–2). |  |  |
| **Type II** | 3. Hospital drills that test the individual hospital’s disaster plan must be conducted at least twice a year, including actual plan activations that can substitute for drills (CD 20–3) |  |  |
| **Type II** | 4. All trauma centers must have a hospital disaster plan described in the hospital’s policy and procedure manual or equivalent (CD 20–4). |  |  |
| 21 | **Organ Procurement Activities** |  |  |
| **Type II** | 1. The trauma center must have an established relationship with a recognized organ procurement organization (OPO) (CD 21–1). |  |  |
| **Type II** | 2. A written policy must be in place for triggering notification of the regional OPO (CD 21–2). |  |  |
| **Type II** | 3. The trauma center must review its sold organ donation rate annually (CD 16.9). |  |  |
| **Type II** | 4. It is essential that each trauma center have written protocols defining the clinical criteria and confirmatory tests for the diagnosis of brain death (CD 21–3). |  |  |