# Trauma Center Verification Criteria

Level III Criteria are adopted by reference into Iowa Administrative Code from the *Resources for the Optimal Care of the Injured Patient 2014* (American College of Surgeons Committee on Trauma, 2014).

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 1: Trauma Systems | | | |
| 1 - 1 | III | The individual trauma centers and their health care providers are essential system resources that must be active and engaged participants (CD 1 – 1). | Type II |
| 1 - 2 | III | They must function in a way that pushes trauma center-based standardization, integration, and PIPS out to the region while engaging in inclusive trauma system planning and development (CD 1-2). | Type II |
| 1 - 3 | III | Meaningful involvement in state and regional trauma system planning, development, and operation is essential for all designated trauma centers and participating acute care facilities within a region (CD 1-3). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 2: Description of Trauma Centers and Their Roles In a Trauma System | | | |
| 2 - 1 | III | The 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 - 2 | III | Surgical commitment is essential for a properly functioning trauma center (CD 2 – 2). | Type I |
| 2 - 3 | III | 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 IIB |
| 2 - 5 | III | 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 II |
| 2 - 8 | III | For Level III trauma centers, 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. 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. | Type I |

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| 2 - 12 | III | A Level III trauma center must have continuous general surgical coverage (CD 2 – 12). | Type II |
| 2 - 13 | III | Well-defined transfer plans are essential (CD 2 – 13). | Type II |
| 2 - 17 | III | For Level III trauma centers, 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 IIB |
| 2 - 18 | III | Level III trauma center 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 improvement to the care of the injured (CD 2 – 18). | Type IIB |
| 2 - 19 | III | A PIPS program must have audit filters to review and improve pediatric and adult patient care (CD 2 – 19). | Type II |
| 2 - 22 | III | Level III trauma centers must participate in regional disaster management plans and exercises (CD 2 – 22). | Type II |
| 2 – 23 | III | 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 |
| 2 – 24 | III | 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 |
| 2 - 25 | III | 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 (CD 2-25). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 3: Prehospital Trauma Care | | | |
| 3 – 1 | III | The trauma program must participate in the training of prehospital personnel, the development and improvement of prehospital care protocols, and the performance improvement an patient safety programs (CD 3 – 1) | Type II |
| 3 – 2 | III | 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 |

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| 3 – 3 | III | 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 |
| 3 – 4 | III | The trauma director must be involved in the development of the trauma center's bypass (diversion) protocol (CD 3 – 4). | Type II |
| 3 – 5 | III | The trauma surgeon must be involved in the decision regarding bypass (diversion) each time the center goes on bypass (CD 3 – 5). | Type II |
| 3 – 6 | III | The trauma center must not be on bypass (diversion) more than 5 percent of the time (CD 3 – 6). | Type II |
| 3 – 7 | III | 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:<br>• Prearrange alternative destinations with transfer agreements in place<br>• Notify other centers of divert or advisory status<br>• Maintain a divert log<br>• Subject all diverts and advisories to performance improvement procedures | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 4: Inter-hospital Transfer | | | |
| 4 - 1 | III | Direct physician-to-physician contact is essential (CD 4 – 1). | Type II |
| 4 - 2 | III | 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 the patient's ability to pay (CD 4 – 2) | Type II |
| 4 - 3 | III | A very important aspect of inter-hospital transfer is an effective PIPS program that includes evaluating transport activities (CD 4 – 3). | Type II |
| 4 - 3 | III | Perform a PIPS review of all transfers (CD 4 – 3). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 5: Hospital Organization and the Trauma Program | | | |
| 5 – 1 | III | 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 |
| 5 – 1 | III | Documentation of administrative commitment is required from the governing body and the medical staff (CD 5 – 1). | Type I |

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| 5 – 2 | III | This [administrative] support must be reaffirmed continually (every 3 years) and must be current at the time of verification (CD 5 – 2). | Type II |
| 5 – 3 | III | 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 – 4 | III | The trauma program must involve multiple disciplines and transcend normal departmental hierarchies (CD 5 – 4). | Type I |
| 5 – 5 | III | The TMD must be dedicated to one trauma center and cannot administer two facilities. | Type I |
| 5 – 5 | III | The TMD must be a full time/permanent position. | Type I |
| 5 – 5 | III | 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 I |
| 5 – 6 | III | The TMD must be current in Advanced Trauma Life Support® (ATLS®) (CD 5 – 6). | Type II |
| 5 – 9 | III | The TMD must have the authority to manage all aspects of trauma care (CD 5 – 9). | Type IIB |
| 5 – 10 | III | The TMD must chair and attend a minimum of 50% of the multidisciplinary trauma peer review committee meetings. (CD 5 – 10). | Type II |
| 5 – 11 | III | 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 |
| 5 – 11 | III | In addition, the TMD must perform an annual assessment of the trauma panel providers in the form of Ongoing Professional Practice Evaluation (OPPE) and Focused Professional Practice Evaluation (FPPE) when indicated by findings of the PIPS process (CD 5 – 11). | Type II |
| 5 – 12 | III | 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 |
| 5 – 13 | III | 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 |
| 5 – 15 | III | In Level III trauma centers the team must be fully assembled within 30 minutes (CD 5 – 15). | Type II |
| 5 – 16 | III | 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 | Type II |

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| | | (CD 5 – 16) to determine their positive predictive value in identifying patients who require the resources of the full trauma team. | |
| 5 – 16 | III | 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 |
| 5 – 17 | III | 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 |
| 5 - 18 | III | 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 II |
| 5 – 21 | III | There must be a method to identify the injured patients, monitor the provision of health care services, make periodic rounds and hold formal and informal discussions with individual practitioners (CD 5 – 21). | Type I |
| 5 – 22 | III | 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 |
| 5 - 25 | III | The trauma center's PIPS program must have a multidisciplinary trauma peer review committee chaired by the TMD (CD 5 – 25). | Type IIB |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 6: Clinical Functions: General Surgery | | | |
| 6 – 1 | III | General surgeons caring for trauma patients must meet certain requirements, as described herein (CD 6 – 1). These requirements may be considered to be in four categories: current board certification, clinical involvement, performance improvement and patient safety, and education. | Type II |
| 6 – 2 | III | Board certification or eligible 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 III trauma centers (CD 6 – 2). | Type II |
| 6 – 3 | III | Alternate Criteria (CD 6 – 3) for non-Board-Certified Surgeons in a Level I, II, or III Trauma Centers. | Type II |
| 6 – 4 | III | Trauma surgeons must have privileges in general surgery (CD 6 – 4). | Type II |
| 6 | III | For Level III trauma centers, the maximum acceptable response time is 30 minutes. Response time will be tracked from patient arrival rather than from notification or activation (this is a subsection of 6 – 5 and 6 – 6). An 80 | Type I |

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| | | percent attendance threshold must be met for the highest-level activations (CD 2 – 8). | |
| 6 – 7 | III | 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 |
| 6 | III | In Level 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). | Type II |
| 6 | III | The liaison or representative (one pre-determined alternate) must attend the Trauma multidisciplinary peer review meeting at least 50% of the time. | Type II |
| 6 – 8 | III | 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 |
| 6 – 9 | III | All general surgeons on the trauma team must have successfully completed the Advanced Trauma Life Support® (ATLS®) Course at least once (CD 6 – 9). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 7: Clinical Functions: Emergency Medicine | | | |
| 7 – 1 | III | The emergency departments of Level III trauma centers 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 I |
| 7 – 3 | III | 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 |
| 7 – 4 | III | 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 |
| 7 – 5 | III | These roles and responsibilities must be defined, agreed on, and approved by the director of the trauma service (CD 7 – 5). | Type II |
| 7 – 6 | III | 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 | Type I |

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| | | department and caring for trauma patients in Level III trauma centers (CD 7 – 6). | |
| 7 | III | Alternate Criteria (CD 6 – 3) for Non-Board-Certified Emergency Medicine Physicians Level III Trauma Centers. | Type II |
| 7 – 7 | III | Emergency Physicians on the call panel must be regularly involved in the care of injured patients (CD 7 – 7). | Type II |
| 7 – 8 | III | A representative from the emergency department must participate in the prehospital PIPS program (CD 7 – 8). | Type II |
| 7 – 9 | III | A designated emergency physician liaison must be available to the trauma director for PIPS issues that occur in the emergency department (CD 7 – 9). | Type II |
| 7 – 10 | III | Emergency Physicians must participate actively in the overall trauma PIPS program and the multidisciplinary trauma peer review committee (CD 7 – 10). | Type II |
| 7 – 11 | III | The emergency medicine liaison or representative (one predetermined alternate) on the multidisciplinary trauma peer review committee must attend a minimum of 50 percent of the committee meetings (CD 7 – 11). | Type II |
| 7 – 14 | III | In Level III trauma centers, 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 |
| 7 – 15 | III | 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) | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 8: Clinical Functions: Neurosurgery | | | |
| 8 – 5 | III | 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:<br>• A credentialing process to allow the trauma surgeon to provide initial evaluation and stabilization of the neurotrauma patient.<br>• Transfer agreements with a similar or higher-level verified trauma center.<br>• Direct contact with the accepting facility to arrange for expeditious transfer or ongoing monitoring support.<br>• Monitoring of the efficacy of the process by the PIPS program. | Type I |
| 8 – 6 | III | If one neurosurgeon covers two centers within the same limited geographic area, there must be a published backup schedule (CD 8 – 6). | Type II |
| 8 – 6 | III | In addition, the performance improvement process must demonstrate that appropriate and timely care is provided (CD 8 – 6). | Type II |

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| 8 – 7 | III | 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 |
| 8 – 8 | III | Transfer agreements must exist with appropriate level I and Level II trauma centers (CD 8 – 8). | Type I |
| 8 – 9 | III | 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 |
| 8 – 10 | III | 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 in Level III trauma centers (CD 8 – 10). | Type II |
| 8 (6-3) | III | Alternate Criteria (CD 6 – 3) for Non-Board-Certified Neurosurgeons in Level III Trauma Centers | Type II |
| 8 – 13 | III | 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). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 9: Clinical Functions: Orthopedic Surgery | | | |
| 9 – 2 | III | 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 I |
| 9 - 4 | III | Level III trauma centers must have an orthopedic surgeon who is identified as the liaison to the trauma program (CD 9- 4). | Type I |
| 9 - 11 | III | Level III facilities vary significantly in the staff and resources that they can commit to musculoskeletal trauma care, but they must have an orthopedic surgeon on call and promptly available 24 hours a day (CD 9 – 11). | Type II |
| 9 – 12 | III | 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 |
| 9 – 13 | III | The PIPS process must review the appropriateness of the decision to transfer or retain major orthopedic trauma cases (CD 9 – 13). | Type II |
| 9 – 15 | III | The orthopedic service must participate actively with the overall trauma PIPS program and the multidisciplinary trauma peer review committee (CD 9 – 15). | Type IIB |
| 9 – 16 | III | The orthopedic liaison or representative (one pre-determined alternate) 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 |

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| 9 – 17 | III | 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 in Level III trauma centers (CD 9 – 17). | Type II |
| 9 (6-3) | III | Alternate Criteria (CD 6 – 3) for Non-Board-Certified Orthopedic Surgeons in a Level III Trauma Center. | Type II |

| Chapter 10: Pediatric Trauma Care | | | |
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| 10 - 38 | III | All pediatric and general surgeons on the pediatric trauma panel treating children must attend at least 50% of the trauma peer review meetings (CD 10-38). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 11: Collaborative Clinical Services | | | |
| 11 – 1 | III | Anesthesia services are critical in the management of severely injured patients and must be available within 30 minutes for emergency operations (CD 11 – 1). | Type I |
| 11 – 2 | III | 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 |
| 11 – 3 | III | In Level III trauma centers, a qualified and dedicated physician anesthesiologist must be designated as the liaison to the trauma program (CD 11 – 3). | Type I |
| 11 – 6 | III | 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 II |
| 11 – 7 | III | Anesthesia requirements may be fulfilled by senior residents or CRNAs or Certified Anesthesiologist's Assistants. | Type I |
| 11 – 7 | III | In Level III hospitals, in-house anesthesia services are not required, but anesthesiologists or CRNAs must be available within 30 minutes (CD 11 – 7). | Type I |
| 11 – 8 | III | In Level III trauma centers 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 |
| 11 – 9 | III | Under these circumstances, the presence of a physician or CRNA skilled in emergency airway management must be documented (CD 11 – 9). | Type I |
| 11 – 11 | III | In Level III, where CRNAs are licensed to practice independently may function as the anesthesia liaison. | Type II |
| 11 – 12 | III | In Level III trauma centers participation in the trauma PIPS program by the anesthesia liaison is essential (CD 11 – 12). | Type IIB |

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| 11 – 13 | III | In Level III trauma centers, a dedicated physician anesthesiologist or anesthesia clinician must be designated as the liaison to the trauma program and the anesthesia representative must attend at least 50 percent of the multidisciplinary peer review meetings. | Type II |
| 11 – 13 | III | The liaison or representative (one pre-determined alternate) must attend the Trauma multidisciplinary peer review meeting at least 50% of the time. | Type II |
| 11 – 17 | III | In Level III trauma centers, an operating room must be adequately staffed and available within 30 minutes (CD 11 – 17). | Type I |
| 11 – 18 | III | 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 II |
| 11 – 19 | III | 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 |
| 11 – 20 | III | 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 |
| 11 – 24 | III | At Level III trauma centers, 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 I |
| 11 – 25 | III | 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 II |
| 11 – 26 | III | 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). | Type I |
| 11 – 27 | III | 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 re-warming, and intracranial pressure monitoring (CD 11 – 27). | Type II |
| 11 – 28 | III | 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). | Type II |
| 11 – 29 | III | Conventional radiography must be available in all trauma centers 24 hours per day (CD 11 – 29). | Type I |
| 11 – 30 | III | Computed tomography (CT) must be available in Level III trauma centers 24 hours per day (CD 11 – 30). | Type I |

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| 11 – 32 | III | In Level III trauma centers, qualified radiologists must be available within 30 minutes in person or by tele-radiology for the interpretation of radiographs (CD 11 – 32). | Type I |
| 11 – 34 | III | In Level III trauma centers diagnostic information must be communicated in a written or electronic form and in a timely manner (CD 11 – 34). | Type II |
| 11 – 35 | III | 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 |
| 11 – 36 | III | 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 |
| 11 – 37 | III | 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 |
| 11 – 47 | III | In Level III centers, if the CT technologist takes call from outside the hospital, the PIPS program must document the technologists time of arrival at the hospital (CD 11 – 47). | Type II |
| 11 – 53 | III | In Level III trauma centers, 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 |
| 11 – 54 | III | In Level III facilities, 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 II |
| 11 – 56 | III | In Level III trauma centers, physician coverage of the ICU must be available within 30 minutes, with a formal plan in place for emergency coverage (CD 11 – 56). | Type I |
| 11 – 57 | III | In Level III trauma centers, 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 II |
| 11 – 58 | III | In Level III trauma centers, the trauma surgeon must retain responsibility for the patient and coordinate all therapeutic decisions (CD 11 – 58). | Type I |
| 11 – 59 | III | 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 I |
| 11 – 60 | III | For all levels of trauma centers, the timely response of credentialed providers to the ICU must be continuously monitored as part of the PIPS program (CD 11 – 60). | Type II |
| 11 – 61 | III | There must be a designated ICU liaison to the trauma service (CD 11 – 61). | Type II |

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| 11 – 62 | III | The ICU liaison or representative (one pre-determined alternate) must attend at least 50 percent of the multidisciplinary peer review meetings, with documentation by the trauma PIPS program (CD 11 – 62). | Type II |
| 11 – 65 | III | At Level I, II, and III trauma centers, qualified critical care nurses must be available 24 hours per day to provide care for patients during the ICU phase (CD 11 – 65). | Type I |
| 11 – 66 | III | The patient-to-nurse ratio in the ICU must not exceed two to one (CD 11 – 66). | Type II |
| 11 – 67 | III | The ICU must have the necessary equipment to monitor and resuscitate patients (CD 11 – 67). | Type I |
| 11 – 68 | III | Intracranial pressure monitoring equipment must be available in Level I and II trauma centers and in Level III trauma centers with neurosurgical coverage that admit neurotrauma patients (CD 11 – 68). | Type I |
| 11 – 69 | III | 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 IIB |
| 11 – 72 | III | Level III trauma centers must have the availability and commitment of orthopedic surgeons (CD 11 – 72). | Type I |
| 11 | III | 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:<br>• A credentialing process to allow the trauma surgeon to provide initial evaluation and stabilization of the patient.<br>• Transfer agreements with similar or higher-verified trauma centers.<br>• Direct contact with the accepting facility to arrange for expeditious transfer or ongoing monitoring support.<br>• Monitoring of the efficacy of the process by the PIPS programs. | Type II |
| 11 – 74 | III | In a Level III facility, internal medicine specialists must be available on the medical staff (CD 11 – 74). | Type II |
| 11 – 76 | III | In Level III centers, there must be a respiratory therapist on call 24 hours per day (CD 11 -76). | Type I |
| 11 – 78 | III | Level III trauma centers that do not have dialysis capabilities must have a transfer agreement in place (CD 11 – 78). | Type II |
| 11 – 80 | III | In trauma centers of all levels, laboratory services must be available 24 hours per day for the standard analyses of blood, urine, and other body fluids, including micro-sampling when appropriate (CD 11 -80). | Type I |

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| 11 – 81 | III | The blood bank must be capable of blood typing and cross-matching (CD 11 – 81). | Type I |
| 11 – 83 | III | In Level III centers, 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 |
| 11 – 84 | III | Trauma centers of all levels must have a massive transfusion protocol developed collaboratively between the trauma service and the blood bank (CD 11 – 84). | Type I |
| 11 – 85 | III | Coagulation studies, blood gas analysis, and microbiology studies must be available 24 hours per day (CD 11 – 85). | Type I |
| 11 – 86 | III | 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 |
| 11 – 87 | III | 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). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 12: Rehabilitation | | | |
| 12 – 3 | III | Physical therapy (CD 12 – 3) must be provided in Level III trauma centers. | Type I |
| 12 – 4 | III | Social services (CD 12 – 4) must be provided in Level III trauma centers. | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 13: Rural Trauma Care | | | |
| 13 (4-1) | III | Direct contact of the physician or midlevel provider with a physician at the receiving hospital is essential (CD 4 – 1). | Type II |
| 13 (2-13) | III | 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 |
| 13 (4-3) | III | 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 |
| 13 (15-1) | III | The foundation for evaluation of a trauma system is the establishment and maintenance of a trauma registry (CD 15-1). | Type II |
| 13 (16-10) | III | Issues that must be reviewed will revolve predominately around (1) system and process issues such as documentation and communication; (2) clinical | Type II |

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| | | care, including identification and treatment of immediate life-threatening injuries (ATLS®); and (3) transfer decisions (CD 16 – 10). | |
| 13 (1-1) | III | 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). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 14: Guidelines for the Operation of Burn Centers | | | |
| 14 – 1 | III | 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). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 15: Trauma Registry | | | |
| 15 – 1 | III | Trauma registry data must be collected and analyzed by every trauma center (CD 15 – 1). | Type II |
| 15 – 2 | III | 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 |
| 15 – 3 | III | 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 IIB |
| 15 – 4 | III | Furthermore, these findings must be used to identify injury prevention priorities that are appropriate for local implementation (CD 15 – 4). | Type II |
| 15 – 5 | III | All trauma centers must use a risk adjusted benchmarking system to measure performance and outcomes (CD 15 – 5). | Type II |
| 15 – 6 | III | 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 |
| 15 – 7 | III | [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 |
| 15 – 8 | III | The trauma program must ensure that appropriate measures are in place to meet the confidentiality requirements of the data (CD 15 – 8). | Type II |

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| 15 – 9 | III | 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 |
| 15 – 10 | III | Strategies for monitoring data validity are essential (CD 15 – 10). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 16: Performance Improvement and Patient Safety | | | |
| 16 – 1 | III | 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 IIB |
| 16 (15-1) | III | 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 |
| 16 (2-17) | III | 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 |
| 16 – 2 | III | 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 IIB |
| 16 (2-18) | III | 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 |
| 16 – 3 | III | 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 II |
| 16 (5-1) | III | 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 |
| 16 (5-1) | III | There must be adequate administrative support to ensure evaluation of all aspects of trauma care (CD 5 – 1). | Type I |
| 16 (5-1) | III | The trauma medical director and the trauma program manager must have the authority and be empowered by the hospital governing body to lead the program (CD 5 – 1). | Type I |
| 16 (5-11) | III | 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 |

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| 16 (5-11) | III | Moreover, the trauma medical director must have authority to recommend changes for the trauma panel passed on performance review (CD 5 – 110. | Type II |
| 16 (5-25) | III | The peer review committee must be chaired by the TMD (CD 5 – 25). | Type II |
| 16 | III | In level III trauma centers, 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) 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 |
| 16 (8-13) | III | 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). | Type II |
| 16 (15-1) | III | The trauma center must demonstrate that all trauma patients can be identified for review (CD 15 – 1). | Type II |
| 16 (15-2) | III | In Level III trauma centers, the trauma registry must submit the required data elements to the NTDB (CD 15 – 2). | Type II |
| 16 (15-3) | III | 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 IIB |
| 16 (15-5) | III | All trauma centers must use a risk adjusted benchmarking system to measure performance and outcomes (CD 15 – 5). | Type II |
| 16 – 4 | III | 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 IIB |
| 16 – 5 | III | 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 |
| 16 – 6 | III | Mortality Review (CD 16 – 6). All trauma-related mortalities must be systematically reviewed and those mortalities with opportunities for improvement identified for peer review.<br>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:<br>a) DOA (pronounced dead on arrival with no additional resuscitation efforts initiated in the emergency department).<br>b) DIED (died in the emergency department despite resuscitation efforts).<br>c) In-hospital (including operating room).<br>2. Mortality rates by Injury Severity Scale (ISS) subgroups using Table 1. | Type IIB |

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| 16 (2-9) | III | Trauma surgeon response to the emergency department (CD 2 – 9). See previous detail. | Type II |
| 16 (5-13) | III | Trauma team activation (TTA) criteria (CD 5 – 13). See previous detail. | Type II |
| 16 | III | All Trauma Team Activations must be categorized by the level of response and quantified by number and percentage, as shown in Table 3 (CD 5 – 14, CD 5 – 15). | Type II |
| 16 (5-16) | III | 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 |
| 16 (5-16) | III | 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 |
| 16 – 7 | III | Rates of undertriage and overtriage must be monitored and reviewed quarterly (CD 16 – 7). | Type II |
| 16 (5-18) | III | Trauma patient admissions (NTDS definition) to a nonsurgical service is higher than 10 percent (CD 5 – 18). | Type II |
| 16 | III | 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, preimplantation 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 |
| 16 | III | Emergency physicians covering in-house emergencies at Level III trauma centers (CD 7 – 3). See previous detail. | Type II |
| 16 | III | 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 |
| 16 | III | Appropriate neurosurgical care at Level III trauma centers (CD 8 – 9). | Type II |
| 16 | III | Availability of the anesthesia service (CD 11 – 4, CD 11 – 7, CD 11 – 16, CD 11 – 18).<br>• In-house anesthesia service (emergency department, intensive care unit, floor, and post-anesthesia care unit) must be available for the care of trauma patients<br>• Operating room delays involving trauma patients because of lack of anesthesia support services must be identified and reviewed to | Type II |

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| | | determine the reason for delay, adverse outcomes, and opportunities for improvement. | |
| 16 | III | 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 reason for delay and opportunities for improvement. | Type II |
| 16 | III | Response times of operating room and post-anesthesia care unit personnel when responding from outside the trauma center (CD 11 – 16, CD 11 – 18, CD 11 – 25) must be routinely monitored. | Type II |
| 16 | III | 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 |
| 16 | III | 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 1 – 30, CD 11 – 31, CD 11 – 32, CD 11 – 33, CD 11 – 34, CD 11 – 35, CD 11 – 36, CD – 37, and CD 11 – 46). | Type I |
| 16 – 8 | III | Transfer to a higher level of care within the institution (CD 16 – 8). | Type II |
| 16 – 9 | III | Solid organ donation rate (CD 16 – 9). | Type II |
| 16 | III | Trauma registry (CD 15 – 6). See previous detail. | Type I |
| 16 | III | Multidisciplinary trauma peer review committee attendance. (Level III, CD 5 – 10, CD 6 – 8, CD 7 – 11, CD 9 – 16, CD 11 -13, CD 11 – 62 – and for Level I and II CD 8 – 13 and CD 11 – 39). | Type II |
| 16 – 10 | III | Sufficient mechanisms must be available to identify events for review by the trauma PIPS program (CD 16 – 10). | Type IIB |
| 16 – 11 | III | Once an event is identified, the trauma PIPS program must be able to verify and validate that event (CD 16 – 11). | Type IIB |
| 16 – 12 | III | There must be a process to address trauma program operational events (CD 16 – 12). | Type IIB |
| 16 – 13 | III | Documentation (minutes) reflects the review of operational events and, when appropriate, the analysis and proposed corrective actions (CD 16 – 13). | Type II |
| 16 – 14 | III | Mortality data, adverse events and problem trends, and selected cases involving multiple specialties must undergo multidisciplinary trauma peer review (CD 16 – 14). | Type IIB |
| 16 | III | The effort [multidisciplinary peer review] 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, orthopedics, neurosurgery, anesthesia, critical care, and radiology (Level III, CD 6 – 8, CD 7 – 11, CD 9 – 16, CD 11 – 13, CD 11 – 62). | Type II |

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| 16 – 15 | III | Each member of the committee must attend at least 50 percent of all multidisciplinary trauma peer review committee meetings (CD 16 – 15). | Type II |
| 16 – 16 | III | 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 |
| 16 – 17 | III | 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 IIB |
| 16 – 18 | III | 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 IIB |
| 16 – 19 | III | 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). | Type IIB |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 17: Outreach and Education | | | |
| 17 – 1 | III | All verified trauma centers, however, must engage in public and professional education (CD 17 – 1). | Type II |
| 17 – 4 | III | In Level I, II, and III trauma centers, the hospital must provide a mechanism to offer trauma-related education to nurses involved in trauma care (CD 17 – 4). | Type II |
| 17 | III | 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. | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| Chapter 18: Prevention | | | |
| 18 – 1 | III | 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 |

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| 18 – 2 | III | 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 |
| 18 – 3 | III | Universal screening for alcohol use must be performed for all injured patients and must be documented (CD 18 – 3). | Type II |

## Chapter 19: Trauma Research and Scholarship

| Chapter | Level | Criterion: Chapter - Level | Type |
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| **Chapter 20: Disaster Planning and Management** | | | |
| 20 – 1 | III | Trauma centers must meet the disaster-related requirements of the Joint Commission (CD 20 – 1). | Type II |
| 20 – 2 | III | A surgeon from the trauma panel must be a member of the hospital's disaster committee (CD 20 – 2). | Type II |
| 20 – 3 | III | 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 |
| 20 – 4 | III | All trauma centers must have a hospital disaster plan described in the hospital's policy and procedure manual or equivalent (CD 20 – 4). | Type II |

| Chapter | Level | Criterion: Chapter - Level | Type |
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| **Chapter 21: Solid Organ Procurement Activities** | | | |
| 21 – 1 | III | The trauma center must have an established relationship with a recognized OPO (CD 21 – 1). | Type II |
| 21 – 2 | III | A written policy must be in place for triggering notification of the regional OPO (CD 21 – 2). | Type II |
| 21 (16 – 9) | III | The trauma center must review its solid organ donation rate annually (CD 16 – 9) | Type II |
| 21 – 3 | III | It is essential that each trauma center have written protocols defining the clinical criteria and confirmatory tests for the diagnosis of brain death (CD21 – 3). | Type II |

## Chapter 22: Verification, Review, & Consultation Program

## Chapter 23: Criteria quick Reference Guide