

**Iowa Department of Public Health-Bureau of Emergency Medical Services Trauma System  
Trauma Care Facility Categorization Criteria**

**Iowa Trauma System Area (Level III)  
Hospital and Emergency Care Facility Categorization Criteria (2013)**

Criteria	Requirements	Interpretive Guidelines
<b>GENERAL STANDARDS</b>		
1. Trauma care facility (TCF) commitment	E	<p>1a, b. There must be current (reaffirmed every three years) written documentation of dedicated financial, physical, human resources, community outreach activities, and educational activities (not limited to Trauma Nurse Core Course (TNCC), Advanced Trauma Life Support (ATLS), and/or Rural Trauma Team Development Course (RTTDC)).</p> <p>The preferred commitment documentation should be in letterform, dated, and signed by, at a Minimum:</p> <p>a. CEO and board president b. Medical Staff President, Chief Nursing Officer, Trauma Nurse Coordinator/Trauma Program Manager, Trauma Medical Director, ED Medical Director.</p> <p>c. Commitment to State trauma and EMS activities; for example, Iowa Trauma Coordinators, Iowa Chapter American College of Surgeons (ACS) Committee on Trauma, Iowa Chapter of American College Emergency Physicians (ACEP), Iowa Emergency Medical Service Association (IEMSA), Trauma System Advisory Council (TSAC), <del>System Evaluation Quality Improvement Committee (SEQIC)</del>, Emergency Medical Service Advisory Committee (EMSAC)</p>
a. Current written resolution supporting the Trauma Care Facility (TCF) from the hospital board and administration.	E	
b. Current written resolution supporting the TCF from the medical and nursing staff.	E	
c. Commitment to State trauma committees.	E	
<b>INSTITUTIONAL ORGANIZATION</b>		
1. Trauma program (TP)	E	<p>a, b. Trauma program that includes an administrator, medical director, trauma program manager/coordinator, and trauma PIPS committees. The trauma program's location in the organizational structure of the facility shall be equal in authority and interaction with other departments and/or service lines providing patient care. The trauma program shall involve multiple disciplines that transcend departmental hierarchies across the continuum of care. All of this should be shown on an official trauma program/service organizational chart that demonstrates the administrative and medical staff relationships of the TSMD, the TPM/Coordinator, and the trauma PIPS committees.</p> <p>c. To ensure optimal and timely care a multidisciplinary trauma program must continuously evaluate its processes and outcomes.</p>
a. Official organizational chart	E	
b. Administrative structure	E	
c. Ensures optimal and timely care	E	

E = Essential  
D = Desirable  
\* = If routinely available

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2. Trauma service (TS)	E	The trauma service represents a <i>structure</i> of care for the injured patient. The care of the patient with multisystem injuries shall be under the supervision of a trauma/general surgeon assigned to the trauma service. All other injured patients, with the exclusion of isolated hip fractures from a same level fall or minor isolated single system injuries, must be admitted to or seen in consultation by a trauma/general surgeon assigned to the trauma service. For example, patients with isolated simple fractures with low-grade soft tissue injuries may be appropriately treated by an orthopedic surgeon.
3. Trauma team a. Trauma team activation policy	E	The size of the trauma team may vary from facility to facility depending upon physician specialty resources, hospital resources, severity of the patient's injuries, and methods of patient transportation to the trauma care facility.
	E	The highest level trauma team response to a severely injured patient typically includes: 1) general surgeon, 2) emergency physician, 3) surgical and or emergency residents if available, 4) ED nurses, 5) scribe nurse, 6) OR nurse, 7) lab technician, 8) radiology technologist, 9) ICU nurse, 10) anesthesiologist or CRNA, 11) security officer, and 12) chaplain and or social worker. Facilities may use more than one level of trauma team response based on the variables listed above. The minimum criteria for the (major resuscitation) highest level trauma team response shall include any of the following: 1) Confirmed blood pressure < 90 at any time in adults and age specific for pediatrics; 2) Respiratory compromise/obstruction and/or intubation; 3) Penetrating wounds to the head, neck, chest, or abdomen; 4) GCS ≤ 8 with mechanism attributed to trauma. 5) Transfer of patients from another TCF receiving blood to maintain vital signs; 6) Emergency physicians discretion
	E	There should be a Team Activation Protocol/Policy that 1) lists all team members, 2) defines response requirements for all team members when a trauma patient is en route or has arrived at the TCF, 3) establishes/identifies the criteria, based on patient severity of injury, for activation of the trauma team, and 4) identifies the person(s) authorized to activate the trauma team. Time critical injuries have been identified in the OOHTTDDP (Box #1 and Box #2) <del>and the Inter Trauma Care Facility Triage and Transfer Protocol</del> . The types of conditions and injuries

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		<p>listed in the physiologic and anatomic sections of this protocol require a trauma alert/activation. Changes in these criteria must be supported by documentation from the trauma PIPS program. The trauma team activation policy shall include both physiological and anatomic criteria for when the general surgeon and the ED physician are expected to meet the patient upon arrival at the ED when given timely notice by EMS.</p> <p>The maximum acceptable response time is 30 minutes. The response time shall be tracked from patient arrival rather than from notification or activation. An 80% response threshold for trauma surgeons must be met for the highest level (Level I) activations.</p>
<p>4. Trauma service medical director (TSMD).</p> <p>a. Board-certified general surgeon with a special interest in trauma care</p> <p>b. Current ATLS®</p> <p>c. 24 hours continuing trauma education every 4 years</p> <p style="padding-left: 20px;">1) 8 hours formal</p> <p style="padding-left: 20px;">2) 16 hours informal</p>	<p style="text-align: center;">E</p> <p style="text-align: center;">E</p> <p style="text-align: center;">E</p> <p style="text-align: center;">E</p>	<p>The TSMD shall:</p> <p>a). Be a board-certified general surgeon with special interest in trauma care. A non-boarded surgeon may qualify to serve as TSMD if he/she is a fellow of the ACS.</p> <p>b). Be currently verified in ATLS® and maintain 24 hours of continuing trauma education every four (4) years. Eight (8) hours shall be formal and 16 hours may be informal.</p> <p>c). Have authority to affect all aspects of trauma care including, 1) recommending trauma team privileges in cooperation with appropriate disciplines; 2) developing treatment protocols; 3) Leading the Performance Improvement Patient Safety (PIPS)/Peer Review. 4) correcting deficiencies in trauma care or excluding from trauma call those trauma team members who do not meet criteria; 5) supporting the nursing needs of the trauma patient; and 6) assist in the budgetary process for the trauma program. These roles, responsibilities, and documentation of his/her authority shall be outlined in a formal job description.</p> <p>d). Participate in trauma continuing education activities; such as providing trauma lectures to medical, nursing, ancillary and EMS staff/personnel.</p>

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<p>5. Trauma Program            Manager/Trauma Nurse            Coordinator/Trauma            Coordinator</p>	<p>E</p>	<p>The TPM/TNC/TC is usually a Registered Nurse and responsible for the organization of services and systems necessary for a multidisciplinary approach to the care of the injured patient. The roles and responsibilities of the TPM/TNC/TC shall be outlined in a formal job description.</p>
<p>a. 16 hours of continuing            trauma education:            4 hours formal            12 hours informal.</p>	<p>E</p>	<p>The TPM/TNC/TC may be a full-time or part-time position depending on the volume of trauma Patients cared for at the TCF.</p> <p>a. Successful completion of trauma nursing course objectives recommended by TSAC and Trauma System Overview.</p>
<p>b. Trauma Program Support            Personnel (Trauma registrar,            clinical support nurse, secretary,            etc.)</p>	<p>E</p>	<p>b. Trauma program support personnel may include a trauma registrar and secretary depending on the number of trauma patients cared for by the trauma service. They are to be supervised by the TPM and have a formal job description. Administrative and budgetary support needed for the TPM/TNC/TC depends on the size of the program. As a guideline, one can identify the need for an additional full-time equivalent registrar for each 750-1,000 admissions per year. The TPM/TNC/TC may function as the trauma registrar and clinical support nurse if the volume of trauma patients does not require additional personnel.</p>

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6. Trauma committees a. Trauma program (system) performance committee	E E	a. TCFs shall have a multidisciplinary trauma performance (system) Committee, chaired by the TSMD or his/her designee that assesses and corrects trauma program system and service provider issues. The membership shall include all program-related services, meets regularly (usually monthly), takes attendance, has minutes and works to correct overall program deficiencies to continue to optimize patient care. Any of the members of this committee may have a designee attend the meetings should they not be able to do so. The designee should report the committee results to the regular committee member.
b. Multidisciplinary physician peer review (PIPS) committee	E	b. TCFs shall have a multidisciplinary (physician) peer review committee, chaired by the TSMD or his/her designee, that monitors response times, appropriates and timeliness of care, and evaluation of care priorities among physician specialists. This review is separate from a single specialty department-based peer review. This committee shall review trauma morbidity, mortality (all trauma deaths), complications, sentinel events, and organizational issues. Included in this process should be review of the TSMD's cases. It is the responsibility of this committee to identify and resolve problems or specific issues that are identified, trigger new policies/protocols and have the representatives from the various departments act as a conduit for information back to their respective departments. The committee shall be comprised of but not limited to, the TSMD, representatives from general surgery, orthopedic surgery, neurosurgery (if regularly take call and operate at this TCF), emergency medicine, anesthesia, radiology, and the TPM/TNC. Any of the members of this committee may have a designee attend the meetings should they not be able to do so. The designee should report the committee results to the regular committee member. There shall be an attendance requirement of $\geq 50\%$ of the total meetings per year for this committee. The committee should meet regularly, take attendance, take minutes, and be able to demonstrate how loop closure is accomplished to avoid patient care problems in the future. Loop closure may be demonstrated by attendance of the attending physician at the peer review session, through memo, letter or documentation of verbal consultation. Communication in return by the attending physician is usually part of the loop closure process. All physicians involved in the care of trauma patients should be invited to attend the meeting. This committee should function under the aegis of the performance improvement program at the TCF.

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<b>HOSPITAL DEPARTMENTS/DIVISIONS</b>		
1. Surgery	E	There shall be an attendance requirement of $\geq 50\%$ of the total meetings per year for both trauma program performance (system) committee and multidisciplinary physician peer review committee.
2. Neurological surgery a. Neurosurgical trauma liaison*	*	*If there are neurosurgeons on staff who participate in the trauma program they should have a liaison to the trauma service who is a member of both trauma committees. This liaison is responsible for communication between the TSMD, trauma committee and other neurosurgeons.
3. Orthopedic surgery a. Orthopedic trauma liaison	D *	If there are orthopedic surgeons on staff who participate in the trauma program they should have a liaison to the trauma service who is a member of both trauma committees. This liaison is responsible for communication between the TSMD, trauma committee and other orthopedic surgeons. *If orthopedic surgery routinely provides services for the facility then an orthopedic trauma liaison is essential.
4. Emergency medicine	E	The department/division/section of emergency medicine should have a liaison to the trauma service who is a member of the trauma committee. This individual is either the chief/director or his/her designee and is responsible for communication between the TSMD, trauma committee and the members of his/her department/division/section.
5. Anesthesia	E	The department/division/section of anesthesia should have a liaison to the trauma service that is a member of the trauma committee. This individual is either the chief/director or his/her designee and is responsible for communication between the TSMD, trauma committee and the members of his/her department/division/section. If there is not an anesthesiologist on staff the CRNA may function as the liaison.
6. Radiology	E	The department/division/section of radiology should have a liaison to the trauma service who is a member of both trauma committees. This individual is either the chief/director or his/her designee and is responsible for communication between the TSMD, trauma committee and the members of his/her department/division/section.

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<b>CLINICAL CAPABILITIES</b> (Immediately available 24 hours/day in-house)		
1. Published on-call schedule	E	A twenty-four hour per day call schedule must specifically identify the physician on duty/call for the emergency department and for the general/trauma surgeon. The call schedules shall be posted in all areas of the TCF caring for the trauma patient (ED, ICU, OR, Medical/Surgical floor).
a. General surgery	E	<p>The active involvement of the trauma/general surgeon is crucial to optimal care of the injured patient in all phases of management. The minimum number of general surgeons on staff at an Area TCF is two with one being on call 24 hours per day 365 days per year. Should the usual general surgical coverage be unavailable for any reason a formal back-up plan indicating how trauma patients will be managed is required. Local criteria may be established to allow the general surgeon to take call from outside the facility, but with clear commitment on the part of the facility and the surgical staff that the general surgeon will be present in the emergency department at the time of arrival of the trauma patient (highest level trauma activation). The presence of the trauma/general surgeon in the emergency department at the time of arrival of the patient is expected for all high level trauma alert activations when the hospital was given timely notice by out-of-hospital providers as to the expected arrival of the patient. The maximum acceptable response time is 30 minutes. Response time will be tracked from patient arrival rather than from notification or activation. The program must demonstrate that the surgeon's presence is in compliance at least 80% of the time for the highest level activations. For all other trauma patients requiring surgical care/consultation the general surgeon shall respond promptly and according to trauma service protocol/guidelines. It is expected that the trauma team respond immediately upon notification of the highest level trauma activation. The surgeon must also be available to care for trauma patients in the ICU.</p> <p>Compliance with these requirements and applicable criteria must be monitored by the trauma PIPS program. Qualifications for the trauma/general surgeons caring for trauma patients include; board certification, clinical involvement, education, and state/regional/national commitment. Compliance with these requirements is the responsibility of the trauma service medical director. Credentialing of the general/trauma surgeon is required for participation in the trauma program. All general surgeons on the</p>

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<p>General surgery call schedule</p> <ol style="list-style-type: none"> <li>1. Published call schedule</li> <li>2. Dedicated to single hospital when on- call</li> </ol>	<p>E</p> <p>E</p> <p>D</p>	<p>trauma team must have successfully completed the ACS ATLS® course at least once. Surgeons who are not boarded in general surgery must be current in ATLS®. 24 hours of continuing trauma medical education is required every four (4) years. Eight (8) hours of the continuing medical education must be formal and 16 hours may be informal. For initial and continuing trauma education refer to Iowa Administrative Code/Rules IAC 641—137.2(147A) and 641—137.3(147A). Attendance at &gt; 50% of the multidisciplinary physician peer review committee meetings is required.</p> <p>There should be a plan demonstrating how trauma is covered if the on-call trauma surgeons are not dedicated to your trauma care facility.</p>
b. Anesthesia	E	<p>Ideally in an Area TCF anesthesia requirements should be fulfilled by an anesthesiologist. As an alternative, these requirements may be fulfilled by a certified registered nurse anesthetist (CRNA). The CRNA shall work with a surgeon as a team in the management of the trauma patient.</p> <p>Airway and intraoperative anesthesia management should be evaluated by the PIPS program</p>
<p>c. Emergency Medicine</p> <ol style="list-style-type: none"> <li>a. Physician capable of initial resuscitation who is on-call &amp; immediately available to the ED upon arrival of the trauma patient.</li> </ol>	E	<p>The physician providing initial ED care for trauma patients should be in-house twenty-four hours per day</p> <p>The appropriateness and timeliness of the physician’s response to the ED shall be monitored by the TCF’s trauma PIPS program. If emergency physicians cover in-house emergencies, these cases and the frequency must be reviewed by the PIPS program.</p>

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<b>ON-CALL AND PROMPTLY AVAILABLE 24 HOURS/DAY</b>		
1. Cardiac Surgery	-	<p>If <b>the trauma care facility has any of these other specialties</b> then the multidisciplinary trauma PIPS program must continuously evaluate its processes and outcomes to ensure optimal and timely care.</p> <p>*4. See 4. Neurosurgery under Clinical Qualifications below</p> <p>*8. See 5. Orthopedic Surgery under Clinical Qualifications below.</p>
2. Hand surgery	D	
3. Microvascular/replant surgery	-	
4. Neurologic surgery a. Dedicated to one hospital or back-up call schedule	D	
5. Obstetrics/gynecologic surgery	D	
6. Ophthalmic surgery	D	
7. Oral/maxillofacial surgery	D	
8. Orthopedic surgery a. Dedicated to one hospital or back-up call schedule	D	
9. Plastic surgery	D	
10. Critical care medicine	D	
11. Radiology	E	
12. Thoracic surgery	D	

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<b>CLINICAL QUALIFICATIONS</b>		
1. Formal credentialing policy for the trauma program	E	Each trauma care facility shall have a formal credentialing policy for general/trauma surgeons, emergency medicine physicians, neurosurgeons (if routinely available), and orthopedic surgeons (if routinely available) participating on the trauma service/team that establishes trauma-specific credentials that exceed those required for general hospital privileges. The formal credentialing shall policy shall include at a minimum, but not be limited to: 1. Board certification, 2. Physician peer review committee attendance, 3. Trauma program performance committee attendance, 4. ATLS, 5. Continuing trauma education.
2. General/trauma surgeon a. Current board certification (See Interpretive Guidelines) b. Physician peer review committee attendance ≥ 50% c. Trauma program performance (system) committee attendance d. ATLS® (See Interpretive Guidelines) e. 24 hours continuing trauma education every 4 years 1) 8 hours formal 2) 16 hours informal	E E E E E	<p>The trauma surgeon shall act as the team leader upon his/her arrival at the patient’s bedside.</p> <p>Board certification in a surgical specialty recognized by the American Board of Medical Specialties, the American Board for Osteopathic Specialties, the Royal College of Physicians and Surgeons of Canada, or other appropriate foreign board is acceptable. <b>Alternate Criteria:</b> the non-board-certified surgeon must have completed an approved surgical residency program, be licensed to practice medicine and approved for surgical privileges by the trauma care facility’s credentialing committee.</p> <p>b &amp; c. Trauma/general surgeons should attend the multidisciplinary performance improvement and patient safety committees. It is recommended that each facility have their own requirements for the trauma program performance (systems) committee attendance by the trauma surgeon core group. There should be at least a representative from the trauma surgeon core group at each meeting. The physician attendance at the system committee should be written in a trauma plan. Ideally, all trauma/general surgeons and the specialty liaisons should attend. At the minimum the TSMD or delegate, and the Emergency Medical liaison or delegate should attend this meeting.</p> <p>d. All general surgeons on the trauma team must have successfully completed the ACS ATLS® course at least once. Surgeons who are not boarded in general surgery must be current in ATLS. (Refer to 641—137(147A) Trauma Education and Training)</p>

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		The TSMD may request the attendance at the system or peer review committee meetings of any or all trauma surgeons, emergency physicians, orthopedic surgeons, anesthesiologist/CRNA or neurosurgeons, if the topic being discussed affects their specialty care.
3. Emergency medicine a. Current board certification b. Physician (representative) peer review committee attendance $\geq$ 50% c. Trauma program performance (system) committee attendance d. ATLS® (see interpretive guidelines) e. 24 hours continuing trauma education every 4 years 1) 8 hours formal 2) 16 hours informal	E E E E E	<p>(a). Qualification for trauma care for any emergency physician is board certification. Board certification in a specialty recognized by the American Board of Medical Specialties, the American Board for Osteopathic Specialties, the Royal College of Physicians and Surgeons of Canada, or other appropriate foreign board is acceptable. Alternate criteria to board certification may be considered.</p> <p><b>Alternate Criteria:</b> the non-board-certified emergency physician must have completed an approved residency program, be licensed to practice medicine and approved for emergency medicine privileges by the trauma care facility’s credentialing committee. The emergency physician must also meet all criteria established by the trauma director and emergency medicine director to serve on the trauma team. The trauma director and emergency medicine director must attest to this physician’s experience and quality of patient care as part of the recurring granting of trauma team privileges consistent with the trauma care facility’s policy. This individual is expected to meet all other qualifications for members of the trauma team.</p> <p>(b,c). Regular participation in the care of injured patients and attendance at <math>\geq</math> 50% of the physician (representative) peer review committee meetings is required. The emergency physician liaison should also attend trauma program performance (system) committee meetings.</p> <p>d. Successful completion and current ATLS® status is an optimal standard for emergency physicians who participate in the initial assessment and resuscitation of injured patients. All emergency medicine physicians must have successfully completed the ATLS® course at least once. Physicians who are certified by boards other than emergency medicine who</p>

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		treat trauma patients in the emergency department are required to have current ATLS® status. (Refer to 641—137(147A) Trauma Education and Training)
4. Neurosurgery a. Current board certification b. Physician (representative) peer review committee attendance ≥ 50% c. Trauma program performance (system) committee attendance	-	<p>If the Area (Level III) Trauma care facility has neurosurgical coverage then the following criteria, as required by a Regional (level II) trauma care facility are required of the Area (level III) TCF.</p> <p>It is essential that Trauma Care Facility have a reliable neurosurgeon on-call schedule with a formal contingency plan for the care of neurotrauma patients if the capability of the neurosurgeon(s), hospital, or system to care for these patients is overwhelmed. In communities where the number of neurosurgeons are limited or required to cover more than one TCF at a time, a plan shall be in place that defines how neurotrauma patients are managed; specifically what patients may be managed at this TCF or which patients need to be transferred. It is recommended that this plan be developed in conjunction with the higher level TCF to which the neurotrauma patients are transferred. The care of these patients shall be monitored as part of the Performance Improvement Patient Safety (PIPS) program. The plan will remain acceptable as long as PIPS confirms optimal delivery of neurotrauma care and outcome.</p> <p>The contingency plan for the care of neurotrauma patients shall include one of the following models for providing back-up neurosurgical call:</p> <ol style="list-style-type: none"> <li>1. A trauma/general surgeon, who has been credentialed in the initial management of neurotrauma as determined by the director of neurosurgery, may provide initial triage and back-up call, and/or</li> <li>2. A plan to transfer the neurotrauma patient to a similar or higher level Trauma Care Facility capable of caring for neurotrauma patients.</li> </ol> <p>This plan must include communication with EMS regarding neurosurgery coverage.</p> <p>The above back-up call models may be acceptable as long as PIPS confirms optimal delivery of neurotrauma care and outcome. Neurosurgeons taking</p>

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		neurotrauma call should recognize and support the clinical care parameters established in the Brain Trauma Foundation: "Guidelines for the Surgical Management of Traumatic Brain Injury," and other articles found in Supplemental Readings, page 47-48, Chapter 8, Clinical Functions: Neurosurgery in the Committee on Trauma, American College of Surgeons. Surgeons, "Resources for Optimal Care of the Injured Patient: 2006." ("Green Book")
5. Orthopedic Surgery a. Current board certification b. Physician (representative) peer review committee attendance ≥50% c. Trauma program performance (system) committee attendance	D*  E  E	<p>*If there is an orthopedic surgeon on staff who regularly cares for surgical patients then the qualifications the orthopedic surgeon is board certification and regular participation in the care of musculoskeletal injured patients.</p> <p>Board certification in a surgical specialty recognized by the American Board of Medical Specialties, a Canadian Board, or other appropriate foreign board is acceptable. Alternate criteria to board certification may be considered.</p> <p><b>Alternate Criteria:</b> the non-board-certified surgeon must have completed an approved surgical residency program, be licensed to practice medicine and approved for surgical privileges by the trauma care facility's credentialing committee. The surgeon must also meet all criteria established by the trauma director to serve on the trauma team. The trauma director and orthopedic surgeon liaison/director must attest to this surgeon's experience and quality of patient care as part of the recurring granting of trauma team privileges consistent with the trauma care facility's policy. This individual is expected to meet all other qualifications for members of the trauma team.</p> <p>b. &amp; c. The orthopedic liaison should attend ≥ 50% of the peer review committee meetings. The orthopedic surgeon liaison should also attend trauma program performance (system) committee meetings.</p>
<b>FACILITY RESOURCE CAPABILITY</b>		
<b>1. Surgeon Presence</b>		
a. Presence of surgeon at resuscitation b. Presence of surgeon at operative procedures	E  E	<p>a. Presence of the general/trauma surgeon at all of the highest level trauma alert activations is expected.</p> <p>b. If a surgical resident is involved in the trauma surgical operation then the presence of the surgeon throughout the entire operation needs to be documented by the PIPS program.</p>

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<b>2. Emergency Department</b>		
a. Designated physician director	E	One of the physicians taking ED call, perhaps the chairperson of the ED committee (or similar standing committee responsible for the ED) shall be responsible for 1) physician staffing of the ED, 2) out-of-hospital medical direction, 3) acting as liaison for the ED with nursing staff, and TCF administration, and 4) ensuring that ED physician PI activities are in place and performed. These responsibilities shall be formalized in an ED medical director job description and or in the medical staff bylaws.
b. Registered nurses available 24 hours per day	E	<p>Nursing personnel staffing the ED should be physically present in the ED prior to the arrival of the trauma patient to ensure that the room and equipment are available and ready for use. These activities shall be assessed by the trauma PI program. Nurses acting in this capacity, as defined by the TCF's trauma alert policy, shall have current trauma training equivalent to the trauma course objectives approved by the department and they shall maintain appropriate CEUs in trauma care.</p> <p>Nurses have one year from the date of the nurse joining the TCF's trauma team to successfully complete the required trauma training (successful completion of Trauma nursing course objectives recommended by TSAC). Continuing trauma education (CEUs) are required every four years, to include but not be limited to, four (4) hours formal and 12 hours informal. Refer to 641-137(147A) for trauma training requirements.</p> <p>Physician designee means any registered nurse licensed under Iowa Code chapter 152, or any physician assistant licensed under Iowa Code chapter 148C and approved by the board of physician assistant examiners. The physician designee acts as an intermediary for a supervising physician in accordance with written policies and protocols in directing the actions of emergency medical care personnel providing emergency medical services.</p>

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c. Equipment for patients of all ages:		
1. Airway control & ventilation	E	
2. Pulse oximetry	E	
3. Suction devices	E	
4. Electrocardiograph/oscilloscope/defibrillator	E	
5. Internal paddles	D	
6. CVP monitoring equipment (available)	E	6. CVP monitoring may be available in Intensive Care Unit, or other areas of the hospital.
7. Standard IV fluids & administrative sets	E	
8. Large-bore intravenous catheters	E	
9. Sterile surgical sets for:		
a) Cricothyrotomy	E	
b) Thoracostomy (Chest tube tray)	E	
c) Central line insertion	E	
d) Thoracotomy	E	
e) Peritoneal lavage	D	
f) Venous cutdown	D	
g) intraosseous (IO)	E	
10. Arterial catheters	D	18. On-line medical control (two way communication) shall be available to all out-of-hospital service programs in the TCF area, with physician and/or physician designees trained in receiving patient reports and giving orders for patient treatment interventions and/or TCF destination decisions.
11. Drugs for emergency care	E	
12. X-ray tech. availability 24 hours/day	E	
13. Spinal immobilization devices	E	
14. Pelvic immobilizer	E	
15. Pediatric resuscitation tape	E	
16. Thermal control equipment		
a) for patient	E	
b) for blood and fluids	E	
17. Rapid infuser system	E	
18. Qualitative end-tidal CO2 equipment	E	
19. Communication with EMS	E	
20. Availability of Ultrasound	E	

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<b>3. Operating Room</b>		
<b>a. Personnel available 24 hours per day</b>	E	The operating room staff shall be on-call and promptly available when notified to respond, usually within 30 minutes. The OR staff is part of the trauma team. Their response shall be a part of the trauma team activation protocol as developed by the Trauma PIPS committees under the direction of the TSMD and TPM/TNC/TC. The OR staff's availability and response times shall be part of the trauma PIPS program. A call schedule shall be posted.
<b>b. Age-specific equipment</b>		
1. Cardiopulmonary bypass	-	
2. Thermal control equipment		
a). For patient	E	
b). For fluids and blood	E	
3. X-ray capability including c-arm image intensifier	D	
4. Endoscopes, bronchoscope	E	
5. Equipment for long bone and pelvic fixation	D	
6. Rapid infuser system	E	
<b>4. Postanesthetic Recovery Room (ICU OK)</b>		
a. Registered nurses available 24 hours per day (in-house or on-call)	E	
b. Equipment for monitoring and resuscitation	E	
c. Intracranial pressure monitoring equipment	D	
d. Pulse oximetry	E	
e. Thermal control	E	
f. CO <sub>2</sub> monitoring capability available	E	
<b>5. Intensive or Critical Care Unit</b>		
		An ICU physician/team in-house 24/7 is not essential. However, there must be a plan developed by the surgical director/co-director for all trauma patients for prompt emergency and routine care 24/7. The activities of the surgical director may be performed by a general surgeon/TSMD serving on

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Criteria	Requirements	Interpretive Guidelines
		the TCF's ICU committee or as co-director with the ICU medical director.
a. Registered nurses with trauma education available 24 hours per day	E	b. The activities of the surgical director may be performed by a general surgeon/TSMD serving on the TCF's ICU committee or as co-director with the ICU medical director.
b. Designated surgical director or surgical co-director	E	
c. General/trauma surgeon with privileges in critical care and approved by the TSMD, on-call and promptly available to the ICU	E	
d. Equipment for monitoring and resuscitation (in ICU/CCU)	E	
1). Cardiopulmonary resuscitation cart with defibrillator	E	
2). Electrocardiograph machine	E	
3). Instrument sets for tracheal intubation, tracheostomy, thoracostomy, and central venous puncture	E	
e. Pulmonary artery monitoring equipment	D	
<b>6. Respiratory Therapy Services</b>		
a. On-call 24 hours per day	E	A call schedule shall be posted and availability and response of the therapist shall be part of the trauma PIPS program.
<b>7. Radiological Services</b>		
a. Radiology technologist on-call and available 24 hours per day	E	Radiology technologists shall be on call & promptly available to the ED. The technologist is part of the trauma team and shall be notified as part of the trauma alert activation protocol. A call schedule shall be posted in all areas of the TCF caring for trauma patients. The technologist's availability and response shall be monitored as part of the trauma PIPS program.
b. In-house radiology technologist	D	
c. Angiography	D	
d. Sonography	E	
e. Computed tomography	E	
f. In-house CT technologist	D	
g. Magnetic resonance imaging	D	
		The availability and response of the CT technologist shall be monitored as part of the trauma PIPS program.

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Criteria	Requirements	Interpretive Guidelines
<b>8. Clinical Laboratory Services (available 24 hours per day)</b>		
a. Standard analysis of blood, urine and other body fluids, including microsampling when appropriate	E	Laboratory personnel shall be on-call and promptly available to the Emergency Department/ICU. They are part of the trauma team & shall be notified as part of the trauma alert activation protocol. A call schedule shall be posted in all areas of the TCF caring for trauma patients. Laboratory personnel availability and response times shall be part of the trauma PIPS program. There shall be a policy delineating the priority of a trauma patient in the collection and processing of blood and urine for evaluation.
b. Blood typing and cross-matching	E	
c. Coagulation studies	E	
d. Comprehensive blood bank or access to a community central blood bank and adequate storage facilities	E	
e. Blood gases and pH determinations	E	
f. Microbiology	D	
g. Massive transfusion policy	E	
<b>9. Acute Hemodialysis</b>		
a. In-house or transfer plan/agreement	E	See Transfer Agreement Section at the end of document.
<b>10. Organized Burn Care</b>		
a. In-house or transfer plan/agreement	E	See Transfer Agreement Section at the end of document.
b. Stabilization/treatment guidelines	E	
<b>11. Acute Spinal Cord Management</b>		
a. In-house management or transfer plan/agreement	E	See Transfer Agreement Section at the end of document. Transfer agreement must exist with appropriate Level I and Level II trauma care facility
b. Stabilization/treatment guidelines	E	
<b>REHABILITATION SERVICES</b>		
1. In-house or transfer plan/agreement to an approved rehabilitation facility	E	6. Only applies to those area TCFs that have Rehabilitation Excluded Units. These TCFs shall have a formal policy that integrates the trauma and rehabilitation services to include, at a minimum: a. patient population, b. time to consultation (pre-assessment), c. formal documentation of pre-assessment, d. formal participation on the trauma program performance (system) committee. This process shall be monitored by the trauma PIPS program.
2. Physical therapy	E	
3. Occupational Therapy	D	
4. Speech therapy	D	
5. Social services	E	
6. Formal policy integrating the trauma and Rehabilitation service.	E	

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Criteria	Requirements	Interpretive Guidelines
<b>PERFORMANCE IMPROVEMENT</b>		
<p>Trauma performance improvement and patient safety (PIPS) program</p>	<p>E</p>	<p>The overall responsibility of concurrent and retrospective review of the care of trauma patients (PIPS) lies with the TSMD and TPM/TNC in conjunction with the trauma performance improvement (system) committee and the physician multidisciplinary peer review committee and is consistent with medical staff and facility PIPS policies. Some of the activities of the two committees may coincide with each other and require both committees involvement, e.g. trauma related transfers, trauma related bypass/diversions, pre-hospital trauma care, etc. Standard of care and evidenced based data should be utilized. Summaries of the TCF's PIPS activities should be reported regularly to the administration and physician committees as required by the hospital bylaws.</p> <p>The frequency of committee meetings is dependent on the number of patients for which the trauma service cares monthly and is usually decided by the TMD and TC/TPM. In an area TCF (level III) this may be monthly, bi-monthly or quarterly (at least this frequently).</p> <p>Consideration should be given to offering continuing education credits to all in attendance at the meetings.</p>
<p>1. Multidisciplinary physician peer review committee</p> <p>a. Multidisciplinary physician peer review and documentation of all trauma care including morbidity and mortality at the TCF with documented loop closure</p> <p>b. Review of times and reasons for trauma related transfers</p> <p>c. Review of times and reasons for trauma related bypass/diversion based on TCF policy</p>	<p>E</p>	<p>1. The peer review committee should be chaired by the TSMD or his/her designee and have representatives from all (specialties) involved in the care of trauma patients. All committee members are required to attend at least 50% of the committee meetings. A procedure should be established whereby the TMD provides information regarding the meeting to the trauma surgeons and specialty liaisons should they not be in attendance.</p> <p>The peer review process and minutes of this committee should be confidential in accordance with facility and medical staff policy and protected</p>

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Criteria	Requirements	Interpretive Guidelines
d. Medical nursing audit e. Review of pre-hospital trauma care f. Work with State Evaluation and Quality Assurance Committee (SEQIC)		<p>from discovery by state law. A statement indicating this should be placed on all PIPS forms to ensure this.</p> <p>A mechanism shall be established by which all physicians caring for trauma patients in the TCF are involved in peer review of the care. Physicians should regularly review and discuss: 1) the results of trauma peer review activities, 2) problematic cases including complications, and 3) all trauma deaths identifying each death as mortality without opportunity for improvement, anticipated mortality with opportunity for improvement, unanticipated mortality with opportunity for improvement.</p> <p>The findings of the peer review process should be communicated by the TSMD to the physician(s) involved in the care of the trauma patient that was reviewed by memo, letter, chart review form, personal contact or by meeting attendance. Communication from the physician in return is expected. Obtaining communication in return is part of the loop closure/resolution process in the trauma PIPS program. Included in this review should be review of the TSMD's care of patients by one or more of his/her physician peers. Review of pre-hospital patient care helps to improve overall trauma care. Working with SEQIC improves the care throughout the state trauma system.</p>
2. In-house trauma registry with participation in state registry. a. Participation in National Trauma Data Base (NTDB).	E  D	<p>2. Utilization of trauma registry data will facilitate the entire PIPS and peer review process. It should include a defined trauma population and a set of indicators/audit filters. Registry input should be accomplished on a regular basis with completion within two months. Each committee meeting should include a trauma registry report. Providing data to the state trauma registry and NTDB will allow the PIPS program to obtain reports that can be used for benchmarking their program against other programs of their size.</p>

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Criteria	Requirements	Interpretive Guidelines
<p>3. Multidisciplinary trauma performance improvement (system) committee</p> <p>a. Periodic review of all trauma system/service policies, procedures and guidelines</p> <p>b. Work with the Trauma System Advisory Committee (TSAC)</p>	E	<p>3. The multidisciplinary trauma performance (system) committee is chaired by the TSMD or his/her designee. The membership shall include all hospital and medical staff services involved in the care of trauma patients. Each TCF may establish its own format for the committee. The committee is responsible for the assessment and correction of trauma program (service) issues and processes and works to correct any deficiencies in order to improve patient care. It should work closely with the peer review committee to accomplish this goal. The committee meets regularly usually determined by the TMD and TPM/TC. In the area TCF (level III) this may be monthly, bi-monthly or quarterly and frequently is just prior to the peer review committee. Attendance requirements are established and minutes are recorded. Committee minutes are reported to the peer review committee and appropriate hospital committees.</p>
<b>CONTINUING EDUCATION/OUTREACH</b>		
<p>1. ATLS® instructor participation in state programs.</p> <p>2. Trauma continuing education programs provided for:</p> <p>a. Staff/community physicians</p> <p>b. Nurses</p> <p>c. Allied health</p> <p>d. Out-of-hospital personnel</p> <p>3. Yearly Multidisciplinary Trauma Conference</p>	<p>D</p> <p>E</p> <p>E</p> <p>E</p> <p>E</p> <p>E</p>	<p>1. In geographical locations where the area TCF is the lead institution, these educational activities are essential. When the area TCF is in a geographical area that contains higher TCF resources, such as a resource or regional TCF then this criterion is no longer essential. Continuing trauma education programs in area &amp; community TCFs may be provided by, but not limited to, the facility in-house or via the ICN, closed circuit TV, computer networks etc. TCF's at a minimum shall provide for CEU and CEH offerings for nursing, allied health personnel, and EMS providers.</p> <p>2a. Continuing trauma education for trauma team members Physicians and non-physician medical providers (ARNP, PA):</p> <p>Eight hours of the required continuing trauma education are to be formal, i.e., standardized educational settings (conferences) with a curriculum. These formal hours may be developed by the host TCF, collaboration with other State TCFs, or a program developed and offered by an out-of-state provider of education. The provider and/or credentialing agency must document attendance in educational trauma topics in order to maintain and enhance knowledge and skills that are centered around the assessment and</p>

## Area (Level III) Trauma Care Facility Categorization and Verification Criteria

Criteria	Requirements	Interpretive Guidelines
		<p>management of the trauma patient in all age groups.</p> <p>*Highly Recommended Objectives To Meet in Continuing Education Programs:</p> <ol style="list-style-type: none"> <li>1) Communication and/or demonstration of the systematic initial assessment and treatment.</li> <li>2) Within the primary survey, determine and demonstrate airway patency and cervical spine control, breathing and ventilation, circulatory status with hemorrhage control, neurologic status, exposure and environmental control.</li> <li>3) Discussion and/or demonstration of the management techniques in the resuscitation phase, based on findings from the primary survey. Major skills to maintain include airway and ventilation management, needle and tube thoracostomy, shock resuscitation, neurologic assessment and scoring.</li> <li>4) Integration of the history of the trauma event, patient's past medical history, and current findings with anticipated injuries.</li> <li>5) Discussion/outline of the definitive care necessary to stabilize each patient in preparation for possible transport to a trauma center or to the closest appropriate facility.</li> <li>6) Establishment and discussion of transport plans with other members of the trauma team, based on patient status and resources in that region, including EMS modes of transport and scope of practice.</li> <li>7) Within the secondary assessment findings, given a radiographic image, identify fractures and associated injuries. Discussion and demonstration of immobilization techniques with subsequent referral if necessary.</li> </ol> <p>*these objectives may easily be met within the Advanced Trauma Life Support (ATLS)® program.</p> <p>Sixteen hours of the required continuing trauma education may be informal, determined and approved by the trauma care facility from any of the following:</p> <ol style="list-style-type: none"> <li>1. Multidisciplinary trauma case reviews;</li> <li>2. Multidisciplinary trauma conferences;</li> </ol>

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Criteria	Requirements	Interpretive Guidelines
		<p>3. Multidisciplinary trauma mortality and morbidity reviews;</p> <p>4. Multidisciplinary trauma committee meetings;</p> <p>5. Trauma peer review meetings;</p> <p>6. Any trauma care facility committee meeting with a focus on trauma care evaluation; and</p> <p>7. Critical care education such as ACLS®, PALS, NRP, APLS(1) or Equipment in-services.</p> <p>3. Trauma care facilities shall provide at a minimum, one multidisciplinary trauma conference annually. The purpose of the multidisciplinary trauma conferences is to provide an educational forum for all practitioners involved in the care of trauma patients. This may be accomplished in a variety of ways. One way to provide this conference is to have it coincide with the TCF's trauma committee meetings with presentation of actual trauma cases. Invite all members of the trauma team/service to the conference. A local/regional trauma conference might be held yearly with invitations to all individuals involved in local/regional trauma care. Continuing education credits should be offered to all individuals that attend.</p>
<b>PREVENTION</b>		
1. Injury control studies	D	
2. Collaboration with other institutions	D	
3. Monitor progress/effect of prevention programs	D	
4. Designated prevention coordinator-spokesperson for injury control	D	
5. Outreach activities	D	
6. Information resources for public	D	
7. Collaboration with existing national, regional, state prevention programs	D	
8. Coordination and/or participation in community prevention activities.	E	

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Criteria	Requirements	Interpretive Guidelines
<b>RESEARCH</b>		
1. Trauma registry PIPS activities	E	This is accomplished by providing data to the State Trauma Registry
2. Extramural educational presentations	D	
3. Participate in SEQIC activities	E	
<b>ORGAN PROCUREMENT</b>		
1. Organ procurement policy	E	
<b>TRANSFER AGREEMENTS/PLANS/PROTOCOL</b>		
1. Transfer plan/protocol	E	All transfer agreements/plans/protocols should be a simple, easily understood document outlining the responsibilities of the transferring and the receiving hospital during the transfer process. Transfer agreements/plans shall be in place with all TCFs to which patients are transferred or received.
2. As a receiving facility	E	
<b>PEDIATRICS</b>		
1. Trauma surgeons credentialed for pediatric trauma care	E	The TSMD should decide what credentials are needed for the trauma surgeons to provide trauma care to pediatric patients. This is to be based on the training and experience of the surgeons taking trauma call and the availability of pediatric surgeons with trauma experience. Credentialing requirements need to be documented for each surgeon.  The pediatric PIPS activity shall include specific indicators/audit filters in the trauma PIPS program.
2. Pediatric emergency department area	D	
3. Pediatric resuscitation equipment immediately available in all patient care areas	E	
4. Microsampling	E	
5. Pediatric-specific PIPS program	E	
6. Pediatric intensive care unit	-	
		Criteria adopted from the American College of Surgeons Committee on Trauma (2006) <i>Resources for Optimal Care of The Injured Patient</i> . Chicago, IL: American College of Surgeons.  Revised by the Trauma System Advisory Council, Categorization and Verification Subcommittee (Chair-Thomas Foley, M.D., FACS) Reviewed and approved by the Trauma System Advisory Council