Level 3 Trauma Hospital Criteria Crosswalk

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources / Sample Documents	Helpful Tips
1. Institution	1.1	The board of directors, administration, and medical staff shall demonstrate a commitment to provide the resources and support necessary to sustain the trauma designation. This commitment shall be signed and dated within one year of designation expiration.	The following must be submitted with the designation application: • A signed hospital board resolution letter dated no more than one year prior to designation expiration • A signed hospital medical staff resolution letter dated no more than one year prior to designation expiration	Hospital Board Resolution Medical Staff Resolution	Resolution should include language such as "THEREFORE; BE IT RESOLVED that the board of directors of [HOSPITAL] acknowledges the commitment to adherence to the standards required for level [III or IV] trauma designation, as well as commitment to ensuring that the necessary personnel, facilities, and equipment are made available to support adherence to those standards." When using templates, be sure they are modified as appropriate including your hospital name and designation level. Evaluate the appropriate timeline to start this process, as it can take a while to cycle through meetings for the appropriate signature(s).
	1.2	The trauma program shall be established by the facility and represented on the official hospital organizational chart.	The following must be submitted with the designation application: • An official hospital organizational chart	Organizational Chart	The facility's organizational chart should show where trauma "lives" in the facility in relation to other departments in the hospital. The organizational chart should represent job titles or positions, not specific people. The trauma program may be located within an existing department, such as the Department of Surgery or Emergency Department, but must appear on the official organizational chart.

2. Medical Director	2.1	The trauma medical director (TMD) or medical advisor shall be a board-certified or board-eligible physician whose job description defines his or her authority, roles, and responsibilities for the leadership of the trauma program, the trauma performance improvement process, and tertiary case review.	The following must be submitted with the designation application:
			• Start month and year for the TMD
			• Expiration date of current board certification
			• Current job description(s) should include Roles and responsibilities for:
			  • Leadership of the trauma program
			  • Trauma performance improvement
			  • Tertiary case review
				Trauma Medical Director Job Description	The trauma medical director (TMD) position may also be titled trauma medical advisor if needed.

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2. Medical Director	**2.2**	If the trauma medical director (TMD) is not a general surgeon, there must be a co-TMD who is a board-certified or board-eligible general surgeon. **2.2.1** The co-TMD must have a job description that defines the roles and responsibilities for the Trauma Program, including trauma performance improvement and tertiary case review.	If a surgeon co-trauma medical director is required, the following must be submitted with the designation application: • Start month and year for the co-TMD • Expiration date of current board certification for the co-TMD • Current job description of the co-TMD	Trauma Medical Director Job Description	The co-TMD position may also be titled co-trauma medical advisor if needed.
	2.3	The trauma program medical director (TMD) and co-medical director must meet the same trauma training requirements as the Emergency Physician.	The following must be submitted with the designation application: • The month and year of course completion for the TMD's last training course (ATLS or CALS) • Clinician roster including the required educational and certification components	Clinician Roster Education Resource website	There is no grace period for either ATLS or CALS training.
3. Program Manager	**3.1**	The trauma program manager (TPM) must be either a registered nurse or an allied health professional with emergency and trauma care experience. **3.1.1** The TPM job description must define the roles and responsibilities for the management and leadership of the trauma program and the trauma performance improvement process	The following must be submitted with the designation application: • The name and credentials of the TPM position • Their start date (Month/Year) in the position • The TPM job description describing all trauma program roles and responsibilities, including the performance improvement process	Trauma Program Manager Job Description	The TPM job description will define the roles and responsibilities related to the leadership of the trauma program, including trauma performance improvement. The trauma program manager position may also be titled trauma program coordinator if needed.
	3.2	If the trauma program manager (TPM) is not a registered nurse, a registered nurse must assist with: **3.2.1** Primary review of trauma care provided in all areas of the hospital **3.2.2** Function as a liaison between the trauma program and the nursing staff	The following must be submitted with the designation application: • The name and credentials of the registered nurse assisting the TPM • Their start date (Month/Year) in the position		The liaison should assist with follow-up/investigation, education, etc. between the trauma program and nursing staff.
	3.3	The trauma program manager (TPM) must have at least a portion of an FTE dedicated for trauma program responsibilities.	The following must be submitted with the designation application: • The amount of FTE the TPM has dedicated to the trauma program. This will be validated at site visit.		The trauma program performance improvement process requires that sufficient resources are invested in order to maintain integrity and support the growth of the trauma program. The time allotted should be dedicated, protected, and uninterrupted. Dedicated time for trauma program managers* directly correlates with the success of a facility's trauma program. TPM workloads are extremely dependent on ED and admission volumes. Most successful Level 3 trauma programs have a minimum dedicated 0.6 FTE, which increases rapidly

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	3.3 Con't				with higher ED and admission volumes. This does not include FTE allocation for registry entry. Leadership of the trauma program, the PI process and other workload completion/timeliness must be monitored closely to judge whether the FTE assignment is adequate. PI and other workload completion and timeliness must be monitored closely to judge whether the FTE assignment should be increased. If the facility had immediate actions or multiple recommendations in the past designation cycle, reevaluate the FTE allocation and responsibilities of the TPM. *Some TPM responsibilities may be delegated to other staff.
4. Trauma Team Activation (TTA)	**4.1**	The hospital must have a trauma team activation (TTA) policy, protocol or guideline that includes: **4.1.1** A list of all team members expected to respond, which may include telemedicine providers. **4.1.2** The response time expectation for the team members, including in-house and off-site staff. **4.1.3** The physiologic, anatomic, and clinical indicators that, when met, require the activation of the trauma team. **4.1.4** The person(s) authorized to activate the trauma team.	The following must be submitted with the designation application: • A list of team member positions (not names) expected to respond to each level of trauma activation • The response time expectation for each of the team members listed above • The criteria for each level of activation • A list of positions authorized to activate the trauma team	L3 Single-Tier Trauma Team Activation (TTA) guideline L3 Multi-Tier Trauma Team Activation (TTA) guideline	When trauma activation criteria are changed, review and update any associated policy to ensure it matches. Provide nurse and provider education when any activation criteria or policy change occurs. Anatomic criteria refer to specific injuries and injury patterns. Physiologic criteria refer to disturbances in vital signs, such as low GCS, decreasing GCS, or hypothermia.
	4.2	The trauma team activation (TTA) criteria must be readily available in locations where a trauma patient is likely to be initially encountered.	The following must be submitted with the designation application: • Trauma team activation poster Locations of posted criteria will be validated at site visit.	L3 Single-Tier Trauma Team Activation (TTA) guideline L3 Multi-Tier Trauma Team Activation (TTA) guideline	Criteria should be readily available in the ED triage area, trauma bays, and any other ED rooms where injured patients may receive care. Ensure that any wall posters match the trauma activation policy, protocol, or guideline.

<table>
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<tr><td>5. Tier-One Trauma Team Activation Criteria</td><td>5.1</td><td>When one of the following tier-one trauma activation criteria is met, the emergency department provider must promptly communicate with the general surgeon and details of the discussion must be documented in the medical record:

5.1.1 Sustained GCS ≤ 8 secondary to trauma

5.1.2 Respiratory distress, airway compromise or intubation

5.1.3 Penetrating trauma to head, neck, chest, abdomen, or pelvis

5.1.4 Evidence of shock/hypoperfusion indicated by:

5.1.4.1 Systolic blood pressure ≤ 90 mmHg at any time or age-specific hypotension in pediatrics (see Age-Specific Hypotension table)
<table><tr><th>Age</th><th>SBP (mmHg)</th></tr><tr><td>< 1 yr.</td><td>≤ 70</td></tr><tr><td>1-10 yr.</td><td>≤ 70 + [2 x age in years]</td></tr></table>
5.1.4.2 Persistent tachycardia in a patient ≤14 years old (see Age-Specific Tachycardia table)
<table><tr><th>Age</th><th>HR</th></tr><tr><td>< 2 yr.</td><td>> 180</td></tr><tr><td>2-5 yr.</td><td>> 160</td></tr><tr><td>6-14 yr.</td><td>> 140</td></tr></table>
5.1.4.3 Positive eFAST exam
5.1.4.4 Provider impression of hypoperfusion (consider absent distal pulses, agitation, anxiety, confusion, delayed capillary refill, diaphoresis, pallor, persistent heart rate >120 in a patient >14 years old, tachypnea)

5.1.5 Arterial tourniquet indicated

5.1.6 Pregnancy >20 weeks with vaginal bleeding or contractions attributed to a traumatic

mechanism

5.1.7 Discretion of the emergency department provider (for those patients not meeting any of the tier-one trauma team activation criteria)</td><td>The following must be submitted with the designation application:
• TTA policy

This will be validated through case reviews at site visit.</td><td>L3 Single-Tier Trauma Team Activation (TTA) guideline

L3 Multi-Tier Trauma Team Activation (TTA) guideline</td><td></td></tr>
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6. General Surgeon Response	**6.1**	The general surgeon must arrive within 60 minutes when requested. The general surgeon may be canceled when the patient has left the facility, and this must be documented.	This will be validated through case reviews at site visit		Request may come from Emergency Dept. or Inpatient setting. Response time should be measured from the time requested until the surgeon arrival. In the event the patient is transferred (left the facility) prior to surgeon arrival, the surgeon can be cancelled.
	6.2	The general surgeon must be consulted upon discovery of any of the following conditions resulting from trauma: **6.2.1** Serum lactate >5.0 mmol/L and not improving **6.2.2** High grade solid organ injury (grade 3 – grade 5) **6.2.3** Fluid in the abdomen, without solid organ injury **6.2.4** Untreated hemothorax or pneumothorax requiring thoracostomy **6.2.5** Cardiac or major vessel injury	This will be validated through case reviews at site visit.		The consultation between the general surgeon and the ED provider may be by telephone if documented promptly in the medical record and the providers can determine if and how quickly the surgeon may need to respond in person. Elevated serum lactate indicates poor tissue perfusion and should be measured soon after arrival in patients with significant injury. A level > 5.0 is concerning for tissue hypoxia and should prompt aggressive resuscitation. The lactate level should be repeated in 2-4 hours, and if it remains over 5 or is increasing, should prompt a surgical consultation. High grade solid organ injuries are more likely to bleed or develop complications, and surgical evaluation should determine if intervention or transfer is needed. Free fluid without solid organ injury may indicate a hollow viscus injury, requiring examination by the surgeon to determine proper investigation. “Untreated” is defined as a patient with a hemothorax/ pneumothorax that requires a chest tube placed and does not have one in place. If the ED provider is able to place the tube, the surgeon would not be required to respond. If the ED Provider is unable or unsuccessful to place the tube, the surgeon is required to respond. Patients with a suspicion of cardiac or major vessel injury may require intervention or temporizing measures by the surgeon.
7. General Surgery and OR	**7.1**	The operating room must be continuously available for emergent surgery.	The following must be submitted with the designation application: • Attestation This will be validated through case reviews at site visit.		

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7. General Surgery and Operation Room	**7.2**	A general surgeon must be continuously available, either on-site or on-call, and able to respond to the hospital within 60 minutes. A schedule identifying the general surgeon on-call must be readily available to the emergency department and operating room staff.	The following must be submitted with the designation application: • General surgeon coverage schedule (Up to 12 months' worth of schedules may be requested.) Schedule accessibility in the ED/OR will be validated during site visit tour. Surgeon response time will be validated through case reviews at site visit.		Track this in the PI process For the purposes of general surgeon coverage, "continuously" means seamless coverage 350 days of the calendar year.
	7.3	The operating room team must arrive at the hospital within 60 minutes from the time requested.	Validated through case reviews and review of PI documents at site visit.		Track this in the PI process The operating room team is defined as minimum staff needed to begin the case.
	7.4	The hospital must establish a written plan addressing: **7.4.1** How the trauma patient will be managed should the usual surgical coverage be temporarily unavailable for any reason (e.g., the surgeon is already in surgery). **7.4.2** How surgeon call will be covered when scheduled gaps in the usual coverage occur (e.g., vacations).	The following must be submitted with the designation application: • Operating Room plan/document		
	7.5	A surgeon must be present at all operative procedures performed in the operating room.	This will be validated through case reviews at site visit.		

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8. Emergency Medicine	**8.1**	An emergency physician must be continuously available, either on-site or on-call. If the emergency department physician is off-site, an on-call schedule must identify the physician(s) covering the emergency department.	The following must be submitted with the designation application: • ED schedule demonstrating continuous coverage (Up to 12 months' worth of schedules may be requested)		
	8.2	When called, the emergency physician must arrive at bedside within 15 minutes of the patient's arrival.	This will be validated through case reviews at site visit.		
9.Anesthesia	**9.1**	An anesthesiologist or certified registered nurse anesthetist (CRNA) must be continuously available, either on-site or on-call	The following must be submitted with the designation application: • Attestation		
10. Orthopedic Surgery	**10.1**	If the hospital provides emergent orthopedic surgery, a schedule of the orthopedic surgeon on-call must be maintained and accessible by the emergency department and in-patient staff.	The following must be submitted with the designation application: • Orthopedic surgery on-call schedule (Up to 12 months' worth of schedules may be requested) • Orthopedic Worksheet This will be validated through case reviews at site visit.	Orthopedic Worksheet	Ensure consistency between the transfer policy, admission policy, and the facility's practice related to orthopedic care.
	10.2	If the hospital admits patients for the care of surgical orthopedic injuries, a schedule/document outlining the orthopedic surgeon coverage must be maintained and accessible by the emergency department and in-patient staff.	The following must be submitted with the designation application: • A schedule/document to outline the orthopedic surgical coverage (Up to 12 months' worth of schedules may be requested) • Orthopedic Worksheet	Orthopedic Worksheet	Ensure consistency between the transfer policy, admission policy, and the facility's practice related to orthopedic care.
11. Post-Anesthesia	**11.1**	A registered nurse capable of recovering a post-anesthesia patient must be continuously available.	The following must be submitted with the designation application: • Attestation		
12. Respiratory Therapy	**12.1**	A respiratory therapist, registered nurse or other allied health professional trained in ventilator management must be continuously available.	The following must be submitted with the designation application: • Attestation		If RN or other allied health professional fills this role, ensure training is provided.

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13. Blood Bank	**13.1**	There must be an in-house blood bank stocked with type-O blood.	The following must be submitted with the designation application: • The number of units of each blood product that is typically stocked in-house. This will be validated at site visit.		
	13.2	There must be a policy establishing a procedure for the emergent release of uncross-matched blood that: **13.2.1** Ensures that uncross-matched blood can be released to the appropriate staff immediately **13.2.2** Includes a provision to release uncross-matched blood to the appropriate staff in the absence of the blood bank staff if they are off-site	The following must be submitted with the designation application: • Emergent Blood Release policy		Existence of a Massive Transfusion Protocol (MTP) is beneficial to patient care but not required. If the hospital has an MTP, submit with the designation application.
14. Radiology	**14.1**	A computed tomography (CT) technician or technologist must be continuously available, either in-house or on-call.	The following must be submitted with the designation application: • A description of CT technician or technologist coverage		
	14.2	A radiologist must be continuously available, either in-house or off-site.	The following must be submitted with the designation application: • A description of radiologist coverage This will be validated at site visit.		

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<td>15. Admission</td>
<td>15.1</td>
<td>If admitted, one hundred percent of patients with conditions represented in Table 3, must be admitted by or receive a consultation from an appropriate surgeon (Ortho, Neuro, General, Spine, etc.).
• General Surgeon consultations are required to be at bedside.
• Surgical subspecialist (Ortho, Neuro, Spine, etc.) consults can be remote.

All consultations/evaluations for traumatic injury must be performed within 18 hours of discovery of the injury.
• The consultation/admission may be accomplished by the surgeon’s appointed advanced practice provider on behalf of the surgeon.

Table 3: Mandatory Surgeon Admit or Consult
Hemothorax or pneumothorax requiring a thoracostomy
Sternum or scapula fracture
Pelvic fracture (not isolated ramus fractures)
Five or more rib fractures with a Practice Management Guideline in place
Pulmonary contusion with the need for oxygen to maintain SpO2 > 90%
Significant fall:
▪ >15 feet
▪ >65 years old and fall from elevation or down stairs
▪ Pediatric (<10 years old): >2 x patient’s height

Patients with conditions represented in table 4 may be admitted without surgical consultation.

Table 4: Surgeon Consult not Required
One or two rib fractures
Three or Four rib fractures with a Practice Management Guideline in place</td>
<td>The following must be submitted with the designation application:
• Admission Policy
• Practice Management Guideline (PMG) for rib fractures

Validated through case reviews and review of PI documents at site visit.</td>
<td>L3 Admission Policy
Rib Fracture PMG
Criterion 21.3 (PI Process)
Criterion 22.1 (PI Measures)</td>
<td>Consider tracking this using a PI filter for Table 3 conditions.
Admission policy must include the conditions in Table 3 that the hospital admits.
Surgeon consultation is expected to be 100%, if not the hospital should have documented PI activities to remedy the situation.
Providers should exercise judgment in obtaining consults sooner if warranted by the injury mechanism or acuity.
If consultations/evaluations for trauma care are by telephone, it must be documented in the medical record.
Pelvic fractures include all sacral fractures.
Elevation or “down stairs” is any elevation, any number of steps.
PMG must be approved by the hospital Medical Executive Committee or equivalent and monitored by the trauma PI program.
A resident can respond and perform any role in the resuscitation that the surgeon deems fit. However, the trauma system response requirements refer to the attending surgeon. The resident cannot respond in his/her place or supplant his/her role</td>
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15. Admission	**15.2** Con't	For **all** trauma patients admitted to the hospital for trauma care, a surgeon should be the admitting or consulting physician at least 80% of the time.	Validated through case reviews and review of PI documents at site visit.		Track this in the PI process Multi-system injury trauma cases should be admitted to the general surgeon. Single-system injury trauma cases may be admitted to a primary care physician if consultations are obtained from the appropriate surgeon (i.e., orthopedic surgeon for isolated orthopedic injuries, neurosurgeon for isolated neurological injuries and general surgeon for all other injuries). Traumatic injury cases exclusively orthopedic in nature may be admitted to the orthopedic surgeon. Excluding patients admitted with the following conditions: • Concussion • Diminished level of consciousness attributed to a non-traumatic cause • Thoracic or lumbar transverse or spinous process fracture • One or two rib fractures • Pneumothorax that does not require a thoracostomy • Isolated pubic ramus fractures

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15. Admission	**15.3**	The hospital must have a policy describing: **15.3.1** The types of trauma patients considered for admission. **15.3.2** The specialists responsible for admitting and providing consults. **15.3.3** The expectations for monitoring patients for deterioration. Elements should include: **15.3.3.1** Fluctuating or increasing heart rate **15.3.3.2** Fluctuating or decreasing blood pressure **15.3.3.3** Fluctuating or worsening level of consciousness or mental status **15.3.3.4** Increasing work of breathing, shortness of breath, or tachypnea **15.3.3.5** Increasing agitation or anxiety **15.3.3.6** Diaphoresis or pallor **15..3.7** Indications for provider notification **15.3.4** The considerations of the admission decisions, in the event of patient deterioration, must include: **15.3.4.1** weather **15.3.4.2** distance **15.3.4.3** transport resource availability **15.3.4.4** timeliness of specialty resources/definitive interventions **15.3.5** The emergent transfer procedures in the inpatient setting.	The following must be submitted with the designation application: • Admission Policy This will be validated through case reviews at site visit.	L3 Admission Policy	Provide education to staff with any trauma policy change. The policy should reflect all provider types involved in the care of the admitted patient. i.e. hospitalists, internal medicine, family medicine, general surgeons, ortho, neuro, etc. Clarify when coverage is provided by APP vs. Physician Cross reference admission and transfer policies to ensure they do not contradict each other. Encourage proactive considerations to limit the number of reactive responses needed. The impact of delays in transfer, or increased time to arrival at definitive care could impact patient outcome and should be considered prior to admission. The goal for patient arrival at definitive care is 120 minutes from the time deterioration is discovered. The inpatient emergent transfer procedures can either be outlined in the admission policy or similar document.

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16. Transfer	**16.1**	The hospital must have a policy directing the internal processes to emergently implement the transfer of a trauma patient from the emergency department or an in-patient area to definitive care that lists: **16.1.1** The anatomic and physiologic criteria that, when present, must result in the decision to transfer. **16.1.2** The orthopedic surgical conditions that, when present, must result in the decision to transfer. The policy must specifically address how time-sensitive orthopedic conditions such as a threatened limb, compartment syndrome, dislocated knee, and dislocated native hip (i.e., not arthroplasty) will be managed while awaiting transport. **16.1.3** The primary ground and aeromedical transfer services to be used, with contact information for each. **16.1.4** A listing of the supplies, records, and personnel accompanying the patient.	The following must be submitted with the designation application: • Trauma Transfer policy This will be validated through case reviews at site visit.	L3 Trauma Transfer policy	Definitive care includes any designated trauma hospital with the resources to treat all injuries the patient has sustained. If all injuries can be definitively managed at this hospital, transfer is not needed. Anatomic criteria refer to specific injuries and injury patterns. Physiologic criteria refer to disturbances in vital signs, such as low GCS, decreasing GCS, or hypothermia.
	16.2	Designated trauma hospitals may not transfer adult or pediatric patients to undesignated hospitals. Exception: Patients may be transferred to a Veterans Administration medical center when medically appropriate.	This will be validated through case reviews at site visit.	Trauma System Hospitals website	

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16. Transfer	**16.3**	The hospital must have transfer agreements with trauma hospitals capable of providing definitive care for trauma patients, including: **16.3.1** At least one agreement with a primary referral hospital **16.3.2** At least two agreements with hospitals capable of caring for burn patients **16.3.3** At least one agreement with a designated Level 1 or Level 2 Pediatric Trauma Hospital	The following must be submitted with the designation application: • Transfer Agreement with primary referral hospital • Transfer Agreement with two hospitals capable of caring for burn patients • Transfer Agreement with Level 1 or Level 2 Pediatric Trauma Hospital	Sample Transfer Agreement	One agreement can fulfill multiple categories. Most transfer agreements renew automatically. If they do not, be sure to update before they expire. Transfer agreements are required, even if the transferring and receiving hospitals are part of the same system. The primary referral hospital may be within the hospital's own health system.
17. General Surgeon Training	**17.1**	General surgeons must have successfully completed ATLS and/or CALS within the last four years. General surgeons must re-take their ATLS or CALS before or during the month in which it is due.	The following must be submitted in designation application: • Clinician Roster • Current ATLS or CALS certification cards	Clinician Roster	Collaborate with the credentialing office. There is no grace period for either ATLS or CALS training. Dates of course completion should be documented on the clinician's roster, not expiration dates. If the general surgeon is using their instructor status to meet this requirement, current instructor status must be validated. This requirement does not apply to those who are called in to assist the attending provider during an unusual and rare event, such as a Mass Casualty Incident (MCI).
18. Emergency Physician Training	**18.1**	If the emergency department physician is currently board-certified or board-eligible with an American Board of Emergency Medicine (ABEM)-approved or American Osteopathic Board of Emergency Medicine (AOBEM) certification, or is board-certified in Pediatric Emergency Medicine by the American Board of Pediatrics, then the physician is required to have successfully completed an ATLS or CALS course once.	The following must be submitted with the designation application: • Clinicians Roster	Clinician Roster	Physicians scheduled to work in the emergency department as a second provider must meet the training requirements of the trauma system. Collaborate with the credentialing office. This requirement does not apply to those who are called in to assist the attending provider during an unusual and rare event, such as an MCI.
	18.2	If the emergency department physician is not board-certified or board-eligible with an ABEM-approved or AOBEM certification, the physician must have successfully completed ATLS and/or CALS the last four years. Emergency physicians must re-take their ATLS or CALS before or during the month in which it is due.	The following must be submitted with the designation application: • Clinicians Roster • Current ATLS or CALS certification cards	Clinician Roster	There is no grace period for either ATLS or CALS training. Collaborate with the credentialing office. Physicians scheduled to work in the emergency department as a second provider must meet the training requirements of the trauma system. This requirement does not apply to those who are called in to assist the attending provider during an unusual and rare event, such as an MCI.

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19. ED Advanced Practice Provider	**19.1**	Emergency department Advanced Practice Providers (APPs) must have successfully completed ATLS and/or CALS within the last four years. Providers must re-take their ATLS or CALS before or during the month in which it is due. Other APPs who respond to the ED may be required to complete ATLS and/or CALS at the discretion of the hospital's trauma leadership.	The following must be submitted with the designation application: • Clinicians Roster • Current ATLS or CALS certification cards	Clinician Roster	If the urgent care is co-located in the emergency department, the APPs must meet this criterion. Other APPs could include general surgery or other subspecialties. Collaborate with the credentialing office. This requirement does not apply to those who are called in to assist the attending provider during an unusual and rare event, such as a Mass Casualty Incident (MCI).
20. Registered Nurse Training	**20.1**	Registered nurses scheduled or expected to cover the emergency department must: **20.1.1** Review the hospital's trauma team activation, trauma admission, and trauma transfer policies **and** **20.1.2** have successfully completed Trauma Nursing Core Course (TNCC), Comprehensive Advanced Life Support (CALS) Provider Course, Advanced Trauma Care for Nurses (ATCN), or in-house training that meets the following objectives: • Identify the common mechanisms of injury associated with blunt and penetrating injuries. • Describe and demonstrate nursing trauma assessment to identify typical injuries associated with common mechanisms of injury • List appropriate interventions for injuries identified in the nursing assessment. • Associate signs and symptoms with physiological changes in the patient. • Describe the ongoing assessment to evaluate the effectiveness of interventions.	The following must be submitted with the designation application: • Attestation • Job description or similar educational requirements document • Training documentation	MDH has created a series of 12 online eLearning modules for hospitals who wish to use them to satisfy part of the required learning objectives. Educational Resources website	Job description or similar educational requirements document should include trauma training requirement and timeline (e.g. required within 12 months of hire). Identify which MDH Modules are required by the hospital. Explain how the hospital trauma team activation, trauma admission, and trauma transfer policies are reviewed as part of this training. This requirement does not apply to those who are called in to assist during an unusual and rare event, such as an MCI.

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20. Registered Nurse Training	**20.2**	If the hospital admits patients to treat an injury or to monitor the patient for deterioration, registered nurses assigned to patient floors where those patients are admitted must **20.2.1** Review the hospital's trauma admission and trauma transfer policies **and** **20.2.2** Have successfully completed Trauma Nursing Core Course (TNCC), Comprehensive Advanced Life Support (CALS) Provider Course, Advanced Trauma Care for Nurses (ATCN), Trauma Care After Resuscitation (TCAR), Course in Advanced Trauma Nursing (CATN), or in-house training relating to the conditions treated or monitored that meets the following objectives: • Identify the common mechanisms of injury associated with blunt and penetrating injuries. • Describe nursing trauma assessment to identify typical injuries associated with common mechanisms of injury • List appropriate interventions for injuries identified in the nursing assessment. • Associate signs and symptoms with physiological changes in the patient. • Describe the ongoing assessment to evaluate the effectiveness of interventions.	The following must be submitted with the designation application: • Attestation • Job description or similar educational requirements document • Training documentation	MDH has created a series of 12 online eLearning modules for hospitals who wish to use them to satisfy part of the required learning objectives. Educational Resources website	Job description or similar educational requirements document should include trauma training requirement and timeline (e.g. required within 12 months of hire). Identify which MDH Modules are required by the hospital. Explain how the hospital trauma admission and trauma transfer policies are reviewed as part of this training. This requirement does not apply to those who are called in to assist during an unusual and rare event, such as an MCI.

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21. PI Process	**21.1**	The performance improvement process must outline (in a written document), the following elements: **21.1.1** Case Finding: the steps to identify cases that meet the trauma registry inclusion criteria **21.1.2** *Primary Review: the process to provide critical nurse level review to identify potential clinical care issues and deviations from standards of care and/or practice **21.1.3** *Secondary Review: the process to provide critical provider level review to identify potential clinical care issues and deviations from standards of care and/or practice **21.1.4** Tertiary Review- **21.1.4.1** Provider Case Review: the established method for a provider level committee case review to identify potential clinical care issues that are identified by trauma program leaders **21.1.4.1.1** Define committee members and attendance expectations/requirements. **21.1.4.1.2** Results of tertiary case reviews that identify opportunities to improve clinical care must be communicated with the medical providers. **21.1.4.2** Multidisciplinary Review: the established method for multidisciplinary committee review to identify potential operational issues that are identified by trauma program leaders **21.1.4.2.1** Define disciplines to be represented and attendance expectations/requirements. **21.1.4.2.2** Meeting minutes must be shared with committee members not in attendance at the meeting.	The following must be submitted with the designation application: • Performance Improvement Process document	L3 PI Process Flowchart Provider Attendance at Tertiary Case Review Meeting Guideline	Primary Review: Outline who will review the TPM's cases Primary Review: If the TPM is not a RN, an RN must assist with the review of the trauma care and function as a liaison between the trauma program and the nursing staff (Criterion 3.2) Secondary Review: Outline who will review the TMD's cases Clearly outline who is responsible for reviewing each level of care (including EMS, Inpatient, etc.) Tertiary Case Review committee: Define which providers and other staff are expected and/or required to participate

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources/Sample Documents	Helpful Tips
21. PI Process	**21.1** Con't	**21.1.5** Trauma Registry: the established steps for data entry into the trauma registry **21.1.6** Performance Improvement: the method to identify and document performance related issues and steps for improvement. **21.1.7** Performance Metrics: identify where and how state and/or local metrics are monitored and tracked. * The scope of case primary and secondary review includes care provided in the prehospital setting, emergency department, in-patient units, and all areas and departments of the hospital that provide or affect trauma care, as well as performance related information from a receiving hospital about transferred patients.			
	21.2	The performance improvement process must demonstrate the following elements: **21.2.1** Case Finding: **21.2.1.1** must occur, within three weeks of patients' discharge **21.2.1.2** identify trauma cases that meet the trauma registry inclusion criteria **21.2.2** Primary Review: **21.2.2.1** must occur within three weeks of patients' discharge. **21.2.2.2** identify potential clinical care issues and care issues that are inconsistent with Trauma Standards of Care (e.g. Comprehensive Advanced Life Support [CALS], Trauma Nursing Core Course [TNCC] and Rural Trauma Team Development Course [RTTDC] principles). **21.2.2.3** the scope of case review includes care provided in the pre-hospital setting, emergency department, in-patient units, and all areas and departments of the hospital that provide or affect trauma care, as well as performance related information from a receiving hospital about transferred patients.	Validated through case reviews and review of PI documents at site visit.	Registry inclusion criteria Trauma PI - Case Review Guide Standards of Care document L3 In-patient Review form Tertiary Meeting resources: - Provider Case Review Attendance Spreadsheet - Provider Case Review Meeting Minutes - Multidisciplinary Attendance Spreadsheet - Multidisciplinary Meeting Minutes	Timely (concurrent) primary and secondary review yields the most effective PI results All medical providers include any provider who may give care to an injured patient in the emergency department (21.2.4.3) • ED physicians • ED APPs • General surgeons • Surgical APPs • Other facility specific providers who respond to the ED for trauma care Learnings can be shared in a variety of forms including but not limited to meeting minutes, newsletter, feedback document, and/or case review summary (21.2.4.3) Investigative follow up, from primary and secondary review, should be included in PI documentation (21.2.5.2) Tertiary Level Provider Case Review meeting attendance: formal leave of absences are allowed, document on attendance sheet (military or medical leave) Document evidence of event identification, effective use of audit filters, demonstrated loop closure, attempts at corrective actions and strategies for sustained improvement measured over time (21.2.6)

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources/Sample Documents	Helpful Tips
21. PI Process	**21.2** Con't	**21.2.3** Secondary Review (if required): **21.2.3.1** must occur within six weeks of patients' discharge **21.2.3.2** identify potential clinical care issues and care issues that are inconsistent with Trauma Standards of Care (e.g. Advanced Trauma Life Support [ATLS], Comprehensive Advanced Life Support [CALS], and Rural Trauma Team Development Course [RTTDC] principles). **21.2.3.3** the scope of case review includes care provided in the pre-hospital setting, emergency department, in-patient units, and all areas and departments of the hospital that provide or affect trauma care, as well as performance related information from a receiving hospital about transferred patients. **21.2.4** Tertiary Review (if required): Provider Case Review **21.2.4.1** Provider case review is to be facilitated by the trauma medical director (TMD)/Co-TMD. **21.2.4.2** Learnings from provider case review must be provided to medical providers who are not in attendance at the meeting. Multidisciplinary Review **21.2.4.3** Meeting minutes must be shared with committee members not in attendance at the meeting. **21.2.5** Performance Improvement documentation will include: **21.2.5.1** Evaluation of performance measures **21.2.5.2** Findings from all levels of case reviews **21.2.5.3** Actions undertaken to correct clinical care and process issues identified during case reviews **21.2.5.4** Appropriate steps towards improvement or resolution of identified issues **21.2.6** Demonstrate resolution of at least two clinical care or care process issues			

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21. PI Process	**21.3**	The hospital must establish and monitor performance improvement filters that include: **21.3.1** Case category: TTA, Transfer, Admit, Death **21.3.2** Delay in decision to transfer (>30 min) once the immediate transfer criteria/policy is met **21.3.3** Patient met transfer conditions and admitted locally **21.3.4** Admitted and then transferred **21.3.5** Delays in care **21.3.6** Deviation from Practice Management Guidelines **21.3.7** At least one hospital-specific filters that focuses on improving clinical care or care process General surgeon non-compliance with response time and communication requirements: **21.3.8** Tier-1 TTA & general surgeon did not promptly communicate with ED provider (phone or in-person) **21.3.9** Tier-1 TTA & general surgeon promptly communicated with ED provider & did not document in the medical record. **21.3.10** General surgeon did not respond within 60 minutes when requested. **21.3.11** Trauma patient admitted to a non-surgeon without surgeon consult **21.3.12** General surgeon did not arrive at bedside within 18 hours	The following must be submitted in the designation application: • Performance Improvement filters	L3 PI Filter worksheet PI Filter Examples	Any filter that yields a “yes” answer, requires further investigation. If trauma leadership identifies trends with the monitored filters, consider implementing formal PI project. Any deviation from hospital trauma policies (TTA, Transfer, Admission) should undergo PI review. Any deviation in standards of care should lead to further PI review. General surgeon responses include Tier-One TTA, ED, Table 3, etc. (21.3.10) Any patient being taken from the ED to the OR will be considered an admission

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources/Sample Documents	Helpful Tips
21. PI Process	**21.4**	The Emergency Department must **21.4.1** Perform a Pediatric Readiness Assessment within one year of designation expiration **21.4.2** Have a plan to address at least one of the identified gaps **21.4.3** Identify a pediatric point of contact	The following must be submitted with the designation application: • Pediatric Readiness Assessment Score • Pediatric point of contact name and email Validated through PI discussion at site visit	Resources to address deficiencies: https://emscimprovement.center/domains/pediatric-readiness-project/readiness-toolkit/ Pediatric readiness assessment: https://www.pedsready.org/	Incorporate findings into PI process. Pediatric point of contact is a person to receive communication related to pediatric care. "Pediatric Readiness" refers to infrastructure, administration and coordination of care, personnel, pediatric-specific policies, equipment, and other resources that ensure the hospital is prepared to provide care to the injured child.
22. Performance Improvement (PI) Measures	**22.1**	The following performance thresholds must be maintained or exceeded: **22.1.1** Trauma team activated when criteria met: 80% **22.1.2** ED provider and general surgeon promptly communicate: 90% **22.1.3** Surgeon response time when requested within 60 minutes: 90% **22.1.4** Patient admitted with a Table 3 condition and/or when a patient exceeds admission criteria and received a consult/evaluation by a surgeon within 18 hours: 100% **22.1.5** Trauma patients admitted to or consulted by a surgeon (all patients) within 18 hours: 70% **22.1.6** At least one hospital-specific measure that focuses on improving clinical care and meeting the hospital's set goal	The following must be submitted in the designation application: • L3 PI Measures spreadsheet or similar document that includes required performance measures (submit previous full calendar year and current year to date data) Validated through case reviews at site visit	L3 PI Measures spreadsheet Criterion 15.1	Previous 12 months of data are typically requested with the application, however additional months may be requested. For each measure, provide the monthly raw data, including the numerator and denominator. The hospital must submit documentation of PI for any metric that is below goal to demonstrate activities to improve the measure. The general surgeon or their appointed advanced practice provider must respond to the hospital and assess the patient within 18 hours of discovery.

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources/Sample Documents	Helpful Tips
23. Tertiary Level Provider Case Review	**23.1**	The hospital must establish a mechanism by which all physicians and advance practice providers that care for trauma patients review cases identified by the trauma program leaders in a committee format to identify opportunities to improve trauma care and prescribe remedies	The following must be submitted in designation application: • Attestation • PI Policy (and Flowchart, if applicable) • Tertiary Level Provider Case Review meeting minutes • Attendance tracking spreadsheet	Provider Attendance at Tertiary Case Review Meeting Guideline Trauma - PI Case Review Guide Provider Case Meeting Minutes Provider Case Review Attendance spreadsheet	The Clinician Roster is used to cross reference the provider list/attendance tracking. The TMD should facilitate case review discussions to align with leadership expectations (2.1) The minimum number of meetings expected is four per year or quarterly. This should be increased as needed to meet the needs of the facility.
	23.2	General surgeons, general surgical advance practice providers involved in trauma care, emergency department physicians and emergency department advance practice providers on staff must attend a minimum of 50% of the scheduled meetings. **23.2.1** If liaisons attend as a representative of their disciplines, other members of the discipline must attend a minimum of 50% of their disciplines' case review meetings	The following must be submitted in designation application: • PI Policy (and Flowchart, if applicable) • Tertiary Level Provider Case Review meeting minutes • Attendance tracking spreadsheet	Provider Attendance at Tertiary Case Review Meeting Guideline Trauma - PI Case Review Guide Provider Case Meeting Minutes Provider Case Review Attendance spreadsheet	The Clinician Roster is used to cross reference the provider list/attendance tracking. The PI policy should clearly outline the expectations for engagement at Tertiary Case Review meetings (Provider Case Review and Multidisciplinary Review) for providers who cover frequently and infrequently. Refer to Provider Attendance at Tertiary Case Review Meeting Guideline for attendance expectations. Attendance of hospital system wide meetings will only be counted if the individual hospital's cases are discussed. If a liaison attends case review meetings as a representative of their discipline, the remaining members from that discipline are still required to attend 50% of their own disciplines' case review meetings. • The liaison will discuss the case with their colleagues. • Meeting minutes and attendance should be maintained for the specific disciplines' meetings.

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources/Sample Documents	Helpful Tips
24. Tertiary Level Multidisciplinary Review	**24.1**	The hospital must establish a mechanism through which clinical disciplines involved in trauma care review operations and opportunities for improvement as identified by trauma program leadership. The concerns should be discussed within a structured committee format to formulate remedies.	The following must be submitted with the designation application: • Attestation • PI Policy (and Flowchart, if applicable) • Tertiary Level Multidisciplinary Review meeting minutes • Attendance tracking spreadsheet Validated through case reviews and PI discussion at site visit	Provider Attendance at Tertiary Case Review Meeting Guideline Multidisciplinary Meeting Minutes Multidisciplinary Attendance Spreadsheet	This is usually outlined in the PI policy/PI flowchart. The TMD should facilitate tertiary level reviews to align with leadership expectations (2.1) Incorporating a case review may be beneficial to draw on the diverse perspectives of all members involved in trauma care.
	24.2	The following disciplines must be represented, and participate at 75% in multidisciplinary review: **24.2.1** emergency medicine **24.2.2** general surgery **24.2.3** orthopedic surgery **24.2.4** neurosurgery **24.2.5** radiology **24.2.6** laboratory **24.2.7** blood bank **24.2.8** critical care **24.2.9** When required by the trauma program manager and/or the trauma medical director, representatives from other surgical subspecialties, anesthesia, administration, nursing, emergency medical services and ancillary service personnel must also attend.	The following must be submitted with the designation application: • Attendance tracking spreadsheet Validated through case reviews and PI discussion at site visit	Provider Attendance at Tertiary Case Review Meeting Guideline Multidisciplinary Meeting Minutes Multidisciplinary Attendance Spreadsheet	At least one representative of each discipline/department of the Tertiary Level Multidisciplinary Review. • The goal is to always have a representative at each meeting. • Individual department representatives can vary from meeting to meeting. • If the hospital does not have in-house neurosurgery services or orthopedic services, they are not required to attend. Tracking spreadsheet must include department represented. The minimum number of meetings expected is four per year or quarterly. This should be increased as needed to meet the needs of the facility.

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources/Sample Documents	Helpful Tips
25. Diversion	**25.1**	The hospital must establish a policy that: **25.1.1** Identifies the circumstances that may require trauma patients to be diverted to another hospital. **25.1.2** Lists the hospital personnel responsible for the decision to divert trauma patients. **25.1.3** Establishes the procedure to notify hospital departments, EMS agencies and other area hospitals of the need to divert trauma patients and when the need to divert patients has ended.	The following must be submitted with the designation application: • Diversion policy		
	25.2	Instances in which the hospital implements divert status must be reviewed through the trauma performance improvement process.	The following must be submitted in designation application: • Attestation	MNTrac report Criterion 24.1	Diversions should be filtered through the PI process and reflected in the PI policy. This must be discussed at the Tertiary Level Multidisciplinary Review Committee, preferably through a standing agenda item.
26. Trauma Registry	**26.1**	The hospital must submit data as defined by the State Trauma Advisory Council within 60 days of the patients' discharge or transfer.	Validated through review of registry data	Registry Inclusion Criteria	Confirm validation scores are within acceptable range.
	26.2	Data imported from other sources must be submitted in a manner and format that is acceptable to MDH.	Validated through review of registry data	ImageTrend Data Schema	If trauma data uploaded from third party registry, cases need to be uploaded to MNTrauma registry within 60 days of patient discharge.
27. Regional Trauma	**27.1**	The hospital must actively participate in at least one Minnesota regional trauma advisory committee (RTAC) or subcommittee of a Minnesota RTAC. Active participation is defined as attending at least 50% of the scheduled meetings	The following must be submitted with the designation application: • Attestation	Regional Trauma Advisory Committee website	
28. Injury Prevention	**28.1**	The hospital must participate in community injury prevention activities	The following must be submitted with the designation application: • Attestation This will be validated at site visit	Site Visit Presentation Template (Injury Prevention slide)	

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources/Sample Documents	Helpful Tips .
29. Required Equipment	**29.1**	Emergency Department • Airway control and ventilation equipment • Arterial tourniquet • Pulse oximetry • Suction devices and supplies • EKG monitor and defibrillator • Crystalloid IV fluids and administration set • IV catheters from 14-22 Ga. • Drugs necessary for emergency trauma care • Nasal gastric & oral gastric tubes • Cervical collars • Pediatric length-based resuscitation tape or reference manual • Blanket warmer or overhead radiant heater • Warming cabinet for IV fluids or inline IV fluid warmer • Rapid IV fluid infuser system (may use pressure bag) • Quantitative end-tidal CO2 • Method to communicate with EMS • Mechanism for IV flow-rate control • Intraosseous needles and administration sets • Supplies for surgical airway & thoracostomy • Mechanism for pelvic stabilization	The following must be submitted with the designation application: • Required Equipment Checklist and Attestation form Validated during tour at site visit	Required Equipment Checklist and Attestation form	For pediatric sizes, ensure that there is at least one size for each age/size category of the length-based resuscitation tape or reference manual. Ensure that all resources (i.e. pediatric tape) are the most current.
	29.2	Imaging Department • Airway control and ventilation equipment • Suction device and suction supplies	The following must be submitted with the designation application: • Required Equipment Checklist and Attestation form Validated during tour at site visit	Required Equipment Checklist and Attestation form	
	29.3	Operating Room • Blanket warmer or other mechanism for thermoregulation • Warming cabinet for IV fluids or inline IV fluid warmer • X-ray capabilities including C-arm intensifier • Rapid infuser system (may use pressure bag)	The following must be submitted with the designation application: • Required Equipment Checklist and Attestation form Validated during tour at site visit	Required Equipment Checklist and Attestation form	

Section		LEVEL 3 CRITERIA	Measure of Compliance/ Validation	Resources/Sample Documents	Helpful Tips
29. Required Equipment	**29.4**	Post-Anesthesia Recovery • Equipment for monitoring and resuscitation • Pulse oximetry • Blanket warmer or other mechanism for thermoregulation • Warming cabinet for IV fluids or inline IV fluid warmer	The following must be submitted with the designation application: • Required Equipment Checklist and Attestation form Validated during tour at site visit	Required Equipment Checklist and Attestation form	
	29.5	Intensive Care Unit • Equipment for monitoring and resuscitation • Ventilator (transport ventilator is not sufficient)	The following must be submitted with the designation application: • Required Equipment Checklist and Attestation form Validated during tour at site visit	Required Equipment Checklist and Attestation form	If the hospital admits injured pediatric patients, appropriate equipment should be available in the in-patient unit. Equipment for monitoring and resuscitating the trauma patient should be available on any unit in which these patients may be admitted.
	29.6	In-patient Unit • Equipment for monitoring and resuscitation	The following must be submitted with the designation application: • Required Equipment Checklist and Attestation form Validated during tour at site visit	Required Equipment Checklist and Attestation form	If the hospital admits injured pediatric patients, appropriate equipment should be available in the in-patient unit. Equipment for monitoring and resuscitating the trauma patient should be available on any unit in which these patients may be admitted.