Virginia Office of Emergency Medical Services
Trauma Center Designation Application Checklist
Effective Date: January 1, 2013

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PREFACE

The purpose of the Trauma Center Designation Application Checklist is provide a means for hospitals applying for trauma center designation or trauma centers applying for trauma center designation verification to certify that the hospital/trauma center meets all applicable designation criteria for the level of designation being applied for.

One checklist is used for all levels of trauma center designation. Persons completing the Trauma Center Designation should check off each criterion that their facility meets. Particular attention should be given to the minimum criteria required for the level of designation being sought. Since the trauma designation criteria are designed to set a minimum standard, any criteria above those minimum criteria for the level of designation being applied for should also be checked. For example, if a level III center is involved in research, a check should be place in the box next to research even though this is only a level I requirement.

Please direct questions or requests for further information or resources to the Virginia Department of Health's (VDH), Office of Emergency Medical Services (OEMS) Trauma/Critical Care Coordinator, 1041 Technology Park Drive, Glen Allen, Virginia 23059 or (804) 888-9100.

TRAUMA CENTER CHECKLIST

Name of Hospital: [_____]

Level of Designation Being Applied For

Level I: ☐
Level IB: ☐
Level II: ☐
Level III: ☐

Name of Person Completing Checklist: [_____]

Person Completing Checklist Title: [_____]

Contact Information

E-mail address: [_____]

Telephone Number: [_____]

Mailing Address

Street: [_____]

Street 2: [_____]

City: [_____]

State: [_____]

Zip Code: [_____]

The items listed below as "E," are essential items (required) in order to maintain the respective level (I, IB, II, or III) trauma or trauma/burn center designation. Those items listed with an "O" are items that are considered optimal and are recommended but not required. If an applicant cannot check that a criterion required for the level of designation being applied for is being met it is highly recommended that an explanation be submitted with the hospital's/center's application.

Level:	I	IB	II	III	Check
Article I. Institutional Organization					
Section 1.01 Trauma Program:					
(a) Mission statement emphasizing continuous PI in the management of the trauma patient. (Additional information within the interpretive guidelines)	E	E	E	E	☐
(b) A recognizable program within the hospital which has a surgeon as its director/coordinator/physician in charge. (Additional information within the interpretive guidelines)	E	E	E	E	☐
(c) Support of the facility's Board of Directors. (The Board of Directors	E	E	E	E	

Level:	I	IB	II	III	Check
should be notified of applications for trauma designation, verification and approval of the Commissioner of Health after a site review). (Additional information within the interpretive guidelines)					☐
(d) Administration must be supportive of the trauma program. (Additional information within the interpretive guidelines)	E	E	E	E	☐
(e) Evidence of an annual budget for trauma program. (Additional information within the interpretive guidelines)	E	E	E	E	☐
Section 1.02 Burn Program:					
(a) The program must have medical and administrative commitment to the care of patients with burns. This is demonstrated by administrative leadership and financial support for personnel to maintain the elements as outlined below. (Additional information within the interpretive guidelines)	O	E	-	-	☐
(b) The program must formally establish and maintain an organized burn program that is responsible for coordinating the care of burn patients.	O	E	-	-	☐
(c) The burn program must maintain an organizational chart relating personnel within the burn program and hospital.	O	E	-	-	☐
(d) The burn program must be integrated into the trauma program at a state designated/verified Level I trauma center.	O	E	-	-	
(e) All essential elements of a burn program and burn unit must be present.	O	E	-	-	☐
(f) The burn program must admit an average of 50 or more burn patients annually with acute burn injuries averaged over three years.	O	E	-	-	☐
(g) The burn program must maintain a policy and procedural manual that is reviewed annually by the Burn Medical Director and Burn Program Manager/Coordinator. Policies and procedures will include the following: (i) Administration of the burn program (ii) Staffing on the burn unit (iii) Criteria for admission to the burn unit by the burn program (iv) Use of burn unit beds by other medical and surgical services (v) Use of "tanking" and dressing facilities by non-burn program physicians (vi) Pediatric and adult conscious sedation procedures (vii) Criteria for admission, discharge and follow-up care (viii) Availability of beds and transfer of burn patients to other medical surgical units within the hospital (ix) Care of patients with burns in areas of the hospital other than the burn unit	O	E	-		☐
Section 1.03 The trauma/burn center must avoid diverting burn patients except for rare instances such as loss of power, etc. This includes patients arriving by EMS and from referral hospitals within the region.	-	E	-	-	☐
Section 1.04 Program Leadership:					
(a) **Trauma Medical Director:** (Additional information within the interpretive guidelines)					

	Level:	I	IB	II	III	Check
(i)	The TMD must be a board certified/eligible general surgeon. An emergency medicine physician may serve as a Co-Director.	E	E	E	E	☐
(ii)	The TMD must have a minimum of three years experience with a trauma program or be trauma fellowship trained.	E	E	O	O	☐
(iii)	The TMD must participate in regional and national trauma organizations.	E	E	O	O	☐
(iv)	The TMD must be involved in trauma research, which includes the need to create a publication of results and presentations.	E	E	O	O	☐
(v)	The TMD must be actively involved in providing care to patients with life threatening or urgent injuries to discharge.	E	E	E	E	☐
(vi)	The TMD must oversee all aspects of multidisciplinary care from the time of injury to discharge.	E	E	E	E	☐
(vii)	The TMD must maintain current ATLS provider or instructor certification.	E	E	E	E	☐
(viii)	The TMD will have 30 hours of Category I trauma/critical care CMEs every three years and attend one national meeting whose focus is trauma or critical care.	E	E	E	O	☐
(ix)	The TMD will have 30 hours of Category I trauma/critical care CMEs every three years and/or attend one national meeting whose focus is trauma or critical care.	-	-	-	E	☐
(x)	The TMD may attend more than one national meeting over three year period.	O	O	O	O	☐
(xi)	Each surgeon, emergency physician, nurse practitioner or physician's assistant participating/taking call in the program or could possibly be caring for trauma alert patients in the ED must complete 30 Category I CMEs in trauma/critical care across the three year verification period or 20 CMEs across the two year designation period. Updating ATLS may be included in these CMEs. (Additional information within the interpretive guidelines) OR The TMD will provide an annual meeting and/or a self learning packet/web based learning program. All of the following shall receive this training: • All full and part time surgeons taking trauma call • The TPD/TPM/TNC • Nurse practitioners and physicians assistants affiliated with the trauma program • All full and part time ED physicians who may be caring for trauma alert patients in the ED • All nurse practitioners and physicians assistants who may be caring for trauma alert patients in the emergency department. The TMD will provide the following updates during this meeting:	E	E	E	E	☐

Level:	I	IB	II	III	Check
• Highlights from national meetings and other continuing education to include a discussion of any changes applicable to the current guidelines and practice. • A review, including updated information from ATLS. (Additional information within the interpretive guidelines)					
Section 1.05 Burn Medical Director:					
(a) The Burn Medical Director must be a licensed physician with board certification(s) by the American Board of Surgery or the American Board of Plastic Surgery.	-	E	-	-	☐
(b) The Burn Medical Director must have completed a one-year fellowship in burn treatment or must have experience in the care of patients with acute burn injuries for two or more years during the previous five years at an ACS or VDH verified designated Level I trauma center.	-	E	-	-	☐
(c) The Burn Medical Director must be granted the necessary authority to direct and coordinate all care for patients admitted to the burn program.	-	E	-	-	☐
(d) The Burn Medical Director must be the physician of record or overseeing the outcomes of all surgeons within the program, 50 or more burn patients annually or one third of the burn patients admitted annually, averaged over a three year period.	-	E	-	-	☐
(e) The Burn Medical Director must participate in CME of burn related education at a minimum of 30 hours or more averaged over a three year period and attend one national/regional meeting.	-	E	-	-	☐
(f) Burn Medical Director must demonstrate ongoing involvement in burn related research and/or community education burn care and/or prevention.	-	O	-	-	☐
Section 1.06 Trauma Program Director/Manager/Nurse Coordinator: (Additional information within the interpretive guidelines)					
(a) The TPD/TPM/TNC must be a dedicated full time equivalent (FTE).	E	E	E	E	☐
(b) The TPD/TPM/TNC must have overall management responsibilities for the trauma program.	E	E	E	E	☐
(c) There must be a defined job description delineating the TPD/TPM/TNC role and responsibilities. The TPD/TPM/TNC must be reflected in the hospitals organizational chart.	E	E	E	E	☐
(d) The TPD/TPM/TNC must be a RN.	E	E	E	E	☐
(e) The TPD/TPM/TNC, in addition to being a RN, must possess experience in emergency/critical care nursing.	E	E	E	O	☐
(f) The TPD/TPM/TNC must obtain 30 TEH per three year verification cycle of which 50% must be via an extramural source. This may be prorated by the State Trauma Coordinator for new hires or shorter periods of time due to extenuating circumstances.	E	E	E	E	☐
(g) The TPD/TPM/TNC will attend one national or international meeting within the three year verification or designation period.	E	E	E	E	☐
Section 1.07 Burn Manager/Coordinator:					

	Level:	I	IB	II	III	Check
(a)	There must be one RN with a baccalaureate or higher degree that has two more years of experience in acute burn care and serves the function of the burn program Manager/Coordinator. This manager/coordinator will work closely with the Burn Medical Director to develop policies and procedures, PI program for the program. The nurse manager may have other administrative duties within the medical center, but should commit at least 25% of his or her FTE for every 150 inpatient admissions to the burn program.	-	E	-	-	☐
(b)	The Burn Manager/Coordinator must participate in eight or more hours of burn related education annually or 24 hours averaged over a three year period.	-	E	-	-	☐
Section 1.08 The primary burn therapist must have eight hours or more of a burn related education annually or 24 hours averaged over a three year period.		-	E	-	-	☐
Section 1.09 Trauma Registrar: (Additional information within the interpretive guidelines)						
(a)	Must be a minimum of one full FTE dedicated to the trauma registry.	E	E	E	-	☐
(b)	A minimum of a 0.5 FTE must be fully dedicated to the trauma registrar position. Note: See the "Trauma Registrar" description in the Administrative Guidelines for job description information.	-	-	-	E	☐
(c)	Trauma registrars must obtain 24 TEH per three year verification cycle, of which 50 percent must be from an extramural source.	E	E	E	E	☐
Section 1.10 Trauma Team/Trauma Team Response: (Additional information within the interpretive guidelines)						
(a)	There must be a clearly delineated trauma team response to the arrival of the patient with suspected or known major trauma in the ED 24 hours per day.	E	E	E	E	☐
(b)	**Trauma Surgeon:**					
(i)	A trauma surgeon must meet the patient in the ED upon arrival. A PGY4 or PGY5 general surgery resident capable of assessing emergent situations, providing control and leadership of the care of the trauma patient may meet this requirement. In the event that this requirement is provided by a resident, the trauma surgeon must be available in a timely manner.	E	E	E	O	☐
(ii)	The emergency physician is a designated member of the trauma team and may direct resuscitation and care of the patient until the arrival of the trauma team leader. A senior level emergency medicine resident may fulfill this function provided there is an attending emergency medicine physician present in the ED.	E	E	E	E	☐
(iii)	Trauma/general surgeons participating in the trauma program and taking active call must be dedicated to the hospital while on trauma call and show active participation in the trauma program.	E	E	E	E	☐
(iv)	Trauma/general surgeons participating in the trauma program and taking active call must have completed ATLS, successfully, at least once in the past.	E	E	E	E	☐

Level:	I	IB	II	III	Check
(c) Minimum Physician Coverage:					
(i) A minimum of two attending level physicians must be present for the arrival of full trauma team alert patients. These physicians must be an anesthesiologist, ED physician, or general surgeon. A qualified general surgeon is expected to participate in major therapeutic decisions and be present in the ED for major resuscitations and at operative procedures on all seriously injured patients.	E	E	E	O	☐
(ii) A minimum of one attending level physician must be present for the arrival of trauma team alert patients. This physician must have the capability to manage the initial care of the majority of injured patients and have the ability to transfer patients that exceed their resources to an appropriate level trauma center.	-	-	-	E	☐
(d) Anesthesiology:					
(i) There must be an anesthesiologist in the hospital 24 hours a day (refer to Section 2.04).	E	E	O	O	☐
(ii) Anesthesiology must be on call and readily available 24 hours a day (refer to Section 2.04).	-	-	E	E	☐
(iii) Anesthesiologist must be present for all emergent operative procedures on major trauma patients (refer to Section 2.04).	E	E	E	E	☐
(e) Trauma Related Surgical Specialties (as listed in Section 2.05):					
(i) Promptly available as needed.	E	E	E	E	☐
Article II. Hospital Departments/Divisions/Sections					
Section 2.01 General Surgery:					
(a) There must be in hospital clinical capabilities in general surgery with two separate posted call schedules 24 hours per day. One for trauma, one for general surgery. In those instances where a physician may simultaneously be listed on both schedules, there must be a defined back-up surgeon listed on the schedule to allow the trauma surgeon to provide care for the trauma patient. The TMD shall specify, in writing, the specific credentials that each back-up surgeon must have. These, at a minimum, must state that the back-up surgeon has surgical privileges at the trauma center and is boarded or eligible in general surgery (with board certification in general surgery within five years of completing residency). A PGY4 or PGY5 capable of assessing emergent situations in their respective specialties may fulfill this requirement. They must be capable of providing surgical treatment immediately and provide control and leadership of the care of the trauma patient.	E	E	O	O	☐

	Level:	I	IB	II	III	Check
(b)	The hospital must have clinical capabilities in general surgery with two separate posted call schedules 24 hours per day. One for trauma, one for general surgery. In those instances where a physician may simultaneously be listed on both schedules, there must be a defined back-up surgeon listed on the schedule to allow the trauma surgeon to provide care for the trauma patient. The TMD shall specify, in writing, the specific credentials that each back-up surgeon must have. These, at a minimum, must state that the back-up surgeon has surgical privileges at the trauma center and is boarded or eligible in general surgery (with board certification in general surgery within five years of completing residency). Trauma surgeon or PGY4/ PGY5 capable of assessing emergent situations in their respective specialties may fulfill this requirement. They must be capable of providing surgical treatment immediately and provide control and leadership of the care of the trauma patient.	-	E	E	E	☐
(c)	When the trauma surgeon is not in house, the trauma surgeon should be present in the ED at the time of arrival of the patient. When sufficient prior notification has not been possible, an ED physician will immediately initiate the evaluation and resuscitation. Definitive surgical care must be instituted by the trauma surgeon in a timely fashion.	-	E	E	E	☐
(d)	The hospital shall establish a policy detailing the expected amount of time for the trauma surgeon to arrive from first identification of a possible trauma patient to arrival at the bedside when Section 2.01 (a) and (b) cannot be met. This time shall not exceed 30 minutes. Selection of the interval will be based on patient outcome data.	E	E	E	E	☐
Section 2.02 Neurological Surgery:						
(a)	An attending neurosurgeon must be promptly available. The in-house requirement may be fulfilled by an in-house neurosurgery resident, or a surgeon/designee who has special competence, as judged by the Chief of Neurosurgery, in the care of patients with neural trauma, and who is capable of initiating diagnostic procedures.	E	E	O	O	☐
(b)	If a neurosurgeon is responsible for more than one hospital at the same time, they must have a backup schedule.	-	-	E	O	☐
(c)	If an attending neurosurgeon is not dedicated to the Level II trauma center, the center must have a backup call list **OR** the center must demonstrate no more than 24 emergency neurosurgical procedures per year AND the center must provide a neuro-trauma diversion plan.	-	-	E	-	☐
Section 2.03 Emergency Medicine:						
(a)	The ED physician must be a recognized member of the trauma team and be represented on the facilities trauma committee.	E	E	E	E	☐
(b)	The Emergency Medical Director or their designee will have 30 hours of Category I CME every three years and attend one national meeting with some content in trauma or critical care.	E	E	E	E	☐

Level:	I	IB	II	III	Check
(c) The Emergency Medical Director or designee will maintain a current ATLS instructor or participant certification.	E	E	E	E	☐
Section 2.04 Anesthesiology:					
(a) Anesthesiologist in hospital 24 hours a day. (Requirements may be filled by anesthesia residents; CRNAs capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including major vascular, neurosurgical, pediatric, orthopedic, thoracic, ENT, and other in-house surgical cases. If residents or CRNAs are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring is essential).	E	E	O	O	☐
(b) Anesthesiology. Anesthesia personnel need not be in house 24 hours a day, but the trauma program should ensure that anesthesia personnel can be present in the emergency room at the time of arrival of the trauma alert patient. When sufficient prior notification has not been made possible, a designated member of the trauma team will immediately initiate the evaluation and resuscitation. Requirements must be filled by anesthesia personnel capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including major vascular, neurosurgical, pediatric, orthopedic, thoracic, ear, nose and throat (ENT), and other in-house surgical sub-specialties involved in trauma cases. If residents or certified registered nurse anesthetists are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring are essential.	-	-	E	O	☐
(c) Anesthesiologist must be on-call and promptly available from in or out of the hospital. Requirements must be filled by anesthesia personnel capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including: major vascular, neurosurgical, pediatric, orthopedic, thoracic, ENT, and other in-house surgical sub-specialties involved in trauma cases. If residents or CRNAs are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring is essential.	-	-	-	E	☐
Section 2.05 Additional Clinical Capabilities: On call and promptly available. (Additional information within the interpretive guidelines)					
(a) **Surgical:**					
(i) Cardiac surgery	E	E	O	O	☐
(ii) Thoracic surgery	E	E	E	O	☐
(iii) Orthopedic surgery	E	E	E	E	☐
(iv) Pediatric surgery	E	E	O	O	☐
(v) Hand surgery	E	E	O	O	☐

Level:	I	IB	II	III	Check
(vi) Microvascular/replant surgery	E	E	O	-	☐
(vii) Plastic surgery	E	E	E	O	☐
(viii) Maxillofacial surgery	E	E	E	O	☐
(ix) Ear, nose and throat surgery	E	E	E	O	☐
(x) Oral surgery	E	E	O	O	☐
(xi) Ophthalmic surgery	E	E	E	O	☐
(xii) Gynecological surgery/obstetrical surgery	E	E	E	O	☐
(xiii) Urology	-	E	-	-	☐
(b) **Non-surgical: (**On call and promptly available**)**					
(i) Cardiology	E	E	E	O	☐
(ii) Pulmonology	E	E	O	O	☐
(iii) Gastroenterology	E	E	O	O	☐
(iv) Hematology	E	E	O	O	☐
(v) Infectious Disease	E	E	O	O	☐
(vi) Internal medicine	E	E	E	E	☐
(vii) Nephrology	E	E	O	O	☐
(viii) Neurology	O	E	O	O	☐
(ix) Pathology	E	E	E	E	☐
(x) Pediatrics	E	E	O	O	☐
(xi) Psychiatry	0	E	O	O	☐
(xii) Radiology	E	E	E	E	☐
(xiii) Interventional Radiology	E	E	E	O	☐
Section 2.06 A department of social services consultation must be available to the burn program.	-	E	-	-	☐
Section 2.07 There must be access to rehabilitation services capable of managing burn patients.	-	E	-	-	☐
Article III. Clinical Qualifications					
Section 3.01 General/Trauma Surgeons:					
(a) Board certified/eligible in general surgery.	E	E	E	E	☐
(b) Must meet the educational requirements in Section 1.04 (a) (xi).	E	E	E	E	☐
(c) Successful ATLS course completion at least once.	E	E	E	E	☐
Section 3.02 Burn Surgeons:					
(a) There must be at least one FTE attending burn surgeon staff involved in the management of burn patients for each 200 acute inpatients admitted annually.	-	E	-	-	☐
(b) The Burn Medical Director may appoint a qualified attending burn surgeon to participate in the care of the patients on the burn program.	-	E	-	-	☐
(c) Attending staff burn surgeons must be board certified or eligible in general or plastic surgery.	-	E	-	-	☐
(d) Attending staff burn surgeons must have completed a one-year fellowship in burn treatment or must have experience in the care patients with acute burn injuries for two or more years during a previous five years at a designated Level I trauma center.	-	E	-	-	☐

Level:	I	IB	II	III	Check
(e) Attending staff burn surgeons must participate in CME of burn related education at a minimum of 30 hours or more averaged over a three year period.	-	E	-	-	☐
(f) Attending staff burn surgeons must direct the total care of at least 20% or more of acutely burned patients annually admitted to the burn program averaged over a three year period.	-	O	-	-	☐
(g) Privileges for physicians participating in the burn program must be determined by the medical staff credentialing process and approved by the Burn Medical Director.	-	E	-	-	☐
(h) The burn program must maintain an on-call schedule for residents and attending staff burn surgeons available to the burn program. Residents and staff surgeons must be primarily available 24 hour basis.	-	E	-	-	☐
(i) If residents rotate on the burn program, the Burn Medical Director, or his or her designee, must be responsible for an orientation program for new residents.	-	E	-	-	☐
Section 3.03 Emergency Medicine:					
(a) Board certified/eligible in emergency medicine (exceptions may be made in rare instances based upon long term practice in emergency medicine.)	E	E	E	E	☐
(b) Must meet the educational requirements in Section 1.04(a)(xi).	E	E	E	E	☐
(c) ED physicians must maintain current ATLS, **if not** boarded in emergency medicine.	E	E	E	E	☐
Section 3.04 Neurosurgery:					
(a) Neurosurgeons performing trauma call must be board certified within five years of completing residency successfully.	E	E	E	O	☐
(b) Neurosurgeons performing trauma call must have 10 hours of neuro-trauma specific CMEs.	O	O	O	O	☐
(c) Neurosurgeons performing trauma call must have successfully completed an ATLS course once.	O	O	O	O	☐
Section 3.05 Orthopedic Surgery:					
(a) Orthopedic surgeons performing trauma call must be board certified within five years of completing residency successfully.	E	E	E	O	☐
(b) Orthopedic surgeons performing trauma call must have 10 hours of skeletal-trauma specific CMEs per year.	O	O	O	O	☐
(c) Must have successfully completed an ATLS course once.	O	O	O	O	☐
Section 3.06 Trauma Nursing:					
(a) All nursing staff members who participate in the acute care of trauma patients, including those working on units regularly providing care to trauma patients such as general surgery, orthopedics, neuroscience, progressive care, ICU, post-anesthesia care unit (PACU), OR, ED, and pediatrics shall have a minimum of four hours of trauma specific education hours (TEH) annually. (Additional information within the interpretive guidelines)	E	E	E	E	☐
(b) All nursing staff members participating in the trauma team response must have documented trauma specific orientation.	E	E	E	E	☐

Level:	I	IB	II	III	Check
(c) There must be a burn program orientation program that documents nursing competencies specific to the care and treatment burn patients including critical care, wound care, and rehabilitation that is age appropriate.	-	E	-	-	☐
(d) Documentation of specific orientation and continuing education for pediatric and burn care if these patients are regularly admitted to the trauma center	E	E	E	E	☐
(e) More than 50% of all nursing staff members who directly participate as a member in the trauma team must have a current TNCC, ATCN course, or CATN certification	E	E	E	E	☐
Section 3.07 Burn Nursing:					
(a) Burn center nursing staff members who participate in the resuscitation of the burn patient must be provided with a minimum of two burn related nursing education hours opportunities annually, either intramural or extramural.	-	E	-	-	☐
(b) Each burn unit must have a method to determine acuity levels of the patients in determining staffing needs. The system will be used to determine daily staffing needs.	-	E	-	-	☐
(c) Qualifications for staff members who are responsible for the care of burn patients must conform to criteria documenting appropriate training, patient experience CMEs and commitment to teaching and research of care burn patients.	-	E	-	-	☐
Article IV. Facilities/Resources/Capabilities					
Section 4.01 Emergency Department:					
(a) Personnel:					
(i) The ED must have a designated physician director/chairman (see clinical qualifications under Section 2.03).	E	E	E	E	☐
(ii) There must be 24 hour per day staffing by physicians physically present in the ED that meet the standard in Section 3.03.	E	E	E	E	☐
(iii) There must be RN's, LPN/LVN's and nursing assistants/technicians in adequate numbers in the initial resuscitation area based on acuity and trauma team composition.	E	E	E	E	☐
(iv) A minimum of two RN's per shift functioning in the trauma resuscitation area must possess trauma nursing training.	E	E	E	E	☐
(v) A written provision/plan for the acquisition of additional staffing on a 24 hour basis to support units with increased patient acuity, multiple emergency procedures, and admissions must exist.	E	E	E	E	☐
(vi) Each nursing unit must have a copy of their staffing plan for review during the site visit.	E	E	E	E	☐
(vii) There must be a written protocol for the expectations and responsibilities of the trauma nurse and other team members during trauma resuscitations.	E	E	E	E	☐
(viii) Nursing documentation for trauma patients must be on a trauma flow sheet or electronic medical record equivalent.	E	E	E	E	☐

Level:	I	IB	II	III	Check
(b) **Emergency Department Resuscitation Equipment:** (for all ages)					
(i) Broselow Tape	E	E	E	E	☐
(ii) Airway control and ventilation	E	E	E	E	☐
(iii) Suction devices	E	E	E	E	☐
(iv) End Tidal CO2 detector(s)	E	E	E	E	☐
(v) Bedside and central electrocardiogram (ECG), pulse oximetry, and pressure monitoring	E	E	E	E	☐
(vi) Portable monitor with ECG, pulse oximetry, cardiac pacing, external and internal defibrillation capabilities	E	E	E	E	☐
(vii) IV fluids and administration devices	E	E	E	E	☐
(viii) Thermal control equipment for warming blood products and IV fluid	E	E	E	E	☐
(ix) IV fluid and blood rapid infusion device(s)	E	E	E	E	☐
(x) Arterial catheters	E	E	E	O	☐
(xi) Sterile surgical sets/trays to include: airway control/cricothyrotomy, thoracotomy, vascular access, chest tube insertion, peritoneal lavage and central line access	E	E	E	E	☐
(xii) Thermal control equipment for cooling/warming patients	E	E	E	E	☐
(xiii) Gastric catheters	E	E	E	E	☐
(xiv) Skeletal traction devices	E	E	E	E	☐
(xv) Skeletal traction device for providing cervical traction	E	E	E	E	☐
(xvi) Radiological equipment	E	E	E	E	☐
(xvii) Bedside ultrasound (FAST capability)	O	O	O	O	☐
(xviii) Portable venous doppler	E	E	E	E	☐
(xix) Two way radio communication linked with EMS transport units	E	E	E	E	☐
Section 4.02 Burn Unit:					
(a) The burn unit must maintain an identified nursing unit where staffs specialize in burn care.	-	E	-	-	☐
(b) There must be an identified burn unit that is a fixed physical and geographic location within the hospital for the treatment and coordination of burn care.	-	E	-	-	☐
(c) The burn unit must have effective means of isolation that is consistent with the principles of universal precautions and barrier technique to decrease the risk of cross infection and cross-contamination.	-	E	-	-	☐
Section 4.03 Burn Unit Treatment Area:					
(a) A specific area as designated by the Burn Medical Director for wound care assessment and treatment which would include the capability for minor wound debridement, escharotomy, wound cleansing, procedural techniques such as line placement, and overall assessment.	-	E	-	-	☐
Section 4.04 Burn Unit Equipment: (for all ages)					
(a) Weight measuring devices	-	E	-	-	☐
(b) Thermal control equipment for warming blood products and IV fluids	-	E	-	-	☐
(c) Thermal control equipment for cooling/warming patients	-	E	-	-	☐
(d) Bedside and central ECG, pulse oximetry, and pressure monitoring	-	E	-	-	☐

Level:	I	IB	II	III	Check
(e) Portable monitor with ECG, pulse oximetry, cardiac pacing, and defibrillation capabilities	-	E	-	-	☐
(f) Cardiac emergency carts (code carts)	-	E	-	-	☐
(g) Electrocautery	-	E	-	-	☐
Section 4.05 Operating Suite:					
(a) There must be OR(s) immediately available 24 hours per day.	E	E	E	O	☐
(b) For burn cases there must be ORs immediately available 24 hours per day with the burn program having timely access for urgent/emergent cases. This is defined as "within six hours of posting".	-	E	-	-	☐
(c) Personnel:					
(i) There must be OR personnel in house and immediately available 24 hours per day.	E	E	E	O	☐
(ii) There must be OR personnel immediately available 24 hours per day. This requirement may be fulfilled using in-house or on-call staff.	-	-	-	E	☐
(iii) There must be a second OR team on-call and promptly available when the in-house team is participating in an operative case.	E	E	E	O	☐
(d) **Operating Room Resuscitation Equipment:** (for all ages)					
(i) Cardiopulmonary bypass capability	E	E	O	-	☐
(ii) Operating microscope	E	E	O	O	☐
(iii) Thermal control equipment for warming blood products and IV fluid	E	E	E	E	☐
(iv) Thermal control equipment for cooling/warming patients	E	E	E	E	☐
(v) 24 hour per day x-ray capability, including C-Arm image intensifier	E	E	E	E	☐
(vi) Endoscopes and bronchoscopes	E	E	E	E	☐
(vii) Rapid infuser system	E	E	E	E	☐
(viii) Craniotomy instruments	E	E	E	-	☐
(ix) Capability of fixation of long bone and pelvic fractures	E	E	E	O	☐
Section 4.06 Postanesthesia Recovery Room or Surgical Intensive Care:					
(a) Personnel:					
(i) There must be PACU nursing staff immediately available 24 hours per day. This requirement may be fulfilled using in-house or on-call staff.	E	E	E	E	☐
(b) Thermal control equipment:					
(i) Thermal control equipment for warming blood products and IV fluid	E	E	E	E	☐
(ii) Thermal control equipment for cooling/warming patients	E	E	E	E	☐
(c) In the event that patients are boarded in the PACU as ICU overflow patients, then the equipment listed in Section 4.07 must be available.	E	E	E	E	☐
Section 4.07 Intensive/Critical Care Unit:					
(a) **Personnel:**					
(i) There must be a designated surgical director or co-director.	E	E	O	O	☐
(ii) There must be a designated medical director or co-director.	E	E	E	E	☐
(iii) Nursing staff members must be educated in trauma care and must have a patient ratio of not more than two patients per nurse.	E	E	E	E	☐

	Level:	I	IB	II	III	Check
(iv)	There must be a physician on duty in the ICU 24 hours per day or immediately available from within the hospital. This requirement cannot be fulfilled using an on-duty ED physician if this physician is the sole physician staffing the emergency department.	E	E	E	O	☐
(v)	There must be a physician on duty in the ICU 24 hours per day or immediately available from within the hospital.	-	-	-	E	☐
(b)	**Intensive/Critical Care Unit Equipment:** (for all ages)					
(i)	Airway control and ventilation equipment	E	E	E	E	☐
(ii)	Cardiac emergency cart (code cart)	E	E	E	E	☐
(iii)	Temporary transvenous pacer	E	E	E	E	☐
(iv)	Bedside and central monitoring ECG, pulse oximetry, and pressure monitoring	E	E	E	E	☐
(v)	Portable cardiac monitor with ECG, cardiac pacing, and external and internal defibrillation	E	E	E	E	☐
(vi)	Mechanical ventilator	E	E	E	E	☐
(vii)	Patient weighing devices	E	E	E	E	☐
(viii)	Pulmonary function measuring device	E	E	E	E	☐
(ix)	Temperature control devices for patients	E	E	E	E	☐
(x)	Rapid IV fluid infuser capability	E	E	E	E	☐
(xi)	Intracranial pressure monitoring device	E	E	E	O	☐
(xii)	Capability to perform blood gas measurements, hematocrit levels and chest x-ray studies.	E	E	E	E	☐
Section 4.08	**Radiological Services:** (to be available 24 hours per day)					
(a)	Radiology technician in-house	E	E	E	E	☐
(b)	Radiologist interpretation	E	E	E	O	☐
(c)	Angiography	E	E	E	O	☐
(d)	Sonography	E	E	E	O	☐
(e)	Computed Tomography (CT) Scanning	E	E	E	E	☐
(f)	CT technologist in-house	E		E	O	☐
(g)	CT Technologist available within 30 minutes	-	-	-	E	☐
(h)	Magnetic Resonance Imaging (MRI)	E	E	O	O	☐
(i)	Resuscitation equipment to include airway management and IV therapy	E	E	E	E	☐
Section 4.09	**Clinical Laboratory Service:** (to be available 24 hours/day)	E	E	E	E	☐
(a)	Standard analysis of blood, urine, and other body fluids, including micro sampling	E	E	E	E	☐
(b)	Blood typing and cross-matching	E	E	E	E	☐
(c)	Coagulation studies	E	E	E	E	☐
(d)	Comprehensive blood bank, or access to a community central blood bank with storage facilities	E	E	E	E	☐
(e)	Blood gas and ph determination	E	E	E	E	☐
(f)	Microbiology	E	E	E	E	☐
Section 4.10	There must be renal dialysis services available 24 hours per day.	-	E	-	-	☐

Level:	I	IB	II	III	Check
Section 4.11 The burn program must have hospital policies and procedures for the use of allograft tissues and they must be in compliance with all federal state and Joint Commission requirements and when feasible and appropriate, with standards of the American Association of Tissue Banks.	-	E	-	-	☐
Article V. Performance Improvement Program (Additional information within the interpretive guidelines)					
Section 5.01 Trauma/Burn Performance Improvement:					
(a) An organized PI program to examine the care of the injured patient within the hospital that looks towards improving outcomes by decreasing complications and improving efficiency. The process should clearly document the PI process, action plans, and resolution of the issue (loop closure).	E	E	E	E	☐
(i) There must be a demonstrable relationship between PI outcomes and new or revised clinical protocols.	E	E	O	O	☐
(ii) There should be an expansion of the PI program to include regional trauma systems.	O	O	O	O	☐
(b) The PI program should follow state recommended audit filters at a minimum.	E	E	E	E	☐
(i) The PI program should participate in the creation of institutional and regional based audit filters as identified by the institution or regional PI committees.	O	O	O	O	☐
(c) The PI program must demonstrate the application outcome and benchmarking based activity.	E	E	E	E	☐
(d) Participation in the VSTR as mandated by the _Code of Virginia § 32.1-116.1_. Data must be submitted to the VSTR within 30 days from the end of a quarter and include all patients: • With an ICD9-CM code(s) of 348.1, 800.0 – 959.9, 994.0 and 994.1, excluding 905-909 (late effect injuries), 910-924 (blisters, contusions, abrasions and insect bites), 930-939 (foreign bodies), and • Were admitted to the hospital, or • Were admitted for observation (not ER observation unless held in the ER due to no inpatient bed availability), or • Were transferred from one hospital to another for treatment of acute trauma, or • The patient dies within the hospital due to injury (includes, the ED and DOA's). Note: hospitals may over report within these ICD9 codes if desired for internal reporting.	E	E	E	E	☐
(e) Compliance with Section 5.01.d above on a quarterly basis	E	E	E	E	☐
(f) Utilization of VSTR/National Trauma Data Bank (NTDB):					

Level:	I	IB	II	III	Check
(i) For new trauma centers, the PI program should utilize VSTR or NTDB data for institutional, regional, or state research or benchmarking for PI or injury prevention programs. For mature trauma centers (by the second verification visit) this criterion becomes a requirement.	O	O	O	O	☐
(ii) For mature trauma centers (by its second verification visit) the PI program must utilize VSTR or NTDB data for institutional, regional, or state research or for benchmarking for PI or injury prevention programs.	E	E	E	E	☐
(g) There must be a forum that includes the TMD, ED Director, TPD/TPM/TNC, designee from trauma subspecialties (neurosurgery, orthopedics) as specific issues present for multidisciplinary review of care of the injured patient including policies, procedures, system issues, and outcomes. The forum may include pre-hospital, nursing, ancillary personnel, a hospital administrator, and other physicians involved in trauma care. (The forum in (h), below, may be combined with this meeting.)	E	E	E	E	☐
(i) There must be 50% attendance by committee members (or designee) at multi-disciplinary review of care meetings.	E	E	E	E	☐
(h) The hospital will have a structured peer review committee, which must have a method of evaluating trauma care. This committee must meet at least quarterly and include physicians representing pertinent specialties that include at least, trauma surgery, neurosurgery, orthopedics, emergency medicine, anesthesiology, and may include hospital management and other subspecialties as required. The TPD/TNC/TNC or designee may be a member. Outcomes of peer review will be incorporated into the educational and policy program of the trauma program. (The forum in (g) may be combined with this meeting.)	E	E	E	E	☐
Section 5.02 Trauma Research Program:					
(a) There must be a trauma research program designed to produce new knowledge applicable to the care of injured patients to include: an identifiable institutional review board process.	E	E	O	O	☐
(b) The trauma research program must be designed to produce new knowledge applicable to the care of injured patients to include; three peer review publications over a three year period that could originate in any aspect of the trauma program.	E	E	O	O	☐
(c) There must be a nursing specific trauma research program designed to produce new knowledge applicable to the care of the injured patients to include trauma nursing research. Should have one publication in a three year period.	E	E	O	O	☐
Section 5.03 Burn Performance Improvement:					
(a) There must be a burn patient care conference held at least weekly to review and evaluate the status of each burn patient admitted to the burn unit. The conference must include, but not be limited to, a burn physician, critical care intensivist, burn nurse, respiratory therapist,	-	E	-	-	☐

	Level:	I	IB	II	III	Check
	social work, burn occupational therapy or physical therapy, dietitian, and clinical psychologist.					
(b)	Patient care conferences must be documented in the progress notes of each patient and in the minutes of the conference kept separately.	-	E	-	-	☐
(c)	The burn program must have a multidisciplinary PI program.	-	E	-	-	☐
(d)	The burn PI program multidisciplinary committee, which oversees the PI program, must meet at least quarterly. Sufficient documentation must be maintained to verify problems, identify opportunities for improvement, and take corrective actions and resolved issues.	-	E	-	-	☐
(e)	Morbidity and mortality conferences must be held every other month and include physicians other than the immediate burn care team to ensure objective review of the presentations. Attendees at this conference must include specialists and other committee members that do not practice in the trauma/burn center.	-	E	-	-	☐
(f)	All significant complications and deaths must be discussed. There must be a candid and open discussion with high points documented, an assessment of the death or complications classified as; not preventable, potentially preventable, and preventable and actions recommend. There must also be documentation of loop closure in the potentially preventable and preventable cases. Records of this conference must be kept.	-	E	-	-	☐
(g)	The burn program must conduct audits released annually that include but are not limited to the severity of burn mortality, incidence of complications and length of hospitalization.	-	E	-	-	☐
(h)	The program must participate in the ABA's national burn repository either through ABA tracks or by providing the minimum acceptable record information in a computer exported format compatible with ABA national burn repository this data must include all patients admitted to the hospital for acute burn care treatment.	-	O	-	-	☐
(i)	The burn program must provide ongoing review and analysis of nosocomial infection data and risk factors that relate to infection prevention and control for burn patients, these data must be available to the burn team to assess infection risk factors that relate to infection prevention and control for burn patients.	-	E	-	-	☐
Section 5.04	**Burn Research Program:**					
(a)	The burn program should participate in basic clinical and health science research.	-	O	-	-	☐
(b)	The Burn Medical Director should demonstrate ongoing involvement in burn related clinical research.	-	O	-	-	☐
Article VI.	**Outreach Program:**					
Section 6.01	Each trauma center will annually partner with the top three referring/receiving facilities to assess, plan, implement, and evaluate the physician and nursing trauma educational needs of those facilities transferring severely injured patients.	E	E	E	E	☐

Level:	I	IB	II	III	Check
Section 6.02 Each trauma center will maintain a document that reflects the functional process for providing case specific complimentary and/or constructive feedback to the top three referring/receiving facilities for extraordinary situations.	E	E	E	E	☐
Section 6.03 Each trauma center will collaborate with the top three regional transferring/receiving facilities to design and provide an annual hospital specific registry report by using the hospitals PI infrastructure for transmission.	E	E	E	E	☐
Section 6.04 Each trauma center will have in place a method for showing their involvement with the EMS agencies and/or personnel in there region. The trauma centers should be involved in EMS education, PI and a method of providing complimentary and/or constructive feedback in general or case specific as needed.	E	E	E	E	☐
Section 6.05 Each trauma center will have in place a method for showing their involvement with the community in their region. The trauma center should be involved in community awareness of trauma and the trauma system.	E	E	E	E	☐
Section 6.06 The burn program must have an educational program for medical staff members, including emergency medicine attending physicians and residents.	-	E	-	-	☐
Section 6.07 The burn program must offer education on current burn concepts of emergency and inpatient care treatment to pre-hospital and hospital care providers within its service area.	-	E	-	-	☐
Section 6.08 The burn program will document burn specific participation in public awareness programs.	-	E	-	-	☐
Section 6.09 The burn program should be actively engaged in promoting Advanced Burn Life Support (ABLS) courses in the region. It is desirable for the Burn Medical Director to be an ABLS instructor and essential that the Burn Medical Director is current and ABLS. The unit should have one or more employees who are ABLS instructors.	-	O	-	-	☐
Article VII. Injury Prevention Program:					
Section 7.01 There must be demonstration that injury prevention activities are based upon regional needs.	E	E	E	E	☐
(a) Participation in a statewide trauma center collaborative injury prevention effort focused on a common need throughout the Commonwealth.	O	O	O	O	☐
(b) Perform studies in injury control while monitoring the effects of prevention programs.	O	O	O	O	☐
Article VIII. Hospital Documents:					
Section 8.01 Evidence of American Board of Surgery certification documented in each surgeon performing trauma call in their credential files or other documentation showing active pursuit of current certification or re-certification in general surgery. Each trauma surgeon must be eligible for certification.	E	E	E	E	☐
Section 8.02 Evidence of a recognized board certification(s) documented in each emergency physicians credential file or other documentation showing active pursuit of current certification(s) or recertification in emergency	E	E	E	E	☐

Level:	I	IB	II	III	Check
medicine by ED physicians.					
Section 8.03 There must be documentation available for ATLS and continuing education as outlined throughout this document.	E	E	E	E	☐
Article IX. Institutional Commitment:					
Section 9.01 There must be demonstrable knowledge, familiarity, and commitment of upper level administrative personnel to trauma program.	E	E	E	E	☐
Section 9.02 There must be upper level administrative participation in multi-disciplinary trauma conferences/committees.	E	E	E	E	☐
Section 9.03 There must be evidence of a yearly budget for the trauma program.	E	E	E	E	☐

DEFINITIONS

Burn Center - A hospital that has been designated by the Commissioner as a trauma/burn center after meeting the Level I trauma center and burn center criteria contained within this document.

Burn Patient – A patient requiring treatment of burn-related injuries who should be referred to a designated trauma/burn center in the Commonwealth of Virginia for assessment and care.

Burn Program – An organized approach (within the verified trauma center) to the care of burn patients with a focus on performance improvement, education, and outreach. Burn program administrative leadership addresses burn center standards under the direction of the Burn Medical Director.

Burn Service - The medical and surgical services that direct and coordinate the care of acute burn patients.

Burn Unit - The designated geographic area within a hospital that the majority of acute burn patients receive care.

Critical Deficiency - The trauma or trauma/burn center demonstrates an absence or inadequate mechanism to address a specific essential criterion or criteria. Critical deficiencies must be corrected as directed in this document to receive an unconditional designation.

Designated Trauma Center - The process by which the Virginia Department of Health identifies hospitals that are prepared to consistently provide care to the traumatized patient.

Experienced/Mature Trauma Center – A designated trauma or trauma/burn center that has completed at least one successful three year verification cycle.

Immediately available - The physical presence of the health professional in a stated location able to provide care to the trauma patient.

Level I - Level I trauma centers have an organized trauma response and are required to provide total care for every aspect of injury, from prevention through rehabilitation. These facilities must have adequate depth of resources and personnel with the capability of providing leadership, education, research and system planning.

Level IB – Meet all the requirements for Level I trauma center designation and the additional criteria specific to being designated as a trauma/burn center. Denoted as Level IB or Level I trauma/burn center.

Level II - Level II trauma centers have an organized trauma response and are also expected to provide initial definitive care, regardless of the severity of injury. The specialty requirements may be fulfilled by on call staff members, which are promptly available to the patient. Due to some limited resources, Level II centers may have to transfer more complex injuries to a Level I center. Level II centers should also take on responsibility for education and system leadership within their region.

Level III - Level III centers, through an organized trauma response, can provide prompt assessment, resuscitation, stabilization, emergency surgery, and also arrange for the transfer of the patient to a hospital that can provide definitive trauma care. Level III centers should also take on responsibility for education and system leadership within their region.

Non-Critical Deficiency – The trauma or trauma/burn center demonstrates an absence or inadequate mechanism to address a specific essential criterion or criteria. While there is not an immediate negative impact on patient care, continuation of the present status will result in erosion of the program and development of a critical deficiency(ies.) Non-critical deficiencies seen during two consecutive site reviews will be elevated to a critical deficiency.

Trauma Center – A hospital that has been designated by the Commissioner as a trauma center as a result of complying with the criteria throughout this document.

Team Leader – A surgeon that serves as the head of a trauma center site review team. This is typically a surgeon actively involved in an active trauma program.

Trauma Patient –The identification of patients that should be referred to a designated trauma center in the Commonwealth of Virginia for assessment and care. The Statewide Trauma Triage Plan sets the minimum standard for defining a trauma patient.

Trauma Registrar - The individual(s), responsible for entering, analyzing and evaluating the data maintained in the trauma registry. Frequently this person also oversees the performance improvement efforts of the trauma program.

Trauma Service - The medical and surgical services that direct and coordinate the care of acutely injured patients.

Trauma Team - A multidisciplinary healthcare team that is predetermined to provide an organized approach to providing trauma care.

TSO&MC - Trauma System Oversight and Management Committee is a subcommittee of the EMS Advisory Board. This is the Commonwealth's trauma stakeholder committee that works to develop, maintain and improve Virginia's trauma system under the auspices of the Commonwealth of Virginia Board of Health.

Virginia Statewide Trauma Registry (VSTR) - In Virginia, all hospitals that provide emergency services and have inpatient facilities are required by the *Code of Virginia* §32.1-116.1 to report to the VSTR. The VSTR is used by Virginia's trauma system for performance improvement, research, injury prevention, resource utilization and the creation of state standards and benchmarks.

ABBREVIATIONS

ABLS – Advanced Burn Life Support
ACLS – Advanced Cardiac Life Support
ACS - American College of Surgeons
ACS/COT - American College of Surgeons Committee on Trauma
ASTNA – Air and Surface Transport Nurses Association
ATCN – Advanced Trauma Care for Nurses sponsored by STN
ATLS – Advanced Trauma Life Support course
BOH – State Board of Health
CEN – Certified Emergency Nurse
CRNA – Certified Registered Nurse Anesthesiologist
CEO – Chief Executive Officer
CATN – Course in Advanced Trauma Nursing (ENA)
COT – Committee on Trauma
CT – Computed Tomography Scanning
CEU – Continuing Education Unit
CME – Continuing Medical Education
DOA – Dead on arrival
E – Essential Criterion
ECG – Electrocardiogram
ED – Emergency Department
EMS – Emergency Medical Services
ENA – Emergency Nurses Association
ENPC – Emergency Nurses Pediatric Course
ETT – Endotracheal tube
GAB – EMS Advisory Board
ISS – Injury severity score
ICU – Intensive Care Unit
ICD9 - Ninth edition of International Classification of Disease, a standard coding system that includes
        injuries and diseases.
ICP – Intracranial pressure
IV - Intravenous
LPN/LVN – Licensed professional nurse/licensed vocational nurse
MRI – Magnetic resonance imaging
MD – Medical doctor
O – Optimal Criterion
OEMS – Office of Emergency Medical Services
OR – Operating room
PALS – Pediatric Advanced Life Support (course or certification)
PI – Performance improvement; used to describe quality assurance efforts (QA/QI/CQI)
PACU – Post Anesthesia Care Unit
PGY4/PGY5 - postgraduate year; classification system for residents in postgraduate training. The number
        indicates the year they are in during their post medical school residency program.

PHTLS – Prehospital Trauma Life Support

RN – Registered Nurse

RTTDC – Rural Trauma Team Development Course

STN – Society of Trauma Nurses

TEH - Trauma education hour(s) is the equivalent of 60 minutes of trauma education

TMD – Trauma Medical Director

TNCC – Trauma Nurse Core Curriculum sponsored by the ENA

TPD/TPM/TNC – Traditionally called the trauma nurse coordinator (TNC); this position varies by center and is typically a director or program manager.

TSO&MC – The Trauma System Oversight and Management Committee; this is the Commonwealth's statewide trauma committee.

VDH – Virginia Department of Health

VDH/OEMS – Virginia Department of Health's Office of Emergency Medical Services

VSTR – Virginia Statewide Trauma Registry

ADMINISTRATIVE GUIDELINES

Purpose:

The purpose of the administrative and interpretive guidelines is to provide information pertaining to the process of designation and verification of trauma and trauma/burn centers in Virginia. It is divided into two sections: 1) administrative guidelines describing the procedures and steps required for the process, and 2) interpretive guidelines describing how trauma and burn center criteria should be evaluated during a site visit. The document is designed to be used with Virginia trauma and trauma/burn center Criteria.

The objective is to provide a consistent, objective and meaningful approach to the designation process.

Background:

In Virginia, the lead EMS agency is the VDH/OEMS. VDH/OEMS coordinates the development and administration of trauma center designation throughout the state. The earliest Level I trauma centers were designated in 1983 and 1984. Burn specific designation was introduced to the designation manual in 2012.

The trauma system in Virginia is inclusive. All hospitals with 24 hour emergency departments provide some degree of trauma and burn care. The decision to become a designated trauma center or trauma/burn center is voluntary. Designation carries a cost related to the fact that the trauma and burn programs must be continuously available for patients who may or may not require their services. Triage guidelines act to direct severely injured patients to the nearest appropriate trauma or trauma/burn center.

Designation occurs at four levels. Level I, Level IB, and II trauma centers should be capable of managing severely injured patients. Level I and Level IB centers must demonstrate a higher level of commitment to research, prevention and education. Level III centers demonstrate an increased commitment to trauma care, managing moderately injured patients and rapidly resuscitating and transferring more severely injured patients. Undesignated trauma centers must recognize, resuscitate and transfer most trauma patients.

All hospitals whether designated or not should make every effort possible to participate in and to improve the trauma system. Due to the unexpected nature of injury, trauma patients and their families cannot choose their location of care. It is incumbent upon the healthcare system to provide these patients with the most optimal care possible regardless of location and circumstances. The purpose of the designation process is to assure consistent performance of entry level trauma and trauma/burn centers and to promote continued improvement and development of experienced centers.

I. **Record Keeping**

Overview: The trauma system in Virginia is dynamic. Centers change in response to pressure of the healthcare environment and criteria and processes for evaluation change as trauma and burn care evolves. Maintaining records consistently over a period of time achieves several purposes. It provides a series of system snapshots over time. It allows centers and VDH/OEMS to refer back to actions taken in the past. Finally, it allows a summation of trauma and trauma/burn center performance rather than a

series of unrelated and disjointed episodic views.   In order to accomplish these goals, the records must be identifiable, consistent, accessible, and maintained in a predictable fashion.

a. Documents and revisions of documents will be numbered and maintained by the Office of EMS. This process is put into place to avoid confusion with regard to which version of a document is in use during the site visit. When a trauma or trauma/burn center is scheduled for a visit, the Trauma/Critical Care Coordinator will provide the title and effective date of the documents to be used during the visit. These will include the trauma and trauma/burn center criteria and the administrative and interpretive guidelines, as well as any other documents considered to be pertinent.

b. Each trauma or trauma/burn center will have a file maintained for a period of not less than ten years after the most recent trauma visit. The file will include:
    i. Records of each site visit to the institution with the following information:
       1. **Designation Items:**
          a. Written preliminary report and suggested remediation by site visit team,
          b. Written documentation of remediation,
          c. Closure of remediation,
          d. The final report of the site visit team, including specific findings and remediation, and
          e. Copy of written action by the Commissioner (designation).
       2. **Site Review Documents:**
          a. Site Review Agenda,
          b. Site Review Team Roster, and
          c. Version of (by revision date) of trauma center criteria used for site review.
       3. **Written Application Including:**
          a. Acknowledgement that the VDH/OEMS trauma designation file has been reviewed (signed),
          b. Trauma Center Code of Conduct,
          c. Trauma Center Capabilities,
          d. Current Organizational Chart,
          e. Impact Statement,
          f. Checklist,
          g. Questionnaire,
          h. List of physicians,
          i. Trauma team alert criteria (roles, responsibility, and policies),
          j. TMD job description,
          k. Trauma Nurse Coordinator job description (include an organization Chart),
          l. Trauma Registrar job description and evidence of CME requirements (as applicable),
          m. Performance improvement plan,
          n. Performance improvement process flow diagram,
          o. Verification renewal letter, and
          p. VSTR audit.
    ii. Any records pertaining to any voluntary or involuntary withdrawal of designation.
    iii. Any additional communication pertaining to designation status between the center and VDH/OEMS or the Commissioner.
    iv. A summary of activity related to the center (a list of dates, nature of actions and resulting status of center.)

c. A copy of the current trauma center file will be sent to the TPD/TPM/TNC and to the TMD at the time of request for verification or designation. These individuals will review the information contained for accuracy and provide written confirmation to VDH/OEMS.

d. Management of records during visit:
   i. Each member of the site review team will receive a copy of the trauma center file in its entirety at least two weeks prior to the visit, and
   ii. Team members will receive electronic or written application material at least two weeks prior to the visit.

e. Preliminary report of findings may be made available to the center prior to the time of departure of the site visit team:
   i. The center may receive a written copy of preliminary report listing issues of concern, strengths and areas for improvement; and
   ii. The team may also provide specific preliminary suggestions for remediation in writing at time of departure.

f. The team leader will provide written confirmation of preliminary findings and remediation or amended findings and remediation within one week of finishing the site visit.

g. After any conditions of remediation have been satisfied, the site review team leader will provide VDH/OEMS with written notice of closure of remediation.

II. **Application for Review**
a. Six months prior to the date a center is due for site review, the Trauma/Critical Care Coordinator for VDH/OEMS will notify the TPD/TPM/TNC and provide the following:

   i. Application to be completed,
   ii. Copy of trauma center file on CDROM, and
   iii. Copy and version number of Criteria and AIG to be used during review.

b. Application will include:

   i. Signed Trauma Center Code of Conduct,
   ii. Completed Trauma Center Capabilities Form,
   iii. Current Organizational Chart describing the relationship of the trauma program within the hospital organizational structure,
   iv. Impact Statement: the impact statement describes the role of the trauma center or proposed center in the system it serves. The statement acts as an argument for the existence the center and its essential contributions to the community,
   v. Level I, IB, II or III Checklist for appropriate level requested (electronic form provided),
   vi. Completed Trauma Center Questionnaire,
   vii. Current complete list of emergency physicians and mid-level providers,
   viii. Current complete list of trauma surgeon's performing trauma call,

ix. Current complete list of nursing staff members that serve as the primary trauma team nurse in the trauma bay/room. The list of trauma team nurses should include whether the nurse possesses active TNCC, ATCN, or CATN,

x. Copies of current TNCC, ATCN, and CATN should be made available to the site review team,

xi. Trauma team activation/alert criteria for your hospital,

xii. Trauma team roles and responsibilities policy,

xiii. Trauma alert policies,

xiv. TMD job description,

xv. Burn Medical Director job description (as applicable),

xvi. Evidence of TMD's board certification(s), current ATLS, CME, and national conference attendance (as applicable),

xvii. TPD/TPM/TNC job description (include an organizational chart),

xviii. Burn manager/coordinator job description (as applicable),

xix. Evidence of TPD/TPM/TNC's TEH and national conference attendance (as applicable),

xx. Evidence of the Burn Manager/Coordinator's burn education hours (if applicable),

xxi. Trauma registrar job description and evidence of TEH requirements (as applicable),

xxii. Emergency Medical Director's board certification(s), CME and current ATLS or the identified designee's current ATLS,

xxiii. Copy of the program's PI plan,

xxiv. PI process flow diagram includes how issues get reported to its highest level,

xxv. PI tracking sheets, and

xxvi. Other documents as requested.

III. Prior to Visit

a. Prior to visit, the site review team shall have:

    i. Complete copy of trauma center file,

    ii. Full copy of pre-visit application,

    iii. Current status of center with regard to VSTR provided by VDH/OEMS, and

    iv. List of any trauma related issues requiring investigation by VDH since last visit, along with resolution.

IV. Site Review

Overview: Without trauma and burn patients, a trauma center cannot demonstrate the consistency and effectiveness of procedures and protocols put into place at the time of its inception. However in a well developed system with a strong trauma triage element, severely injured or burned patients will be directed toward existing designated trauma or trauma/burn centers. A paradoxical situation develops; the center should not be designated until it demonstrates effectiveness, yet cannot demonstrate effectiveness until receiving patients as a trauma center. To remedy this situation, first time institutional reviews will be to survey for a provisional status.

Although it is important for a center to demonstrate its level of performance, the public must not be put at risk for suboptimal care. Therefore, the second review following a short interval will be held for full designation. The interval will allow the center to put its documented plan for trauma care into action. In

addition, the institution will have an opportunity to correct any deficiencies identified by the original site review team. At the time of the second site visit (the first designation visit) the center will either pass or not pass. Any identified critical deficiencies will result in a mandatory period during which the institution will re-evaluate the trauma program prior to beginning the designation process over again.

    a. Provisional center – one year period
      i. At the provisional visit, the center must demonstrate that all required mechanisms to meet criteria are in place. The team will confirm that there is a resource, policy or procedure that addresses the criteria and that it represents a practical and effective approach.

      ii. The team will identify the following:
         1. Critical deficiencies
         2. Non-critical deficiencies
         3. Potential areas for improvement

      iii. The presence of critical deficiencies will be cause to withhold provisional designation. The center must re-evaluate its program and if desired, begin the application process again after a period of not less than one year.

      iv. When non-critical deficiencies exist or in the absence of deficiencies, the program will receive provisional status for a period of one year. During this time, it will function at the identified level and remedy any non critical deficiencies identified at the first site visit.

    b. Designation: A second site visit will occur at the end of the hospitals one year provisional status. The hospital does not have to submit a full application, but should submit an interim report describing any changes since designation as a provisional center, status of non critical deficiencies noted during the first site visit, as well as a trauma program summary from its trauma registry.

      The modified site review team will consist of a surgeon team leader and a trauma/critical care nurse reviewer. The surgeon team leader or OEMS may add additional members to this team as deemed necessary.

      Any critical deficiencies identified at this time will result in the center not receiving designation as a trauma center. The hospital will not function as a trauma center if this occurs and will re-evaluate and revise its current program for at least two years prior to beginning the application process again.

    c. Verification: Following designation, a center will undergo verification visit every three years having become designated, an institution must continue its developmental process. A progressively sophisticated approach is expected of more experienced centers and is reflected in a number of the criteria. This is particularly apparent in the area of quality assurance. Continuous improvement means continuous change. An experienced program is expected to demonstrate ongoing evaluation of the trauma care system, presenting enhanced approaches to existing problems or efforts at solving newly identified problems. For this reason, it is unlikely that an experienced program will be successful if unable to present progress and changes over three verification cycles. Verification visits follow a successful designation visit and should document ongoing development of the center and responsiveness trauma system issues.

i. A full application will be submitted for each verification visit.

ii. In the absence of critical deficiencies or persistent non-critical deficiencies the center will be confirmed at its current level of function.

iii. If a non-critical deficiency has been identified for the first time it will be noted in the team leaders' summary. However, if a non-critical deficiency is identified in two out of three sequential visits, the center will be asked to submit a plan of correction to VDH/OEMS within three months. At the next site visit, the center will provide evidence of having implemented the plan and improvement in the area of deficiency identified.

V. Withdrawal

Overview: As an advocate for quality trauma and burn care, a trauma or trauma/burn center should be able to identify situations in which it no longer meets criteria required for its current level of designation. If this occurs, the center should notify VDH/OEMS requesting a temporary withdrawal, permanent withdrawal or request for re-designation (either upgrade or downgrade). Identification and self reporting of the problem is more advantageous than waiting for an adverse result of a verification visit or complaint resulting in involuntary withdrawal.

a. Temporary: A hospital may request a temporary withdrawal from the system if unforeseen and uncontrollable circumstances prevent the center from functioning at its designated level and if the period of time is expected to be longer than one day and less than three months. Requests for temporary withdrawal greater than three months will require a site review team visit.

Examples include death, disability, resignation, retirement, etc. of key individuals on the trauma program, or an internal disaster such as a fire or flood. A representative from the hospital will notify VDH/OEMS regarding the request for temporary withdrawal by phone or e-mail as early as possible. Initial notification shall be followed by a written report outlining the circumstances, the plan to correct the circumstances, the anticipated length of temporary withdrawal and any arrangements to maintain trauma care within the system (e.g. memorandum of understandings with other hospitals, notification of VDH/OEMS) within 14 days. Once the problem has been corrected the trauma or trauma/burn center will notify VDH/OEMS. A site visit is not required for re-instatement. If the center is involved in remediation for critical deficiencies at the time of request for temporary withdrawal, the timeline for remediation is not altered and no extension is applied.

b. Permanent: If a hospital wishes to discontinue its role as a trauma or trauma/burn center it may request a voluntary withdrawal. The institution is not required to provide a reason for this although VDH/OEMS may request information to facilitate evaluation of the trauma system. The hospital should provide the request for voluntary withdrawal in writing. Included with the request should be a copy of the most recent impact statement and suggestions for changes in the system to allow for accommodation of gaps in trauma coverage. Following voluntary withdrawal, a center may apply for re-designation at any level desired after a period of not less than one year. The center will arrange for notification of the public and EMS agencies regarding the change in status. Only one voluntary withdrawal is permitted within a ten year period of time.

c. Re-designation (upgrade): The hospital requesting an upgrade in level of trauma center designation will be required to undergo a full site review at the level of re-designation being requested. The site

review must occur prior to functioning at the requested level of re-designation. Since this is a new designation a verification visit will be required in two years.

d. **Re-designation (downgrade):** If a hospital requests a downgrade in level of designation, a modified site visit will be performed to assure the hospital is functioning at the level of designation being requested.

e. **Involuntary:** An involuntary withdrawal occurs when a center fails to remediate critical deficiencies as outlined by the site visit team, or if a visit by a site review team or VDH/OEMS representative determines that further function as a trauma center would be a risk to patient safety or extremely detrimental to the system. If this occurs, the center has the option of an appeals process outlined below. At the time of an involuntary withdrawal, VDH/OEMS will provide notification to the public and to EMS providers in the area. Following the first involuntary withdrawal, an institution may request re-designation after a period of not less than three years. After any subsequent involuntary withdrawals the institution will not be permitted to apply for re-designation sooner than five years.

VI. Appeal

If a hospital, whether designated or attempting to be designated, has a grievance with findings relating to the enforcement of the Virginia trauma center criteria by VDH/OEMS, a site review team leader, a site review team member, the TSO&MC or any subcommittee formed from the TSO&MC has the right to file an appeal the finding(s).

The appeals process will follow the Administrative Process Act (APA) of Virginia § 2.2-4000. Notice of intent to appeal should be documented and submitted to VDH/OEMS as stipulated in § 2.2-4000. Failure to follow the APA guidelines can result in the appeal not being heard.

VII. Site Review Team Member Roles, Training and Recruitment

a. Site review team member roles (refer also to site visit checklist for more details)
   i. A surgeon team leader officiates over the site review team and provides a written summary and recommendation upon the application to the Health Commissioner. The surgeon team leader will review the surgical capabilities of the hospital and whether they meet the essential criteria for the level of designation/verification being applied for.
   ii. An emergency medicine physician will review the ED's response to trauma patients. This would include whether there is an appropriate team response to trauma patients, the care provided during that response and the availability of ancillary services during the initial phase of trauma care.
   iii. The trauma/critical care nurse reviewer will review all phases of nursing care provided by the applying center. This would include assuring there is adequate staffing and equipment available, as well as quality nursing care provided during the trauma team response, within the critical care department and inpatient areas.
   iv. Trauma nurse coordinator's role within the trauma program will also be evaluated by the trauma/critical care nurse reviewer.

    v. A hospital administrator role will also be utilized to evaluate the overall commitment that the hospitals administration has to the trauma program.

b. Training - VDH/OEMS and the TSO&MC may provide a training program, suited for both classroom presentation and self learning which will assure the site reviewer's knowledge of the current criteria and their role as a site review team member.

c. Recruitment –VDH/OEMS and the TSO&MC will assure that there are an adequate numbers of site reviewers. To qualify as a site review team member, the individual will be required to observe a minimum of one site review, receive the site review training and be approved by vote of the TSO&MC.

d. VDH/OEMS will maintain records on individual site reviewer activities including dates, locations and outcomes of reviews.

e. VDH/OEMS will solicit evaluations of site team leader performance.

INTERPRETIVE GUIDELINES

Purpose: The purpose of the interpretive guidelines is to describe how the specific criteria should be interpreted by site visit teams.

Trauma and/or Trauma/burn Program:

Level:	I	IB	II	III
Article I. Institutional Organization				
Section 1.01 Trauma Program:				
(a) Mission statement emphasizing continuous PI in the management of the trauma patient.	E	E	E	E
(b) A recognizable program within the hospital which has a surgeon as its director/coordinator/physician in charge.	E	E	E	E
(c) Support of the facilities' Board of Directors. (The Board of Directors should be notified of applications for trauma designation, verification and approval of the Commissioner of Health after a site review).	E	E	E	E
(d) Administration must be supportive of the trauma program.	E	E	E	E
(e) Evidence of an annual budget for trauma program.	E	E	E	E

While all hospitals participate in trauma care, one of the cardinal differences between a designated trauma center and an undesignated hospital is the trauma program. The purpose of the program is to integrate, coordinate, develop and evaluate the components necessary for effective care of the seriously injured patient. While each of the components such as a trauma surgeon or emergency resuscitation equipment may be adequate on an isolated basis, it is the integration of the components that enhance trauma care. The program should address all levels of care from pre-hospital to post discharge. All trauma programs function within a trauma system. The function and participation of the program within the system will be evaluated during the visit.

The site review team will be evaluating the hospital for a robust and active trauma program. The mission statement and the impact statement describe the role of the program and its expected impact in regional trauma management respectively. The impact statement is an argument for the existence of the trauma center. This document should briefly identify the trauma resources available in the region and why the hospital thinks becoming a trauma center is necessary. Examples of benefits include, but are not restricted to; geographically underserved area, inadequate number of trauma beds or improvement in care of patients already received.

The purpose of the trauma/burn center designation process is to assure consistent performance of trauma/burn centers in Virginia and to promote continued improvement and development of experienced trauma/burn centers thereby reducing morbidity and mortality of the thermally injured patient.

Section 1.02 Burn Program: Level:	I	IB	II	III
(a) Must have medical and administrative commitment to the care of patients with burns. This is demonstrated by administrative leadership and financial support for personnel to maintain the elements as outlined below.	O	E	-	-

Level:	I	IB	II	III
(b) Must formally establish and maintain an organized burn program that is responsible for coordinating the care of burn patients.	O	E	-	-
(c) The burn program must maintain an organizational chart relating personnel within the burn program and hospital.	O	E	-	-
(d) Must be integrated into the trauma program at a state designated/verified Level I trauma center.	O	E	-	-
(e) Must have all essential elements of the burn program, burn unit, and burn program.	O	E	-	-
(f) The burn program must admit an average of 50 or more burn annually with acute burn injuries averaged over three years.	O	E	-	-
(g) The burn program must maintain a policy and procedural manual that is reviewed annually by the Burn Medical Director and Burn Program Manager/Coordinator. Policies and procedures will include the following: (i) Administration of the burn program (ii) Staffing on the burn unit (iii) Criteria for admission to the burn unit by the burn program (iv) Use of burn unit beds by other medical and surgical services (v) Use of "tanking" and dressing facilities by non-burn program physicians (vi) Pediatric and adult conscious sedation procedures (vii) Criteria for admission, discharge and follow-up care (viii) Availability of beds and transfer of burn patients to other medical surgical units within the hospital (ix) Care of patients with burns in areas of the hospital other than the burn unit.	O	E	-	-

Is there evidence of long term institutional commitment to the trauma or trauma/burn program?

Nursing staff, hospital administration and medical staff must be committed to maintaining the program. The presence of support from only one or two of these groups or significant resistance from any one of these groups is an area of concern and represents a non-critical deficiency. However, resistance from an isolated individual or small group of individuals must be evaluated on a case by case basis, taking the impact on the program into consideration. For example, objections to the trauma center effort by a CEO of a hospital represent a more insurmountable problem than objection by two or three sub-specialists in different clinical areas. While letters of support from key participants are not essential, these may serve to indicate institutional commitment. In addition, the administrative team member will interview administrative representatives to determine institutional commitment. At minimum, leadership in the areas of nursing, medical staff, and administration should be able to identify the presence of the program and general information regarding structure and function. The organizational chart submitted with the written application will be important in determining location of the program in the hospital structure and reporting relationships. Administrative responsibility for the program should be clearly defined and in the hands of an individual with a clear understanding of the needs of trauma patients and the process of designation as well as the authority to promote development of the program.

Are sufficient resources available to maintain the program(s)?

Institutions should have an allocated budget for the trauma or burn program(s), however; the institution can demonstrate compliance with the criteria by documenting that the expenses and revenues associated with the program are routinely evaluated. Development and maintenance of any level of trauma center requires non-clinical time, space, equipment and supplies. Allowances for these should be included in the budget. As the number of patients admitted to the service increases, it is reasonable to expect increasing demands in terms of non-clinical time and support. For example, according to ACS recommendations, a full time registrar is expected to manage information entry and retrieval on 1000 patients or less. The site review team should identify sufficient resources to support non-clinical activities. They will be aware of the fact that multiple management responsibilities may prevent functioning at full time status.

There should also be demonstrated effort to identify costs related to the trauma program. It is important for the hospital leadership to be aware of this in order to avoid sudden discoveries of expenses and equally sudden withdrawals. Additionally, it is difficult to determine if resources are adequate if program expenses are unknown. In recent years, trauma centers have also been asked to provide information on the cost of trauma care in order to assess the overall impact of this on Virginia healthcare; in this setting provision of general information on expenses and reimbursement is a means of participation in the trauma system. There is currently no standard reporting format for expenses, reimbursement and budgetary allocations. Financial information on the trauma or burn program should be collected and reported to the administration, TMD, and TPD/TPM/TNC in a manner which is meaningful and useful for planning.

> **Critical Deficiency:**
> - A critical deficiency is assigned if the site review team finds evidence of the absence of overall financial commitment to the trauma program.
> - If the site review team finds evidence of insufficient resources being allocated for trauma and burn care a critical deficiency will be assigned.
> - Failure to budget adequately for non-clinical activities related to maintaining the trauma or burn program will result in a critical deficiency.
>
> **Non Critical Deficiency:**
> - Absence of attempt to review program costs (clinical and non-clinical) is cause for the assignment of a non-critical deficiency.

Does the hospital leadership have reasonable expectations of the program(s)?

The process of becoming a center and maintaining designation is arduous. It is important to understand what the hospital administration hopes to gain from the designation. If expectations are unrealistic, a long term commitment will not be possible. This will be particularly true if the medical staff and administration have divergent goals. Interviews with the appropriate members of the hospital's leadership may be used to determine this.

Does the program(s) have a long term plan?

This version of the designation criteria continues to emphasize continuous development and improvement. Presence of a planning process for the program(s) (which may include a business or strategic plan) allows for anticipated response to changes in the trauma care environment as well as possible improvements in delivery of care. Programs are expected to show progress and capacity for change in response to environmental stresses. During the site visit opening conference the director will be asked to list strengths and weaknesses of the program.

> **Non Critical Deficiency:**
> - A non-critical deficiency may be assigned if there is an absence of a formal planning process for the trauma or burn program.
> - Failure to include representatives from other pertinent departments and services within the hospital is cause for a non-critical deficiency.

Is there an identifiable trauma or trauma/burn program?

The trauma or trauma/burn program provides the clinical framework for the management of critically ill trauma and burn patients. The framework of the program varies with the institution and the number of patients admitted. It is not mandatory that patients be admitted to a single geographic unit within the hospital or to a single individual. The program should be identified in the organizational chart of the hospital. It must have a board certified surgeon as its TMD, a TPD/TPM/TNC, and a trauma registrar. Patients admitted to the program must be evaluated by a trauma surgeon and in cases of multiple system injury, single system major injury, torso or vascular trauma the patient must be admitted to the surgeon. This should be the case even if a general surgical procedure is not anticipated. There should be a trauma or burn program manual with policies and protocols pertaining to the admission and care of trauma and burn patients. The trauma or trauma/burn program manual should clearly describe which patients are admitted to the program and which, if any, will be transferred to another hospital. Special groups of patients, such as pediatrics, should be addressed.

There must be a description of the automatic trauma response and roles and responsibilities of individual trauma team members.

A two tier response allows for the in-hospital triage of injured patients. The patient thought to be less severely injured can be evaluated with less mobilization of hospital resources and medical personnel. Full mobilization must be immediately available and demonstrable if the patient is proven to be more severely injured than expected.

Criteria for the construction of tiers of response may be developed by the institution's multidisciplinary committee. The composition of the response team should ensure adequate ability to evaluate and treat the injured patient. For example, for the less severely injured patient, the trauma surgeon need not be available in the trauma treatment area when the patient arrives, but must be notified, available and see the patient in a reasonable time period after admission. Likewise, anesthesia, certain additional nursing, radiology and laboratory personnel need not be present in the trauma treatment area, but must be immediately available.

If an institution opts to use a two tier system, then a site review team will expect to see criteria for the delineation of the tiers, the composition of the response teams for each tier and a PI process that shows the system is functioning properly.

All patients admitted to the program should be entered in the trauma registry and care reviewed with the trauma or burn PI plan(s), this is in addition to the State mandated VSTR reporting requirements. In addition, cases which appear to have been under triaged and therefore not admitted to the program should be reviewed as well. Other indicators of the program include but are not restricted to case management, common clinical pathways and patient education.

Critical Deficiency:
- Absence of an identifiable trauma or trauma/burn program as applicable.
- Absence of TMD or TPD/TPM/TNC.
- No trauma or burn program manual.
- No identifiable trauma response.
- Consistent failure to implement trauma response as described in the trauma program manual.
- Absence of trauma registrar.
- Trauma or burn program manual procedures and protocols do not reflect actual practice.

Non Critical Deficiency:
- Trauma or trauma/burn program manual is inadequate to provide necessary framework for program.
- Key hospital staff, trauma surgeons and specialty medical staff unaware of contents of trauma or trauma/burn program manual.
- Occasional failure in application of trauma response not addressed in PI process.
- Trauma team response cumbersome and/or poorly communicated to trauma team or delayed.

Trauma Medical Director (Section 1.04)

Section1.04 Program Leadership: Level:	I	IB	II	III
(a) **Trauma Medical Director:**				
(i) The TMD must be a board certified/eligible general surgeon. An emergency medicine physician may serve as a Co-Director.	E	E	E	E
(ii) The TMD must have a minimum of three years of experience with a trauma program or be trauma fellowship training.	E	E	O	O
(iii) The TMD must participate in regional and national trauma organizations.	E	E	O	O
(iv) The TMD must be involved in trauma research, which includes the need to create a publication of results and presentations.	E	E	O	O
(v) The TMD must be actively involved in providing care to patients with life threatening or urgent injuries to discharge.	E	E	E	E
(vi) The TMD must oversee all aspects of multidisciplinary care from the time of injury to discharge.	E	E	E	E
(vii) The TMD must maintain current ATLS provider or instructor certification.	E	E	E	E

(viii)	The TMD will have 30 hours of Category I trauma/critical care CMEs every three years and attend one national meeting whose focus is trauma or critical care.	E	E	E	O
(ix)	The TMD will have 30 hours of Category I trauma/critical care CMEs every three years and/or attend one national meeting whose focus is trauma or critical care.	-	-	-	E
(x)	The TMD may attend more than one national meeting over three year period.	O	O	O	O
(xi)	Each surgeon, emergency physician, nurse practitioner or physician's assistant participating/taking call in the program or could possibly be caring for trauma alert patients in the ED must complete 30 Category I CMEs in trauma/critical care across the three year verification period or 20 CMEs across the two year designation period. Updating ATLS may be included in these CMEs. OR The TMD will provide an annual meeting and/or a self-learning packet/web based learning program. All of the following shall receive this training: • All full and part time surgeons taking trauma call • The TPD/TPM/TNC • Nurse practitioners and physicians assistants affiliated with the trauma program • All full and part time ED physicians who may be caring for trauma alert patients in the ED • All nurse practitioners and physicians assistants who may be caring for trauma alert patients in the emergency department. The TMD will provide the following updates during this meeting: • Highlights from national meetings and other continuing education to include a discussion of any changes applicable to the current guidelines and practice. • A review, including updated information from ATLS.	E	E	E	E

The TMD of the trauma program must be a board certified general surgeon. In addition, the TMD must have at least three years experience as a surgeon on a trauma program or in a setting with a high clinical volume of trauma patients. This may take place during residency or fellowship provided the residency or fellowship occurs in a designated Level I or Level II trauma center. If a TMD has not worked in a trauma center for three years he or she should provide an indication of volume and activity at a previous institution. This experience must have taken place within the last ten years.

The TMD must be currently active in delivering clinical care to trauma patients. The job description and interviews with hospital staff must confirm that the TMD has the authority and responsibility to oversee multidisciplinary aspect of trauma care. This does not mean that the TMD must be clinically involved with the care of each patient; rather he must have administrative responsibility pertaining to organization, coordination and evaluation of care.

The TMD must remain current in trauma care. For this reason he/she must maintain current certification in ATLS either as an instructor or as a provider. In addition, the TMD is required to obtain a minimum of 30 hours continuing education in trauma care every three years. While a portion of this continuing education may be obtained on site, the TMD must attend at least one national meeting with a focus of trauma or critical care within the three year verification cycle.

It is essential that the TMD remain active in development and management of the trauma system on the state and regional level. This will be demonstrated by evidence of attendance and participation in regional, state or national level trauma system and trauma performance groups.

The institution may choose to add an emergency physician co-director to the program. The presence of a co-director does not change requirements for experience, education and participation of the surgeon in the program. Advantages of a co-director include assistance in performing administration, coordination, education and evaluation of care normally assigned to the surgeon director. Additionally, the emergency physician will provide a different emphasis on the management of trauma with a greater focus on acute resuscitation. No requirements are provided for the position of trauma co-director. However; if the institution chooses to include this position, it must provide a job description and qualifications.

Critical Deficiency:
- Current TMD does not meet qualifications- e.g. not surgeon, incomplete or remote prior experience.
- TMD education not up to date: not current in ATLS, no attendance at national meeting, less than 30 hours continuing education in critical care and trauma over three years.

Non Critical Deficiency:
- No evidence or only sparse participation at local state or regional systems efforts.
- No publications or presentations.
- If a co-director is included, no job description or qualifications.
- Job description or performance of TMD does not indicate sufficient oversight of program.

Trauma Program Director/Manager/Nurse Coordinator (Section 1.06)

Section 1.06 Trauma Program Director/Manager/Nurse Coordinator: Level:	I	IB	II	III
(a) The TPD/TPM/TNC must be a dedicated full time equivalent (FTE).	E	E	E	E
(b) The TPD/TPM/TNC must have overall management responsibilities for the trauma program.	E	E	E	E
(c) There must be a defined job description delineating the TPD/TPM/TNC role and responsibilities. The TPD/TPM/TNC must be reflected in the hospitals organizational chart.	E	E	E	E
(d) The TPD/TPM/TNC must be a RN.	E	E	E	E
(e) The TPD/TPM/TNC, in addition to being a RN, must possess experience in emergency/critical care nursing.	E	E	E	O
(f) The TPD/TPM/TNC must obtain 30 TEH required per three year verification cycle, of which 50%, must be via an extramural source. This may be prorated by the State Trauma Coordinator for new hires or shorter periods of time due to extenuating circumstances.	E	E	E	E

(g) The TPD/TPM/TNC will attend one national or international meeting within the three year verification or designation period.	E	E	E	E

The TPD/TPM/TNC is essential to the integration and smooth functioning of the trauma program. This individual acts as the liaison between the trauma program and the hospital services necessary to provide care for the multiply injured patient. The TPD/TPM/TNC also is the primary contact and resource for the nursing services required for trauma care from the time of admission to rehabilitation and follow up care. On most services the trauma nurse coordinator also provides the logistical support for implementing the quality improvement program.

While specific job descriptions vary based on trauma program organization and support, it is essential that a job description be present and accurately reflective of what is expected. An organizational tree should indicate reporting relationships. These two documents should outline sufficient levels of authority to perform PI, interact with nursing and ancillary services and to perform any other tasks outlined in the job description.

The broad range of tasks assigned to the TPD/TPM/TNC may quickly come to consume substantial amounts of time. For this reason TPD/TPM/TNC's associated with all programs must be dedicated full time positions without oversight of other programs or areas or significant clinical obligations. It is allowable for the TPD/TPM/TNC to perform occasional clinical trauma nursing activities if deemed necessary to maintain contact with clinical staff or in exceptional instances of demand. However, this should not interfere with other trauma program obligations.

In addition to being a RN, Level I and II TPD/TPM/TNC's must have a minimum of three years of nursing experience in emergency/critical care nursing and provide documentation of continuing education specific to trauma and critical care as described in the criteria. All TPD/TPM/TNC's must attend a minimum of one national meeting every three years. This is to allow interaction with trauma staff outside of the hospital and to collect new information and updates on trauma management. For the same reason 50% of the TEHs 15 hours during a three year period must be off-site. Attendance at a national meeting may be included in offsite education hours.

Some programs include more than one nursing position. The titles for these positions may vary for example: trauma case manager, trauma nurse coordinator (in a program where there is a Trauma Program Manager) etc. The requirements above apply only to the individual identified as primarily responsible for the trauma program. However, if a nursing or other position is assigned to the trauma program, there must be a job description for the position, inclusion in the program organizational chart and plan for education commensurate with the position described.

Critical Deficiency:
- No TPD/TPM/TNC.
- TPD/TPM/TNC Position not full time.
- TPD/TPM/TNC not an RN.
- No job description for TPD/TPM/TNC.

Non Critical Deficiency:
- Insufficient prior critical care/emergency experience (Level I or II).
- Job description for any level is too extensive for time allotted.

- Insufficient continuing education hours off site or no attendance at a national meeting.
- If other program nursing positions are described, absence of job description and/or educational program.

Trauma Registrar (Section 1.09)

Section 1.09 Trauma Registrar: Level:	I	IB	II	III
(a) Must be a minimum of one full FTE dedicated to the trauma registry.	E	E	E	-
(b) A minimum of a 0.5 FTE must be fully dedicated to the trauma registrar position.	-	-	-	E
(c) Trauma registrars must attend 24 TEH required per three year verification cycle, of which 50 percent must be from an extramural source.	E	E	E	E

The trauma registrar is responsible for extracting information from charts, maintaining the trauma registry and developing and delivering reports from the registry. This role is vital in the maintenance of a robust PI program and in delivery of required trauma registry data to the state. The minimum requirement for Level I and II centers is a full time registrar, however, with larger services more registrars or assistants are necessary.

In order to extract information from patient charts, the registrar must be familiar with how the trauma program works, as well as, terminology, coding and the use of various scoring systems used to describe the severity of trauma. The educational program for a full time trauma registrar consists of 24 hours in three years on trauma, critical care, registry or data collection. While 24 hours is optimal for a part time registrar, there must be an educational experience at least proportional to the portion of time spent in that position.

The job description for the trauma registrar should clearly define the need to access patient records and to extract data. Key elements of the position include data extraction from charts, registry maintenance and report delivery.

Some programs may opt to use additional assistants to facilitate the role of trauma registrar. Examples of assistant activities include but are not restricted to, computer entry of data extracted from charts or collection of charts from the chart room. The presence of an assistant does not replace the requirement for a full time registrar. Assistants to the registrar may be of any employment status including voluntary. For this reason it is important to assure that job training is adequate to cover the position, particularly with regard to confidentiality of patient information and quality improvement. Other areas of job training should be tailored to the position.

As a program expands to include more than one registrar, the educational requirements are the same as for the original position. This is due to the fact the each registrar will be performing the same task, with the same key elements.

Critical Deficiency:
- No trauma registrar.
- No job description for registrar position.

Non Critical Deficiency:
- There is a registrar, but time allotted to position is insufficient for tasks expected.
- Education insufficient or not up to date.
- Assistants are used to supplement registrar position but training insufficient for expectations.

Trauma Team Response: (Section 1.10)

Section 1.10 Trauma Team/Trauma Team Response: Level:	I	IB	II	III
(a) There must be a clearly delineated trauma team response to the arrival of the patient with suspected or known major trauma in the ED 24 hours per day.	E	E	E	E
(b) **Trauma Surgeon:**				
(i) A trauma surgeon must meet the patient in the ED upon arrival. A PGY4 or PGY5 general surgery resident capable of assessing emergent situations, providing control and leadership of the care of the trauma patient may meet this requirement. In the event that this requirement is provided by a resident, the trauma surgeon must be available in a timely manner.	E	E	E	O
(ii) The ED physician is a designated member of the trauma team and may direct resuscitation and care of the patient until the arrival of the trauma team leader. A senior level emergency medicine resident may fulfill this function provided there is an attending ED physician present in the ED.	E	E	E	E
(iii) Trauma/general surgeons participating in the trauma program and taking active call must be dedicated to the hospital while on trauma call and show active participation in the trauma program.	E	E	E	E
(iv) Trauma/general surgeons participating in the trauma program and taking active call must have completed ATLS, successfully, at least once in the past.	E	E	E	E
(c) **Minimum Physician Coverage:**				
(i) A minimum of two attending level physicians must be present for the arrival of full trauma team alert patients. These physicians must be an anesthesiologist, EM physician, or general surgeon. A qualified general surgeon is expected to participate in major therapeutic decisions and be present in the ED for major resuscitations and at operative procedures on all seriously injured patients.	E	E	E	O
(ii) A minimum of one attending level physician must be present for the arrival of trauma team alert patients. This physician must have the capability to manage the initial care of the majority of injured patients and have the ability to transfer patients that exceed their resources to an appropriate level trauma center.	-	-	-	E
(d) **Anesthesiology:**				
i) There must be an anesthesiologist in the hospital 24 hours a day (refer to Section 2.04).	E	E	O	O
(ii) Anesthesiology must be on call and readily available 24 hours a day (refer to Section 2.04).	-	-	E	E
(iii) Anesthesiologist must be present for all emergent operative procedures on major trauma patients (refer to Section 2.04).	E	E	E	E
(e) **Trauma Related Surgical Specialties (as listed in Section 2.05):**				
(i) Promptly available as needed.	E	E	E	E

The hallmark of a trauma program is the trauma team response. This must be described in the trauma program manual and demonstrated on chart review for any site visit type other than provisional. The goal to the trauma team response is to expedite the diagnosis and management of injuries for the trauma patient.

The description of the team response in the trauma program manual must include criteria for response, notification of impending patient arrival to team members, who responds, target criteria for timeliness, team member roles and any actions expected as a result of trauma notification (for example: hold an OR open).

Every center must have a procedure for a full team response. This means that all team members (including the surgeon) are included and every effort is made to assure that the team is available *at the bedside* at the time of patient arrival. In addition, an operating suite must be available at short notice and arrangements include the rapid access to red blood cells for transfusion. The assumption is that the critically injured patient may require very rapid intervention for stabilization and surgical intervention for definitive care of injuries. In the single level response model, it is a criterion when calling the team, that the response must be broad in order to have the needed resources available to all patients requiring emergent interventions. For this reason, the single level response results in over triage and heavy utilization of resources.

While not required, many hospitals choose to use a tiered response to trauma. The tiered response includes the full team at the highest level and partial team response at one or more additional levels. When a tiered response is used, the trauma program manual must describe each level of response and criteria qualifying for the response level. While a tiered response addresses the needs of less severely injured patients and minimizes over utilization of resources, more oversight is necessary to assure that the effect is not diluted by a pattern of calling a lower level of response than necessary.

The site review team will review the trauma program manual, patient records, and the quality improvement program to determine the following:

- Alerts occur as described in the trauma program manual.
- Criteria are appropriate.
- Criteria address the needs of severely injured patients.
- That the full team response is timely.
- Tiered response is used as indicated in the trauma program manual.

While deviation from the description of the alert system in the trauma program, manual may occur from time to time, the site team will be evaluating the program for patterns of deviation especially in instances where the pattern is not identified by the institution's PI plan and addressed through the plan. Examples of such patterns include, but are not restricted to:

- Delay in calling a full team response until after the patient is evaluated.
- Severely injured patients or patients requiring emergent surgery not receiving full team response.
- Frequent need for upgrades in tiered response.
- Delay in arrival of team members for full team response.
- Mortality or morbidity attributable due to delays in team arrival.
- PI plan does not identify and address issues in team response.

Critical Deficiency:
- Trauma team response not identified in the facilities trauma program manual or communicated to team members.
- Response is as described in the trauma program manual, but criteria result in morbidity and mortality attributable to under triage – not addressed by PI program.
- Severely injured patients or patients requiring emergent surgical intervention not included in full team response- not addressed by PI program.
- Written procedure for team response is appropriate, but implementation results in under triage of critically injured patients and is not addressed by PI program.

Non Critical Deficiency:
- Consistent deviation from trauma team response as described in trauma program manual.
- Patterns of delay in full team response and not resulting in critical deficiency.

Additional Clinical Capabilities: (Section 2.05)

Section 2.05 Additional Clinical Capabilities: (On call and promptly available)Level:	I	IB	II	III
(a) **Surgical:**				
(i) Cardiac surgery	E	E	O	O
(ii) Thoracic surgery	E	E	E	O
(iii) Orthopedic surgery	E	E	E	E
(iv) Pediatric surgery	E	E	O	O
(v) Hand surgery	E	E	O	O
(vi) Microvascular/Replant surgery	E	E	O	-
(vii) Plastic surgery	E	E	E	O
(viii) Maxillofacial surgery	E	E	E	O
(ix) Ear, Nose and Throat surgery	E	E	E	O
(x) Oral surgery	E	E	O	O
(xi) Ophthalmic surgery	E	E	E	O
(xii) Gynecological surgery/Obstetrical surgery	E	E	E	O
(xiii) Urology	O	E	-	-
(b) **Non-surgical: (**On call and promptly available**)**				
(i) Cardiology	E	E	E	O
(ii) Pulmonology	E	E	O	O
(iii) Gastroenterology	E	E	O	O
(iv) Hematology	E	E	O	O
(v) Infectious Disease	E	E	O	O
(vi) Internal medicine	E	E	E	E
(vii) Nephrology	E	E	O	O
(viii) Neurology	O	E	O	O
(ix) Pathology	E	E	E	E
(x) Pediatrics	E	E	O	O

	I	IB	II	III
(xi) Psychiatry	0	E	O	O
(xii) Radiology	E	E	E	E
(xiii) Interventional Radiology	E	E	E	O
Section 2.06 Department of Social Services consultation must be available to the burn program.	O	E	-	-

The purpose of the sections on clinical capabilities is to ensure that the trauma center is capable of providing the services required for its level of designation, as denoted by being marked as essential and being able to manage corresponding injury types on a full time basis.

The hospital must offer each of the relevant services, although dedicated call to the trauma center is not necessary and the specialist need not be immediately available. A 24 hour call schedule for the program is NOT necessary. The hospital has the flexibility of organizing a plan to manage corresponding injuries on site in a manner best suited to staff and resources. For example, in the absence of a 24 hour call schedule for ENT the center may have a plan for immediate coverage of maxillofacial trauma patients with a rotating call schedule. PI processes should be in place to oversee the plan and to identify any potential problems. The plan may NOT involve transfer of patients with the injury type of concern.

Continuing Medical Education Program (physicians/physician extenders): (Section 3.01)

Article III Clinical Qualifications Level	I	IB	II	III
Section 3.01 General/Trauma Surgeons:				
(a) Board certified/eligible in general surgery.	E	E	E	E
(b) Must meet the educational requirements in Section 1.04(a)(xi).	E	E	E	E
(c) Successful ATLS course completion at least once	E	E	E	E
Section 3.02 Burn Surgeons:				
(a) There must be at least one FTE attending burn surgeon staff involved in the management of burn patients for each 200 acute inpatients admitted annually.	-	E	-	-
(b) The Burn Medical Director may appoint a qualified attending burn surgeon urged to participate in the care of the patients on the burn program.	-	E	-	-
(c) Attending staff burn surgeons must be board certified or eligible in general or plastic surgery.	-	E	-	-
(d) Attending staff burn surgeons must have completed a one-year fellowship in burn treatment or must have experience in the care patients with acute burn injuries for two or more years during a previous five years at a designated Level I trauma center.	-	E	-	-
(e) Attending staff burn surgeons must participate in CME of burn related education at a minimum of 30 hours or more averaged over a three year period.	-	E	-	-
(f) Attending staff burn surgeons must direct the total care of at least 20% or more of acutely burned patients annually admitted to the burn program averaged over a three year period.	-	O	-	-
(g) Privileges for physicians participating in the burn program must be determined by the medical staff credentialing process and approved by the Burn Medical Director.	-	E	-	-

Level	I	IB	II	III
(h) The burn program must maintain an on-call schedule for residents and attending staff burn surgeons available to the burn program. Residents and staff surgeons must be primarily available on a 24 hour basis.	-	E	-	-
(i) If residents rotate on the burn program, the Burn Medical Director, or his or her designee, must be responsible for an orientation program for new residents.	-	E	-	-
Section 3.03 Emergency Medicine:				
(a) Board certified/eligible in emergency medicine (exceptions may be made in rare instances based upon long term practice in emergency medicine.)	E	E	E	E
(b) All ED physicians must meet the educational requirements in Section 1.04(a)(xi).	E	E	E	E
(c) ED physicians must maintain current ATLS, **if not** boarded in emergency medicine.	E	E	E	E
Section 3.04 Neurosurgery:				
(a) Orthopedic surgeons performing trauma call must be board certified within five years of completing residency successfully.	E	E	E	O
(b) Orthopedic surgeons performing trauma call must have 10 hours of skeletal-trauma specific CMEs per year.	O	O	O	O
(c) Must have successfully completed an ATLS course once.	O	O	O	O
Section 3.05 Orthopedic Surgery:				
(a) Orthopedic surgeons must be board certified within five years of successfully completing an orthopedic residency.	E	E	E	O
(b) Orthopedic surgeons must have 10 hours of CMEs per year in skeletal trauma.	O	O	O	O
(c) Orthopedic surgeons must have successfully completed an ATLS course at least once.	O	O	O	O

The TMD of the trauma program is responsible for developing a program to address continuing education needs for those individuals responsible for the initial evaluation and ongoing medical care of trauma patients. With this version of criteria the list has been expanded and includes: trauma surgeons, emergency physicians, trauma program manager/nurse coordinator(s), residents (surgery and emergency medicine), nurse practitioners and physician assistants. All full and part time individuals are included in the program. Individuals not assigned to areas where potentially serious trauma patients are seen, need not be included. An example of this would be a physician's assistant who works only on the non-acute or "fast track" side of the ED. Documentation of participation in continuing education will be in the form of certificates or signed rosters. These should be available for the site team if requested at the time. Prior to the site visit, the institution will provide a roster of clinicians required to participate in the continuing education program.

The TMD may choose one of two tracks for continuing education in trauma care at the institution. All participants must participate in the same track (although content may vary according to category of participant). The selection of the continuing education tract must be indicated in the application. If the track is changed, notification of the change, including pertinent dates, should be provided to all participants in writing and included in trauma committee minutes.

Track One: Each of the participants must provide evidence of participation in 30 hours of continuing education in trauma or critical care over the three year period (or in the case of two year designation 20 hours). This may occur inside or outside of the hospital. ATLS may be included in the required number of hours, but

does not replace them. In the event that a conference is only partially dedicated to these topics, the TMD must determine which portion of the conference was qualified, and apply only that amount of time to the total

Track Two: The TMD with institutional technical assistance may choose to provide a program outlining highlights from recent national meetings, consensus documents, journals or textbooks outlining recent advances in critical care and trauma AND a brief overview of selected topics including recent changes in ATLS. This must be updated annually and may be in the form of a self-study packet, web or computer based program, an annual meeting or a prescribed combination. It is recommended but not essential that participants receive continuing education credits for this. It is essential that there be documentation of participation in the program by each individual. A written outline of this program must be provided at the time of the site review. For example:

- A surgeon attends a conference titled "Current concepts in general surgery" for a total of eight hours continuing education. While most of the conference is on ambulatory surgery and breast cancer, one hour is spent on ultrasound examination of the trauma patient and one hour on ventilation of the critically ill patient. The surgeon can count two hours of continuing education on trauma and critical care.
- A physician assistant has attended 12 mortality and morbidity conferences. Review of all Morbidity and Mortality Conference minutes for the hospital indicates that a quarter of the patients presented are trauma patients. The physician assistant can count three hours towards trauma and critical care.
- When using track two, it is the responsibility of the institution to calculate and tabulate the continuing education hours for each individual involved.
- Any surgeon, emergency physician, nurse practitioner or physician's assistant participating/taking call in the trauma program or could possibly be caring for trauma alert patients in the ED who has been with the trauma program for greater than six months, but less than the interval between site reviews is expected to complete a portion of the educational program commensurate with the time they have been with the trauma program.
- Any participant who withdraws from the roster for a period of not more than 12 months may have their CME requirements waived, commensurate with the length of their sabbatical. This may only occur once in a ten year period.

    Critical Deficiency:
    - Absent continuing education program.

    Non Critical Deficiency:
    - No more than one individual or 10% of the roster are not in compliance with continuing education requirements.
    - Failure to clearly document participation in either track by the institution.
    - Track One: program superficial content or not up to date.
    - Track Two: program fails to break out appropriate trauma care related hours from multidisciplinary patient care conferences.

Trauma Nursing Education: (Section 3.06)

Nursing TEH – may encompass care of the trauma patient in any aspect of the continuum; from point of injury, to rehabilitation, and injury prevention. Acceptable means of education may include but are

not limited to: use of equipment, processes and protocols, PI, conferences, workshops, symposiums, scientific assemblies, in services, refresher courses, participation in a simulation lab, online education, classes, skills labs, case studies, journal article reviews and providing course instruction and lectures.

- Course instruction - hours will be awarded only for the trauma specific content presented and may be used toward credit only once in a 12 month period.
- Registrars – in addition to the education options listed above, approved areas include: developing spreadsheets and other custom reports, injury identification, scoring and any database functions primarily associated with trauma; statistics and data analysis.

External Source –national and international conferences, online or self study courses or professional journal articles with appropriate documentation, seminars and webinars, mission, goodwill or training activities/events/ excursions with appropriate documentation

The appropriateness of course content must be approved by the TPD/TPM/TNC. This does not apply to fully recognized national certification courses. Documentation of content such as a course outline, bibliography, competency validation checklist, or manual may be considered in evaluating a trauma specific focus.

Recognized national certification courses include:
- ENPC – Emergency Nurses Pediatric Course
- TNCC – Trauma Nurse Core Curriculum (ENA)
- ATCN – Advanced Trauma Care for Nurses (STN)
- PHTLS – Prehospital Trauma Life Support
- RTTDC – Rural Trauma Team Development Course
- ABLS – Advanced Burn Life Support
- National Disaster Management Courses
- CATN – Course in Advanced Trauma Nursing (ENA)

Excluded national certification courses:
- ACLS – Advanced Cardiac Life Support
- PALS – Pediatric Advanced Life Support
- NALS – Neonatal Advanced Life Support
- Or any education or training with a non-trauma specific content.

Performance Improvement: (Section 5.01)

Article V Performance Improvement Program Level:	I	IB	II	III
Section 5.01 Trauma/Burn Performance Improvement:				
(a) An organized PI program to examine the care of the injured patient within the hospital that looks towards improving outcomes by decreasing complications and improving efficiency. The process should clearly document the PI process, action plans, and resolution of the issue (loop closure).	E	E	E	E
(i) There must be a demonstrable relationship between PI outcomes and new or revised clinical protocols.	E	E	O	O
(ii) There should be an expansion of the PI program to include regional trauma systems.	O	O	O	O

	Level:	I	IB	II	III
(b)	The PI program should follow state recommended audit filters at a minimum.	E	E	E	E
	(i) The PI program should participate in the creation of institutional and regional based audit filters as identified by the institution or regional PI committees.	O	O	O	O
(c)	The PI program must demonstrate the application outcome and benchmarking based activity.	E	E	E	E
(d)	Participation in the VSTR as mandated by the *Code of Virginia*. Data must be submitted to the VSTR within 30 days from the end of a quarter and include all patients: • With an ICD9-CM code(s) of 348.1, 800.0 – 959.9, 994.0 and 994.1, excluding 905-909 (late effect injuries), 910-924 (blisters, contusions, abrasions and insect bites), 930-939 (foreign bodies), and • Were admitted to the hospital, or • Were admitted for observation (not ER observation unless held in the ER due to no inpatient bed availability), or • Were transferred from one hospital to another for treatment of acute trauma, or • The patient dies within the hospital due to injury (includes, the ED and DOA's). Note: Hospitals may over report within these ICD9 codes if desired for internal reporting.	E	E	E	E
(e)	Compliance with Section 5.01.d above on a quarterly basis	E	E	E	E
(f)	Utilization of VSTR/National Trauma Data Bank (NTDB):				
	(i) For new trauma centers, the PI program should utilize VSTR or NTDB data for institutional, regional, or state research or benchmarking for PI or injury prevention programs. For mature trauma centers (by the second verification visit) this criterion becomes a requirement.	O	O	O	O
	(ii) For mature trauma centers (by its second verification visit) the PI program must utilize VSTR or NTDB data for institutional, regional, or state research or for benchmarking for PI or injury prevention programs.	E	E	E	E
(g)	There must be a forum that includes the TMD, ED Director, TPD/TPM/TNC, designee from trauma subspecialties (neurosurgery, orthopedics) as specific issues present for multidisciplinary review of care of the injured patient including policies, procedures, system issues, and outcomes. The forum may include pre-hospital, nursing, ancillary personnel, a hospital administrator, and other physicians involved in trauma care. (The forum in h, below, may be combined with this meeting.)	E	E	E	E
	(i) There must be 50% attendance by committee members (or designee) at multi-disciplinary review of care meetings.	E	E	E	E

Article III Clinical Qualifications	Level	I	IB	II	III
(h) The hospital will have a structured peer review committee, which must have a method of evaluating trauma care. This committee must meet at least quarterly and include physicians representing pertinent specialties that include at least, trauma surgery, neurosurgery, orthopedics, emergency medicine, anesthesiology, and may include hospital management and other subspecialties as required. The TPD/TNC/TNC or designee may be a member. Outcomes of peer review will be incorporated into the educational and policy program of the trauma program. (The forum in g may be combined with this meeting.)		E	E	E	E

The presence of a PI program is critical to the existence of the trauma or trauma/burn center. While every hospital participates in PI, not every PI program addresses the needs of a trauma or burn program. Site review teams will be looking for a program specifically oriented to trauma and burn patients; one that covers multidisciplinary issues as well as all phases of trauma and burn care from pre-hospital care to rehabilitation. The TMD, Burn Medical Director, TPD/TPM/TNC, and/or Burn Manager/Coordinator must have oversight for the program.

A written PI plan should be provided and should describe the following:
- Selection of audit filters
- Management of unique events or reports
- Review of information and reports received
- Routing of pre-hospital care, nursing, and medical staff issues
- Means of implementing change
- Documentation with regard to implementing change
- Maintenance and review of PI plan
- Describe who has the authority and responsibility to implement the plan.

Every center must audit its trauma (including burn) deaths. In addition, the center should include audit filters based on its previous experience, those filters requested by the TSO&MC and filters designed to identify potential problems. Because each center is different, a list of audit filters for a center will be unique for that center. Process filters which evaluate whether or not a process is observed are valuable when developing a new trauma program or setting up a procedure for a currently existing program. Outcome filters describe the results of trauma and burn care. While death is certainly the ultimate outcome filter, a PI plan should address other outcomes such as disability at discharge or time to definitive procedures. Experienced trauma and trauma/burn centers are expected to place increasing emphasis on outcome oriented audit filters; their PI plan and program and are judged accordingly.

VERSION UPDATE NOTES