Ky Trauma Advisory Committee
Steering Committee Meeting Agenda
April 15, 2025 @ 3:00 PM EST [Meeting via UofL Zoom]

Minutes

- **Opening & Welcome** by Dr. Cales, Chair.
- **Minutes** from the February 18, 2025, General Meeting (held via Zoom) were approved as distributed, and are available on the KHA's Trauma System website.
- **KyTAC Appointments/Reappointment**: Dr. Cales acknowledged and welcomed Cabinet for Health and Family Services (CHFS) Secretary Friedlander's appointments on March 24th (CHFS AO 2025-01):
  - **Dr**. Ryan Stanton, representing KY Medical Association
  - **Dr**. Bryan Shouse, Frankfort Regional Medical Center, representing Level III Trauma Centers
  - Mr. Dale Morton, RN, representing the KY Emergency Nurses Association
  - Mr. Mike Mixon, RN, from Owensboro Health Regional Hospital (Level III), as an At-Large representative
  - Dr. Julia Costich, representing the UK's KY Injury Prevention Research Center (KIPRC), was reappointed.
- Committee Reports
  - **Data/Quality/Registrars.** Julia Costich indicated that they are still in negotiations related to the Kentucky Trauma Data Bank (KTDB) housing arrangements going forward, but that they have reached an agreement with ESO to extend their current contract to ensure an orderly transition.

    Samantha Baker (UofL Trauma Institute) indicated that she has been working with interested Level III and IV facilities to complete their Memorandum of Understandings and User Access Requests. The following deadlines must be met to be eligible for this wave of onboarding:
    - Step One – **Due Date Thursday May 1st, 2025: MOU Submission**
      Submit a **fully executed** MOU to me, Samantha Baker (Samantha.baker@uoflhealth.org) by **NO LATER** than **MAY 1st, 2025.** This will allow time to get the MOU submitted into our legal system prior to training/go-live
    - Step Two – **Due Date Friday May 9th, 2025: User Access Requests**
      - Submit a completed/signed ImageTrend Access Request form for EACH user at your facility, including who you determine to be your Facility Administrator to me by Friday, May 9th so that I can ensure those users have access credentials.
      - Facility Administrators ONLY will need to have their form signed by a member of the executive/Administration team at the respective facility.
      - Access credentials will be sent individually to each user.
    - Step Three – **Due Date Thursday May 15th, 2025: ImageTrend Platform Overview/Training**
      - Ensure users are available for ImageTrend Training, which is scheduled for **Thursday, May 15th, 09:00 am EST – 11:00 am EST**.
      - Each user will receive a zoom link to his/her email address on record ahead of class if an **Access Request Form** has been submitted for them.
    - ***Training*** for the new ImageTrend Patient Registry platform, we will be hosting two Q&A sessions for anyone who has questions regarding the onboarding process, what to expect within the platform, etc.. Luis Torres from ImageTrend will be on the calls to assist, as well as the UL Health Trauma Program Director, Kim Howard (Denzik) as her schedule allows. ***Please feel free to attend either of the sessions below:***

- Option 1 – Wednesday, April 23rd 09:00 – 10:00 EST
  https://uoflhealth.zoom.us/j/91245066569
- Option 2 – Wednesday May 7th 12:00 – 13:00 EST
  https://uoflhealth.zoom.us/j/97431164147

- **Education.** Kim Howard reported for Tracie Burchett that they were working on the 2025 Trauma and Emergency Medicine Symposium in Louisville at the Galt House, October 23-24; with the KyTAC meeting, and other preconference meetings, on October 22.
  - Mr. Bartlett asked about upcoming RTTDC courses to share with some of the facilities looking to develop a new Level-IV, and those who might need the training for their Trauma Medical Director, as required by regulations. He asked that those planning programs please share the info.
- **EMS for Children Programs.** Morgan Scaggs was not able to participate in all of the meeting, so Mr. Bartlett briefed the Committee on her behalf.
  - **Blue Bands Project** – A new program from the KY Maternal Morbidity and Mortality Task Force (KyMMM) to improve the process for recognition and treatment of severe hypertension during pregnancy and postpartum, which has been linked to maternal morbidity and mortality. There was a flyer shared with more information, a list of birthing hospitals distributing the Blue Bands, and a link to treatment algorithms/protocols. (Link to more on the KY Blue Band Project on KHA's Trauma System website.)
  - **Pediatric Readiness Briefing** – Dr. Mary Fallat is scheduled to present at a meeting of the KY Association for Healthcare Quality (KAHQ) on Friday morning about Pediatric Readiness. The presentation is for an hour, and will cover current and developing pediatric readiness program efforts.
  - **KPECC** – There were 65 people who attended live, and 40 on-line, the annual Kentucky Pediatric Emergency Care Consortium (KPECC) meeting. Feedback has been largely positive, and Morgan welcomes additional suggestions for next year's meeting. The slides from presentations are posted on the EMS-C "Basecamp" site, and she hopes to have recordings available in the near future. Basecamp is available to up to three people from a facility, which ideally will include the nursing Pediatric Emergency Care Coordinator. For more information on Basecamp access email Morgan.Scaggs@ky.gov
- **Verification.** Kim (Denzik) Howard noted that there are about six Level-IVs coming up later this year, and several more in development. If there are trauma program managers, medical directors, and others interested participating in site visits, or there are developing facilities that need assistance, please reach out to kim.howard@uoflhealth.org
  - Upcoming ACS verifications:
    - Owensboro Regional Health (ACS COT, Spring 2025)
    - UofL Hospital (ACS COT, Summer 2025)
    - Ephraim McDowell RMC (ACS COT, Fall 2025)
- **Pre-Hospital Whole Blood Work Group** (Chris Lokits) – [Mr. Bartlett reported for him]
  - The Louisville Metro EMS Pre-Hospital Whole Blood program kicked-off on Friday, April 11th, a day earlier than anticipated after the American Red Cross was able to get them some units of blood ahead of schedule. Reportedly, their first case occurred on the following Sunday.
  - The Lexington metro region, led by the University of Kentucky Trauma Program, will involve Lexington Fire Department, Jessamine, Madison, and Georgetown/Scott EMS (4 services). According to a previous briefing by Dr. Bernard, they are working with the Kentucky Blood Center (KBC), and have developed protocols modeled after the Southwest Texas Regional Advisory Council (STRAC) program. There will be 1 unit of cold-stored whole blood per county in a supervisory vehicle, and there is a rotation plan through KBC to avoid waste. Their target start date is May 1st.
  - What we would like to hear at a future meeting is feedback on how the first two programs have been progressing, how each program was able to work out their arrangements with the blood centers involved, and any potential plans or guidance that might be available for other services and regions considering this program. In addition, what, if any, adaptations were needed to the KBEMS or local protocols that other services should consider.

- **Other Business.** Mr. Bartlett advised that he will be participating in the National Trauma Managers Council meeting May 12-15, which is part of the National Association of State EMS Officials (NASEMSO) organization.

He is expecting that the *draft* ACS COT proposed 30 standards for a Level-IV trauma center (which are included with the minutes), and the related ACEP "*Guidelines Regarding the Role of Physician Assistants and Nurse Practitioners in the Emergency Department*" published in June, 2023, along with an ACEP follow-up issued in October, 2024 to clarify their position, will likely be a topic of discussion. One of the major differences is the role of APPs in the functioning of a Level-IV trauma center. Dr. Harbrecht reinforced what Dr. Fallat that there wasn't much discussion about this subject in a recent ACS meeting. He also said that there is no intention to have ACS COT get involved with Level-IV verifications, which is what Dr. Fallat had told the group in a previous meeting.

- There was no other business brought forward at this time.
- **Next Meetings**:
  - **Next Full KyTAC Meeting** (virtual): June 17, 3 PM ET
  - **Next Steering Committee Meeting** (virtual): May 20, 3 PM ET
- **Adjournment**

Respectfully submitted,

Richard Bartlett
KyTAC Secretary
KY State Trauma Program Director
Ky Hospital Association/KHREF
InfraGard Healthcare and Public Health Sector Chief
RBartlett@kyha.com

Attachments:

- 2025 KY Trauma and Emergency Medicine Symposium
- KY Blue Band Project Flyer
- ACS COT Draft Rural Level-IV Standards (January, 2025)

KyTAC Appointed Members in attendance on April 15, 2025:

Title	First Name	Last Name	Suffix	Organization	Representative for
Mr.	Richard	Bartlett (3)	MEd	KY Hospital Association	KY Hospital Association
Dr.	Richard	Cales (1)	MD	Emergency Physician	At Large
Dr.	Julia	Costich (2)	JD, PhD	KIPRC	Injury Prevention Programs
Mr.	Chase	Deaton		KY Trans. Cabinet, Incident Mgmt	KY Transportation Cabinet
Dr.	Brian	Harbrecht	MD	UofL Dept. of Surgery	UofL Level-I Trauma Center
Dr.	Jacob	Higgins	RN, PhD	UK Healthcare	KY Board of Nursing
Mr.	Mike	Mixson	RN, MSN	Owensboro Health Reg. Hospital	At-Large
Mr.	Dale	Morton	RN, MSN, EMT	Pikeville Medical Center	KY Emergency Nurses Assoc
Ms.	Morgan	Scaggs	EMT-P	KY EMS for Children Program	Pediatric Trauma
Dr.	Brian	Shouse	MD	Frankfort Reg. Medical Center	Level-III Trauma Centers
Ms.	Sandy	Tackett	RN	Pikeville Medical Center	Level-II Trauma Center

Others at the meeting:

Debbie Baker, St. Joseph London
Samantha Baker, UofL Trauma Program
Samantha Bowen, Middlesboro ARH
Tracie Burchett, UofL Trauma Institute
Trish Cooper, UK Healthcare Trauma Registrar
Kari Hackney, RN, ARH Our Lady of the Way
Shannon Hogan, Norton Children's Hospital
Kim Denzik Howard, UofL Hospital
Ben Hughes, UK Healthcare
Mistry Lewis, RN, Hazard ARH
John Luttrell, P Coord., UofL Trauma Institute
Brittany Maggard, McDowell ARH
Kim Maxey, Ephraim McDowell Reg. Hospital
Renee McClure, RN, Rockcastle Hospital
Candice Reynolds, RN, UK Chandler Hospital

2025 Kentucky Statewide

Trauma and Emergency Medicine Symposium

Thursday, Oct. 23, and Friday, Oct. 24, 2025

Optional preconference meetings on Wednesday, Oct. 22, 2025

The Galt House Hotel
140 N. Fourth St.
Louisville, KY 40202

The 2025 Kentucky Statewide Trauma and Emergency Medicine Symposium is an educational event providing the latest information on innovative approaches to trauma and emergency care. Regional and national speakers will address topics to enhance the quality of care for adult and pediatric trauma patients.

Scan the **QR code** for more information.

Provided by:

UK HealthCare Level I Trauma Center

UK HealthCare Kentucky Children's Hospital

UofL Hospital J. David Richardson Trauma Center

UofL Health

Norton Healthcare

Norton Children's Hospital

Kentucky Blue Band Project

The KyMMM (Kentucky Maternal Morbidity and Mortality) Task Force would like to announce the statewide launch of the **Kentucky Blue Band Project**.

The goal of the **Kentucky Blue Band Project** is to improve the process for recognition and treatment of severe hypertension (systolic BP ≥160 **OR** diastolic BP≥110) during pregnancy and the postpartum period. Patients that are at risk for severe hypertension will be asked to wear a blue silicon wristband to help with rapid identification. Severe hypertension in pregnancy and postpartum has been linked to maternal morbidity and mortality. Timely treatment of severe hypertension helps to reduce the risk of stroke and eclampsia in this population.

The **Kentucky Blue Band Project** is now available at the following participating birthing hospitals in Kentucky: Baptist Health La Grange, Louisville, Richmond; Murray-Calloway County Hospital; Norton Women's and Children's; St. Elizabeth's Edgewood; and UK HealthCare Georgetown, Lexington.

We need your help recognizing people identified at risk!
Treatment algorithms and protocols can be found at www.KyPQC.org

Category	Std #	Focus Area	Definition & Requirements	Additional Info	Resources
Institutional Administrative Commitment	1	Administrative Commitment	In Level IV trauma centers, the institutional governing body and hospital leadership must demonstrate continuous commitment and provide the necessary human and physical resources to properly administer trauma care consistent with the Level IV standards.	Human resources include physicians, registered nurses, advanced practice providers (APPs), coordinators, and ancillary staff. This standard fully encompasses all staffing needs, physical structures, space allotments, and equipment needed for a trauma center to function optimally.	
Program Scope and Governance	2	Disaster Management and Response	A trauma program representative must participate in the hospital disaster/emergency management committee. The trauma program must participate in two hospital drills or disaster plan activations per year that include a trauma response and are designed to refine the hospital's response to mass casualty events.	Tabletop exercises are acceptable for the two annual hospital drills.	
Program Scope and Governance	3	Governance Structure	All trauma centers must have a governance structure that provides oversight of all aspects of trauma care within the organization. At minimum, this structure must allow for i) discussion and decisions pertaining to trauma program operations and ii) review of care through a multidisciplinary lens. Within the governance structure, the committee for trauma operational decisions must report to the senior leadership team.	The structure typically includes committees where discussions related to operations or multidisciplinary case reviews might occur. The operations committee should address the operational aspects of the program and is typically where protocols and policies are developed, and data are shared and reviewed. This committee should have adequate representation of stakeholders responsible for care of the injured patient and is typically chaired by the TMD or TPM. Multidisciplinary case reviews need not be a separate committee and may be combined with other quality of care committee(s) within the hospital.	
Program Scope and Governance	4	Organ and Tissue Procurement Program	In Level IV trauma centers, an organ procurement program must be available and consist of at least the following: • An affiliation with an organ procurement organization (OPO) • A written policy for notification of the regional OPO • Transfer agreement with regional trauma centers for patients who might meet criteria for solid organ procurement	This standard pertains to solid organ and/or tissue procurement from trauma patients only.	

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Program Scope and Governance	5	Prevention and Outreach Capabilities	Level IV trauma centers must engage in injury prevention activities that prioritize initiatives based on local injury mechanisms, identified using data from the trauma registry and local epidemiological data.	Examples of injury prevention initiatives include fall prevention, motor vehicle crash prevention, motorcycle and bicycle safety/helmet initiatives, pedestrian safety, or bleeding control. Prevention initiatives are most effective when implemented through local, regional, or state partnerships, depending on available resources. Locally, this may involve collaboration with other hospital departments (e.g., PT/OT, family medicine, emergency medicine, pediatrics, social work) or with outside community organizations. Collaboration can involve participation in existing prevention programs or the initiation of new efforts. At the regional and state levels, Level IV trauma centers can support prevention by participating in initiatives led by other trauma centers or regional/state public health agencies.	Safe States Alliance-Provides guidance and resources for injury prevention programs for multiple injury mechanisms https://www.safestates.org/page/InjPrevInventoryHome The American Trauma Society, in partnership with the Trauma Prevention Coalition, has a training program for injury prevention professionals and resources for setting up an injury prevention program https://www.amtrauma.org/page/IPCR National Council on Aging-Evidence-Based Falls Prevention Programs https://www.ncoa.org/article/evidence-based-falls-prevention-programs Center for Disease Control -Stopping Elderly Deaths, Accidents and Injuries (STEADI) https://www.cdc.gov/steadi!abouUindex.html Bleeding related injuries -Stop The Bleed https://www.stopthebleed.org/ Hospital-based violence intervention programs https://www.thehavi.org/what-is-an-hvip
Program Scope and Governance	6	State and Regional Involvement	Level IV trauma centers must participate in the regional and statewide trauma system.	Examples of participation may include the following: • Development and participation in state and regional transfer agreements with other centers • Participation in state and/or regional trauma advisory committees • Collaboration with regional trauma advisory committees, EMS, or other agencies to promote the development of state and regional systems	

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Program Scope and Governance	7	Trauma Medical Director (TMD)	In Level IV trauma centers, there must be a Trauma Medical Director who is a physician or advanced practice provider (APP) and has, at minimum, the following authority and responsibilities: • Develop and enforce policies and procedures relevant to care of the injured patient • Ensure clinicians meet all requirements and adhere to institutional standards of practice related to trauma care • Work across departments and/or other administrative units to address deficiencies in care • Determine clinician participation in trauma care, which might be guided by findings from the PIPS process or professional practice reviews • Work with nursing leadership to support the nursing needs of the injured patients • Oversees the structure and process of the trauma PIPS program • Must participate in committees relevant to the regional trauma system • Must chair or co-chair (with the TPM) the committee where discussions/decisions occur related to trauma operations • Must lead discussions pertaining to trauma multidisciplinary case reviews The Trauma Medical Director must fulfill the following requirements: • Must be active in the provision of trauma care in the trauma center • Must be current in ATLS • Must provide evidence of 24 hours of trauma-related continuing medical education (CME/CE) per 3 years	The Trauma Medical Director works alongside the Trauma Program Manager in the development of policies and oversight of the program. APP may serve as the TMD only in states where they are licensed to practice independently.	

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Program Scope and Governance	8	Trauma Program Manager (TPM)	In Level IV trauma centers, there must be a Trauma Program Manager who has at minimum, the following authority and responsibilities: • Oversight of the trauma program with authority to organize services and systems necessary for optimal care of the injured patient • Coordinate day-to-day clinical process and performance improvement of nursing and allied health personnel • Assists with the budgetary process for the trauma program • Develop and implement clinical protocols and practice management guidelines • Provide educational opportunities for staff development in injury care • Monitor performance improvement activities • Serve as a liaison to administration and represent the trauma program on hospital and regional committees • Have oversight of the trauma registry The Trauma Program Manager must fulfill the following requirements: • Must have had clinical experience in the provision of acute care either as a nurse, APP, or pre-hospital care clinician • Must provide evidence of 24 hours of trauma-related continuing education (CE) per 3 years • Must have completed a course pertaining to trauma performance improvement at least once	The TPM works alongside the Trauma Medical Director in the development of policies and oversight of the program. The TPM must be provided with dedicated time and support adequate for administration of the program based upon its size and configuration. The TPM assumes day-to-day responsibility for process and PI activities as they relate to nursing and ancillary personnel involved in the care of trauma patients. The TPM often co-chairs (with the TMD) the_committee where discussions/decisions occur related to trauma operations. Examples of performance improvement course may include: • TOPIC • Rural TOPIC	
Facilities and Equipment Resources	9	Blood Products	Level IV trauma centers must have an adequate supply of red blood cells and plasma available.	An "adequate supply" of blood products is based on the clinical capabilities of the trauma center, the frequency of needing to care for severely injured patients, as well as the potential need to support patients prior to transfer. It is anticipated that freeze dried products including fibrinogen concentrate, prothrombin complex concentrate (PCC) and freeze-dried plasma might offer benefit considering their longer shelf life. If and when approved for use, "adequate supply" should include these products.	

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Facilities and Equipment Resources	10	Emergency Department (ED) Equipment Resources	In Level IV trauma center, the emergency department must have equipment available to allow for initial resuscitation and mnitorig of the critically injured patient. The equipment must include, at a minimum, those listed in the Resources section. There must be a process to ensure the immediate availability of equipment and supplies.	The equipment and supplies must be located in close proximity to where care is provided. If there is a dedicated resuscitation area, then time-critical equipment and supplied should be located in that space.	Minimal Equipment list: **Airway management** *Portable suction capabilities *Bag-valve-mask respirators with appropriately sized masks *Portable oxygen tanks and an oxygen supply *Oral & nasal airways *Bag-valve-mask respirator (adult, pediatric, infant) *Laryngoscopes with variety of blades *Endotracheatl tubes (sizes 2.5 - 8.5 mm) *Rescue airway equipment (fiberoptic &/or video laryngoscope), laryngeal mask airway (LMA) *Cricothyroidotomy instruments and supplies **Breathing equipment** *Noninvasive ventilatoin system (e.g., BiPAP/CPAP) *Thoracostomy instruments & supplies *Closed-chest drainage device *CO2 detector to confirm intubation *Mechanical ventilator **Circulatory support** *Venipuncture and IV therapy supplies, including infusion pumps for medications and blood products *Intraosseous needlles and insertion equipment *Tourniquet *Pelvic comprression device *Monitoring -Continuous physiolic monitoring: blood pressure (noninvasive, automatic) heart rae, pulse oximetry -ECG machine *Thermal control -Blanket warmer -Fluid warmer -Warming devices (e.g convection warming systems) -Hypothermia thermometer **Other** *Adult & pediatric "code carts" including appropriate medication charts *Radiographic equipment
Facilities and Equipment Resources	11	Laboratory Resources	In Level IV trauma centers, the following laboratory services must be available: • Standard analysis of blood, urine, and other body fluids • Blood typing and cross-matching • Coagulation Studies • Blood gases and pH determinations • Drug and alcohol screening If the lab is not staffed in-house 24/7/365, there must be a call-back process for lab personnel for trauma activations such that they are on-site within 30 minutes.	Point-of-care may substitute for traditional laboratory processing of some tests.	

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Facilities and Equipment Resources	12	Medical Imaging	In Level IV trauma centers, the following medical imaging services must be available 24 hours per day and be accessible for patient care within the time interval specified when clinically necessary: • Conventional radiography -30 minutes • Computed tomography (CT)-30 minutes The centers must be able to share images (e.g. Picture Archiving and Communication System (PACS)) with a potential receiving center to reduce redundant imaging or to ensure teleconsultation is possible.	Accessible for patient care implies that the necessary human and equipment resources are available within the time specified based on the clinical needs of the patient. The time interval refers to the time between an initial request and the initiation of the test/procedure, not the completion of the ordered test/procedure. If there is adequate expertise, then point-of-care ultrasound should be made available as an adjunctive imaging modality. The ability to send images does not imply that an interpretation of those images must be included.	
Facilities and Equipment Resources	13	Operating Room Availability	In Level IV trauma centers, an operating room (OR) must be staffed and available within 50-minutes of the notification of the emergent need for an OR. There must be a policy that defines the expectations for staffing, OR availability, and prioritization of emergent operative cases.	A staffed OR has all necessary personnel available to prepare the room and patient for an emergency surgical intervention. The expectation is that the OR team is notified when an injured patient is going to be sent to the OR. The initial call and the OR team members' response must be tracked. This can be documented with a logbook, an electronic medical record, or a badge swipe.	

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Facilities and Equipment Resources	14	Pediatric Readiness	The ED within the trauma center must demonstrate compliance with the following high priority aspects of pediatric readiness: • Have a pediatric emergency care coordinator (PECC). • Obtain a full set of vital signs on all injured children • Have adopted a validated pediatric triage system to identify pediatric patients at risk for clinical deterioration. • Assure a weight/color-based portable pediatric resuscitation cart is immediately available in the ED. • Developed and maintain 1) policies for interfacility transfer of children; 2) decision support to guide the selection of the most appropriately staffed transport service. • Developed and maintain CPGs for common pediatric traumatic conditions including the appropriate imaging of the injured child • Integration of pediatric care into performance improvement activities In addition, the ED must perform a pediatric readiness assessment during the designation cycle and have a plan to any identified gaps. In addition, the ED must perform a pediatric readiness assessment during the designation cycle and have a plan to address	Pediatric Readiness refers to infrastructure, administration and coordination of care, personnel, pediatric-specific policies, equipment, and other resources that ensure the center is prepared to provide care to the injured child.	Pediatric readiness assessment: https://www.pedsready.org/ Resources to address deficiencies: https://emscimprovement.center/domains/pediatric-readiness-project/readiness-toolkit/

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Facilities and Equipment Resources	15	Telehealth Equipment	Level IV trauma centers must have telehealth capability such that the initial evaluation and resuscitation of an injured patient may be supported remotely. In centers where injured patients might be admitted, the capability must include the potential for remote support to allow in-patient patients to be cared for in their community when appropriate. Centers must have the capability for out-patient telehealth support to ensure safe and comprehensive patient follow up.	Telehealth capability includes adequate facilities, protocols, staff education, and means of credentialling to ensure its appropriate use. Adequate facilities require: • A secure internet connection • Telehealth integrative software that is HIPAA compliant • High quality camera, microphone and headphones • Ability to share pertinent patient information including imaging, laboratory, and other records. • Back-up system in case of technical difficulties and a support system for real-time troubleshooting Ideally, local guidelines should specify indications for use (e.g. initial resuscitation, virtual support for inpatient care, follow-up care, etc.) and protocols for how the equipment might be accessed. Where necessary, the center should have a procedure for supporting the appropriate credentialling of supporting clinician.	CCHP Policy Finder Tool-To find telehealth policies relating to reimbursement in each state https://www.cchpca.org/
Personnel and Services	16	Allied Health Services	Trauma centers must have the following allied health services available: • Respiratory therapy • Social worker • Occupational therapy • Physical therapy		

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Personnel and Services	17	Anesthesia Services	Level IV trauma centers must have a policy that outlines roles and responsibilities regarding anesthesia services' participation in care of the injured patient. The policy must specify: • Criteria requiring immediate anesthesia response including trauma activations • Expected response times for trauma activations and airway management assistance • Who (anesthesiologist and/or CRNA) may begin an emergency operation per hospital policy or credentialing • Anesthesia availability and contingency plan for gaps in coverage In centers with surgical capabilities for the injured patient, anesthesia services must be available within 30 minutes of request.	The anesthesia team member providing coverage may be an anesthesiologist or CRNA. Trauma centers in states where CRNAs are licensed to practice independently, CRNAs should follow local or institutional practices and may not require physician supervision.	
Personnel and Services	18	Emergency Department Clinician	Level IV trauma centers must have 24/7/365 emergency department coverage provided by a physician or advanced practice provider (APP) that meet the following requirements: • Physician must: - Be board-certified or board eligible in emergency medicine and have completed ATLS at least once, or - Be board-certified or board eligible in specialties other than emergency medicine and hold current ATLS certification • APP must hold current ATLS certification	Board certification and board eligibility refers to certification or INFORMATION eligibility for certification by the American Board of Medical Specialties (ABMS), the American Osteopathic Association (AOA), or the Royal College of Physicians and Surgeons of Canada (RCPS-C). Lifetime board certification meets the requirement for board certification or board eligibility.	

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Personnel and Services	19	In-Patient Trauma Care	In centers where trauma patients might be admitted, medical coverage must be continuously avilable to support the needs of inpatients. Medical coverage must have an identified trauma clinicial lead who: o Is a physician or APP o Participates in trauma CME/CE corresponding to their scope of practice and patient population(s) served. o Participates in the trauma performanace improvement and patient safety program. The center must have a policy that outlines the roles and responsibilities of the clinical lead and those providing medical coverage. The policy must specify: o Expected response times o Who is responsible for coverage after hours o A contingency plan for time-sensitive issues when the inpatient clinician is not in house o The expectations of the clinician providing inpatient coverage, which among others, should include proficieince in the following: - Pain and opioid managment after trauma - Delirium and agitation management after trauma - Care of the older adult trauma patient - Venous thromboembolisn prophylaxis in trauma patients - Recognitiion of patients with substance misuse and mental health disorders	"Continuously" is defined as 24/7/365 and implies there are no gaps in coverage. The clinical lead role may be combines with other trauma leadership roles.	Trauma Care After Resuscitation (TCAR) Education Programs https://tcarprograms.visionem.org/ American College of Surgeons, Screening and Intervention for *Mental Health Disorders and Substance Use and Misuse in the Acute Trauma Patient* , December 2022. https://www.facs.org/media/nrcj31ku/mental-health-guidelines.pdf
Personnel and Services	20	Radiologist Access	In Level IV trauma centers, radiologists must be continuously available for imaging interpretation within 30 minutes of request, and they must be available to participate in performance improvement and quality assurance activities. To enable access and timely interpretation, the trauma center must make images available remotely to the radiologist. Final radiology reports must accurately reflect communications to members of the trauma team, including changes between preliminary and final interpretations.	Continuously is defined as 24/7/365 and implies there are no gaps in coverage. Radiologists do not need to be on-site and may interpret imaging studies remotely. The time interval of 30 minutes is measured from time of request to time of interpretation.	

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Personnel and Services	21	Surgical Coverage	Level IV trauma centers must have a policy that outlines roles and responsibilities regarding participation in care of the injured patient. The policy must specify: • Criteria requiring an immediate general surgical response • Expected response times for trauma activations and inpatient emergencies • Criteria for surgical admissions and consultations regarding the injured patient • Surgical coverage availability and contingency plan for gaps in coverage General surgeons involved in care of the injured patient must meet the following qualifications: • Complete the ATLS course at least once • Hold current board certification or board eligibility in general surgery	Board certification and board eligibility refers to certification or eligibility for certification by the American Board of Medical Specialties (ABMS), the American Osteopathic Association (AOA), or the Royal College of Physicians and Surgeons of Canada (RCPS-C). Lifetime board certification meets the requirement for board certification or board eligibility.	
Patient Care: Expectations and Protocols	22	Clinical Practice Guidelines	All trauma centers must have evidence-based clinical practice guidelines, protocols, or algorithms that are reviewed at least eery three years.	Clinical practice guidelines, protocols or algorithms should be developed or revised in response to new evidence or opportunities for improvement. They provide an opportunity to standardize practice, which facilitiates training, allows for auditing of practices, and tends to improve the quality of care. Guidelines should be practical and take into consideration the resources and expertise available at the trauma center. Guidelines are most effective if they are readily available at the point of care. High priority guidelines for consideration include the following: o Emergency airway managemet o Emergent Transfusion o Anticoagulation reversal o Imaging (adults and pediatric), including expectations for timely reporting, and communication of critical results o Intitial management of severe traumatic brain injury o Initial managment of orthopedic injuries to include at minimum open fractures, hip and pelvic fractures o Timely intervention for geriatric hip fractures o Management of patients with rib fractures o Geriatric trauma management o Spine clearance	Guidelines and best practices are available through the following (This list is not exhaustive): Eastern Association for Surgey of Trauma: https://www.east.org/education-career-development/practice-managementguidelines American College of Surgeons: https://www.facs.org/quality-programs/trauma/quality/best-practices-guidelines/ American Association for Surgery of Trauma: https://www.aast.org/resources/guidelines Western Trauma Association: https://www.westerntrauma.org/western-trauma-association-algorithms/ Brain Trauma Foundation: https://braintrauma.org/coma/guidelines-current

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Patient Care: Expectations and Protocols	23	Transfer Protocols	Level IV trauma centers must have clearly defined transfer protocols that include the types of patients, expected time frame for initiating or accepting a transfer, with predetermined referral centers for outgoing transfers. When trauma patients are transferred, the transferring provider must directly communicate with the receiving facility to ensure safe transition of care. This communication must be documented and may occur through a transfer center.	Subsequent decisions regarding transfer to a facility within a managed care network should be made only after stabilization of the patient's condition and in accordance with the ACS Statement on Managed Care and the Trauma System. Considerations for transfer should be based solely on the needs of the patient, without consideration of their health plan or payor status. Examples of communication documentation may include call logs, emails, and patient summary reports.	ACS Statement on Managed Care and the Trauma System: https:/ /www. facs.org/about-acs/statements/21-managed-trauma
Patient Care: Expectations and Protocols	24	Trauma Activation Requirements	In all Level IV trauma centers, the criteria for trauma activation must be clearly defined. At minimum, the following criteria must be included: • Confirmed blood pressure less than 90 mm Hg at any time in adults and age-specific hypotension in children • Patients who have respiratory compromise, have been intubated in the field or need an emergent airway • Penetrating injuries to the neck, chest, or abdomen • GCS less than 9 (with mechanism attributed to trauma) • Emergency physician's discretion In Level IV trauma centers, the trauma team members responsible for responding to the trauma activation should be defined and the team must be assembled within 30 minutes of the activation. Level IV centers with surgical capabilities must define the criteria that will prompt a call to the surgeon (when available). The surgeon must be at bedside within 30 minutes of the request.	The trauma program may include additional criteria at their discretion, including those outlined in the National Guidelines for the Field Triage of Injured Patients referenced below. A single level of activation is sufficient for Level IV centers. Centers with surgical capabilities may not always have a surgeon available. Should one be available, it must be clear when they are to be notified.	American College of Surgeons, National Guidelines for the Field Triage of Injured Patients https://www.facs.org/quality-programs/trauma/systems/field-triage-guidelines/ File: https://www.facs.org/media/rw4c5kb2/trauma-algorithm-vfinal-revise.pdf

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Data Surveillance and Systems	25	Plan for Patient Data Collection and Submission	Level IV trauma centers must have a trauma registry with supporting personnel (either on-or off-site), policies, and procedures including: 1. At least one supporting personnel must have participated in a trauma registry course that includes all of the following content: • Abstraction • Data management • Reports/report analysis • Data validation • HIPAA 2. A requirement that trauma registry data be collected in compliance with the NTDS inclusion criteria and data element definitions with the expectation of completion of at least 80% of records closed within 60 days of the patient discharge date. 3. A written data quality plan with demonstrated compliance with that plan. At minimum, the plan must require yearly review of data quality.	There must be sufficient personnel to achieve the expectation of 80% of records closed within 60 days of discharge. Data collection might be outsourced to off-site personnel with the expectation that i) data are readily available for local performance improvement; ii) the center has oversight on data quality and opportunities for data quality improvement are identified and actioned. The data quality plan should allow for a continuous process that measures, monitors, identifies and corrects data quality issues and ensures the fitness of data for use.	
Performance Improvement and Patient Safety	26	Documented Effectiveness of the PIPS Program	Level IV trauma centers must have documented evidence of event identification; effective use of audit filters; demonstrated loop closure; attempts at corrective actions and strategies for sustained improvement measured over time.		
Performance Improvement and Patient Safety	27	Physician Participation in Prehospital PI and Prehospital Care Feedback	In Level IV trauma centers, a clinician from the emergency department or trauma program must participate in the prehospital PI process, including assisting in the development of prehospital care protocols relevant to the care of the trauma patients. Level IV trauma centers must have a process for reviewing and providing feedback to EMS agencies regarding the accuracy of triage and the provision of trauma care.		

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Performance Improvement and Patient Safety	28	Performance Improvement and Patient safety (PIPS) Plan	Level IV trauma centers mst have a written PIPS plan that: o Outlines the organizatonal structure of the trauma PIPS process, with a clearly defined relationship to the hospital PI program. o Specifies the processes for event identification. As an example, these events may be brought forth by a variety of sources, including but not limited to: Individual personnel reporting, morning report or daily sign-outs, case abstraction, registry surveillance, use of clinical guideline variances, patient relations, or risk management. The scope for event review must extend from prehospital care to hospital discharge. o Includes a list of audit filters, event review, and report review that must include, at minimum, those listed in the Resources section. o Defines levels of review: - Primary: TPM and/or PI nurses - Secondary: TMD - Tertiary: Trauma multidiscipinary case review - Quaternary: System review o Each of the above levels of review should clarify: - Which cases are to be reviewed - Who performs the review - When cases can be closed or must be advanced to the next level o Defines the members and responsibilities of thse participating in trauma multidiscipinary case reviews o Specifies the frequency and attendance threshold for the trauma multidisciplinary case reviews - 60 percent of meetings for the TMD - 50 percent of meeting for each ED clinician o Outlines an annual process for identification or priority areas for PI based on audit filters, event reviews, and benchmarking reports.	Attendance requirement may be met by teleconference. Trauma multidisciplinary case review meeting attendance may be waived for military deployment, medical leave, and missionary work.	Audit filters, event or report reviews: o Delayed recognition of or missed injuries o Delays or adverse events associated with prehospital trauma care o Compliance with trauma team activation protocols o Delays in care due to the unavailability of emergency department clinician o Transfers out of the facility for appropriateness and safety o Radiology interpretation errors or discrepancies between preliminary and final reports. o Delays in access to time-sensitive diagnostic or therapeutic interventions o Lack of availitty of essential equipment for resuscitation or monitoring o Significant complications and adverse events o All deaths: Inpatient, died in the emergency department (DIED), DOA o Inadequate or delayed blood product availability o Adherence to Clinical Practice Guidelines o OR room availiability (response time)
Performance Improvement and Patient Safety	29	Process to Receive Feedback from Higher Level Centers After Transfer	Level IV trauma centers must have a process for requesting information on patients transferred out pertaining to • Injuries identified at the center providing definitive care • Outcomes • Potential opportunities for improvement in initial care	Information should be shared and potential opportunities for improvements in care should be incorporated into the center's performance improvement and patient safety program.	

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Education: Professional and Community Outreach	30	Nursing Trauma Orientation and Continuing Education	Level IV trauma centers must provide trauma orientation to new nursing staff caring for trauma patients. Nurses must participate in trauma continuing education (CE) corresponding to their scope of practice and patient population(s) served.	Examples of orientation may include: • Center-developed or locally developed educational program that integrates PIPS-identified issues • Education specific to patient population(s) served Nursing orientation may include simulation sessions, online learning, conferences, and annual training events. Examples of nursing education may include: • ATCN-Advanced Trauma Care for Nurses • TNCC-Trauma Nursing Core Course • PCAR -Pediatric Care After Resuscitation • TCAR-Trauma Care After Resuscitation • TNATC-Transport Nurse Advanced Trauma Course • RTTDC-Rural Trauma Team Development Course	