LITTLETON REGIONAL HEALTHCARE

Trauma Process Improvement and Patient Safety

Plan

Trauma Program Summary The Trauma Program at Littleton Regional Healthcare is a system to monitor the quality of care provided to patients who present to our facility with traumatic injury. The focus of the program is monitoring of quality of care, identification of process improvement opportunities, implementation of education, policies, procedures and process improvement that will better patient outcomes and standards of care. The program is lead by the Trauma Medical Director, Trauma Director for the Emergency Department and the Trauma Program Manager. It consists of representation from: pediatrics, radiology, orthopedic surgery, obstetrics, anesthesia, quality services, Operating Room, hospitalist and EMS services. The program has oversight from the Executive Vice President and Chief Medical Officer.

Littleton Regional Healthcare functions as a level III adult trauma center and level IV pediatric trauma center and provides the services consistent with this level of trauma care.

- **Mission:** To provide quality, compassionate, and accessible healthcare in a manner that brings value to all.
- **Vision** Littleton Regional Healthcare will be the leading provider of healthcare, and the best organization in which to work. Trauma care will be provided following our ICARE model: Integrity, Compassion, Accountability, Respect and Excellence.

Authority The Board of Trustees and Medical Executive team have documented their commitment to the trauma center though signed Resolutions. The Chief Executive Officer, Chief Medical Officer and Chief Nursing Officer have defined an organization structure with aligned job descriptions that define the authority and oversight of the Trauma Center. The Executive Vice President and Chief Medical Officer, Trauma Medical Director, Trauma Medical Director for the Emergency Department and Trauma Program Manager are accountable for the oversight of the trauma center. These individuals have the authority and scope of service to evaluate all trauma care activities from the preinjury state, prehospital, resuscitation, critical care, operative intervention, supportive care through rehabilitation and reintegration into the community. In this capacity, these leaders have the authority and oversight for the trauma performance improvement and patient safety program, the trauma registry data management, injury prevention programs, outreach education and regional integration. These individuals are responsible for establishing the structure and process of the trauma performance improvement patient safety plan. This plan defines the events for review, data definitions, levels of review and process for review. The job descriptions for these individuals define that they are responsible for the management and oversight of the trauma center's compliance with the state regulations for a trauma center criteria.

The statistical performance and the trauma performance improvement and patient safety outcomes are reported monthly through the Trauma Operations Meeting and Trauma Peer Review committee and to the Board of Trustee's on a bi-annual basis. The trauma performance improvement and patient safety plan is integrated with the institutional quality program, risk management and Medical Staff Peer Review structure.

The trauma performance improvement process and patient safety plan follows the state statutes. It also adheres to quality protected standards.

Scope The trauma performance improvement process and patient safety plan (TPIPS) reviews all trauma team activations and the care of the trauma patients admitted to Littleton Regional Healthcare. Inclusion criteria for the TPIPS process begins with meeting trauma yellow or red activation criteria or those admitted, transferred or taken to the OR from the Emergency Department with injuries related to a traumatic event, patients over the age of 65 on blood thinners who have a fall including same level falls. We exclude isolated hip fractures in nursing home patients, falls on same level other than patients previously mentioned and minor traumatic events that do not meet trauma activation criteria. Trauma activations are screened for compliance of the activation protocol, timeliness of response and dispositions. Trauma PIPS reviews all phases of care from pre-hospital, resuscitation, operative intervention, critical care, stabilization, general care and movement to rehabilitation.

Responsibilities of the Trauma Center Trauma Medical Director (TMD)

The Trauma Medical Director (TMD) is responsible for the oversight and authority of the trauma center's trauma care, trauma registry, injury prevention and outreach education. The TMD must have the authority for the trauma performance improvement and patient safety plan development, implementation and evaluation of the trauma program's outcomes in collaboration with the Trauma Program Manager. The success of the center's trauma program is linked to the performance improvement process and trauma registry initiatives of the trauma center. In a level III trauma center access to the data is critical to success. The Trauma Program Manager manages the daily activities of these job functions. The TMD is responsible for ensuring the organization of services and the systems necessary for a multidisciplinary approach to trauma care is efficient and all criteria for the trauma center verification and designation are met. The TMD is responsible for the integration of evidence-based practice and national standards of care for the injured patient into the trauma protocols and is monitored by the trauma performance improvement process. The TMD role covers all phases of care and multidisciplinary interactions within the trauma center.

Key Responsibilities include:

- Provides the authority and oversight for the trauma center through all phases of trauma care and all components of the trauma center to include but not limited to:
  - Establishing evidence-based practice and compliance with national standards of care for all injuries evaluated and managed by the trauma center
  - Routinely takes call for trauma monthly and has dedicated time for the trauma center administrative needs
  - Trauma performance improvement and patient safety plan, reviews, findings, opportunities, action plans and event resolution

- Establishing the trauma activation guidelines that are compliant with national standards, trauma resuscitation protocols that integrate communication standards to ensure best practice, transfer guidelines that clearly define what patients cannot be cared for at the trauma center and require transfer to a higher level of care and diversion protocols
- Trauma system (operations) committee
- Trauma multidisciplinary peer review committee
- Trauma registry and data utilization oversight
- Establishes routine trauma center steering meetings with the Trauma Program Manager, Trauma Director for the Emergency Department and Trauma Administrator.
- Establishing an orientation process for new trauma faculty or liaison faculty
- Participation in the regional trauma advisory council including EMS guidelines, performance improvement initiatives, field triage decisions and EMS education
- Identify and engage trauma center stakeholders
- Leads in the development and planning of PI goals and best practices related to trauma care
- Leader in championing Trauma Center Verification

Responsibilities of the Trauma Center Trauma Program Manager

The Trauma Program Manager (TPM) is responsible for the oversight and authority of the trauma center's trauma program in collaboration with the TMD. The authority and oversight covers all phases of trauma care from the prehospital setting through the phases of care in the trauma center to discharge. The authority and oversight includes all components of the trauma center to ensure trauma center criteria are continually met to include but not limited to trauma patient rounding, trauma performance improvement and patient safety plan and associated reviews, evaluation of the trauma program, the trauma registry, trauma outreach education, injury prevention and integration with regional development. The TPM is responsible for the oversight and orientation of all staff in the trauma program and recommendations for educational needs for all staff involved in trauma care within the trauma center. The TPM is responsible for all data requests and data submissions to the region, state and national data banks.

The TPM in collaboration with the TMD is a leader in the Performance Improvement (PI) processes and initiatives. The TPM is responsible for building positive relationships within the trauma system that promote timely identification and management of events. The Trauma Program Manager is responsible for the management of review, validation and documentation for events that are processed through the levels of review: primary, secondary, tertiary and quantinary. This process covers all aspects of the phases of care and multidisciplinary interactions within the trauma center and region.

Key Responsibilities include:

- Responsible for compliance to the trauma center's criteria in collaboration with the TMD and Trauma Administrator.
- Responsible for the authority and oversight of the components of the trauma center:
    - Trauma patient outcomes and trauma patient rounding
    - Trauma performance improvement and patient safety plan and the components of the plan:
        - Event identification, validation and documentation
        - Primary level review
        - Preparation of the secondary level review with the trauma medical director
        - Planning for the trauma peer review committee, minutes documentation with agenda and attendance record from the meeting in collaboration with the TMD
        - Assist the TMD with plans for action and follow-up from reviews
        - Responsible for the trauma system committee attendance, agenda and minutes in collaboration with the TMD, EMS coordinator and EMS Medical Director
        - Responsible to ensure all identified PI issues are tracked until they are defined as closed in collaboration with the TMS.
- Through data validation ensures accuracy of hospital trauma registry data
- Facilitate the measurement of selected outcomes for the trauma patient population: such as compliance with trauma activations, response times, ED length of stay and other elements selected for the trauma center dashboard.

Responsibilities of the Trauma Director for the Emergency Department

As a level III trauma center the Trauma Director for the Emergency Department (TDED) plays a crucial role in the trauma process improvement and patient safety process. In collaboration with the TMD and TPM the TDED is responsible for the oversight and authority of the trauma center's trauma care, trauma registry, injury prevention and outreach education. The TDED must have the authority for the trauma performance improvement and patient safety plan development, implementation and evaluation of the trauma program's outcomes in collaboration with the Trauma Medical Director and Trauma Program Manager. The success of the center's trauma program is linked to the performance improvement process and trauma registry initiatives of the trauma center. The Trauma Director for the Emergency Department is responsible for peer review and trauma patient standards of care in the Emergency Department. The TDED is also responsible for education of Emergency Department Physician, Associate Provider and nursing staff in collaboration with the Trauma Program Manager.

Key Responsibilities include:

- Responsible for compliance to the trauma center's criteria in collaboration with the TMD, TPM and Trauma Administrator
- Peer Review of trauma activations and events for the trauma process improvement and patient safety
- Facilitate the measurement of selected outcomes for the trauma patient population such as compliance with trauma activations, response times, ED length of stay and other elements selected for the trauma center dashboard.

- Trauma system (operations) committee
- Trauma multidisciplinary peer review committee

- Establishes routine trauma center steering meetings with the Trauma Program Manager, Trauma Director for the Emergency Department and Trauma Administrator.
- Establishing an orientation process for new trauma faculty or liaison faculty
- Participation in the regional trauma advisory council including EMS guidelines, performance improvement initiatives, field triage decisions and EMS education
- Leads in the development and planning of PI goals and best practices related to trauma care
- Leader in championing Trauma Center Verification

Responsibilities of Trauma Program Registrars

The trauma program registrars (TPR) are fundamental to the trauma center's performance improvement process and evaluation of patient outcomes. The trauma registrars are responsible for the data abstraction, injury coding, injury scoring and trauma registry data entry. TPRs are responsible for bringing forward any patient safety or process improvement findings to the TPM and TMD.

Trauma Performance Improvement and Patient Safety Plan

EMS Collaboration The TMD, TPM and TDED will work in collaboration with the EMS Coordinator and the EMS Medical Director to review care provided for all trauma patients transported by EMS, provide education and feedback based on review and assist in establishing and implementing guidelines and standards of care. Each arriving patient needs a completed EMS patient record in the electronic medical record. If a record is not in the patient record on review by the Trauma Program Manager or Trauma Data Analysts the EMS Coordinator will work with the EMS service to obtain the files.

EMS agencies can request feedback regarding trauma patients by contacting the EMS Coordinator. This can be done by email, phone for formal letter request. Information is provided for continuum of care and education only. Information is only provided to the agency that transported the trauma patient. Shared information includes the patient's mechanism of injury, identified injuries, ED disposition and any identified process improvement or notes on exemplary care. For admitted patients up to date disposition and diagnosis are provided up to the time of review.

Trauma Patient Transfers Each trauma patient that is transferred out of Littleton Regional Healthcare is screened for reason for transfer, location of transfer, timeliness of transfer, completion of transfer packet, physician and nursing communication with receiving facility.

Data Collection and Review Process

Each trauma patient that meets the criteria for trauma review as defined in the Trauma yellow and red activation criteria or otherwise listed below are evaluated for variations from the defined trauma standards of care, morbidity, mortality, systems variances, patient safety, operational performance outcomes (financial and clinical). Data collection and review encompasses all phases of care from pre-hospital, resuscitation through hospital admission, discharge, OR, transfer to another facility or expiration. All documentation in the medical record is subject to review during this process.

Additional trauma criteria include

- Fall with head injury including on same level of any patient over the age of 65 on blood thinners
- Patients who are admitted, taken to the OR or transferred from our facility based on a traumatic injury but who do not meet trauma criteria. This excludes isolated hip fractures in nursing home patients.

Process for Performance Improvement and Patient Safety Review

Events are reviewed weekly for process improvement. The primary review is with the TPM and trauma data analysts. If the trauma event has no issues identified or minor issues only included EMS feedback, nursing documentation then sign off can be completed by the TPM including follow-up, feedback and process improvement if needed. All other events will be reviewed by the TMD or TDED. The TPM is responsible for preparing the events for secondary and tertiary review.

- **Primary Review:** Issue identification, validation and documentation

  The TPM is responsible for the issue identification, validation and documentation of the vent and linkage to pertinent patient records. The TPM has the authority to manage the action plan for system related events, delays and documentation issues that do not cause harm to the patient. These defined action plans are reviewed with the TMD. These correction action plans are tracked through the Trauma operations committee.

- **Secondary Review:** Defines the cause and action plan or prevention measures to reduce the incidence and effects of the events.

  All variances to the standard of care that cause harm to the patient and all morbidity and mortality cases identified are validated and documented and prepared for secondary level review with the TMD and TDED. The review process serves as a screening process for all identified case reviews. The TMD and TDED defines the cause and preventative action for each identified issue. They may define action plans, refer them to specialty services/departments for additional information, or present the case at the trauma multidisciplinary peer review committee. If the TMD or TDED was the physician of record for the case, the case will be referred to another individual to review.

  The TMP tracks the performance improvement documents through either the registry or other data tracking method.

- **Tertiary Review:** Trauma multidisciplinary peer review committee

  The trauma multidisciplinary peer review committee is chaired by the TMD and TDED. Minutes reflecting the critical discussion, determination and mitigation of preventative actions from the discussion are recorded by the TPM or delegate. The TMD and TDED lead the critical discussion. It is the responsibility of the TMD and TDED to define the determination and overall action plan for each case. The TMD, TDED and TPM are responsible to track identified issues and the outcome of the defined action plans.

  The trauma multidisciplinary peer review committee are held once a month on the third Thursday of every month at noon. The meeting may be cancelled at the discretion of the TMD, TDED or TPM and cases for discussion will be rescheduled.

All meeting discussions, minutes and activities are confidential and quality protected. Visitors are not permitted during the peer review discussion and must be approved by the TPM and TMD. Attendance must be maintained.

Trauma System Operations Committee

The trauma system operations committee services as the administrative oversight and system operational committee for the trauma program. The committee is chaired by the TMD, TDED and co-chaired by the TPM. The committee will bring in representatives from other departments/disciplines as needed to discuss trauma care. The focus of the team is to review data, monitor trends, review process improvement initiatives and ensure that the hospital is consistently meeting the requirements for trauma center verification.

The meeting is held monthly with a rotating scheduling.

Trauma Process Improvement Plan				
Area for Improvement	Planned Action	Desired Outcome	Timescale	Responsibility/Links to other plans
Trauma Red Event 09/2020 A Trauma Red Activation was requested by the ED Physician based on EMS report. The Trauma Red was never officially called although all members of the trauma red team were paged individually. The Clinical Supervisor stated that "no one knew how to page a trauma alert."	Provide education to clinical staff in the ED, ICU and medical surgical unit. Create printed and laminated guidelines for reference for staff on calling trauma alerts. 09/21/2020: Laminated guidelines created and placed at nurses stations on MS and ED.	Improved use of the trauma paging system to appropriately call trauma alerts to ensure that all essential personnel are notified.	Immediately Monitor Compliance ongoing	Trauma Program Manager: Natalie Kennett
June 2021 Update Consistent use of Trauma paging system to page obvious Trauma Yellow and Reds, Trauma's identified appropriately as red or yellow 80% of the time and increasing. Did note that some physicians are stating in their notes that the	Education with providers that we need to still be calling to ensure that we are obtaining all the necessary resources and that the paging process is to improve flow of resources for trauma.	Increased use of Trauma yellow based on criteria and increased paging.	Will continue to monitor ongoing basis. Education done in the moment with physician.	Trauma Program Manager: Natalie Kennett Trauma Director for the Emergency Department: Jonathan Klinlger, DO

patient is a Trauma Yellow but not paging out because the patient is already in the department.				

HOW TO PAGE A TRAUMA ALERT

Go to the bottom of the paging list and select either Trauma Alert Yellow or Trauma Alert Red per request.

In Message Box type in Trauma Yellow or Trauma Red and basic details of case. See examples.

Trauma Alert Yellow:

Trauma Alert Red:

Trauma Process Improvement Plan				
Area for Improvement	Planned Action	Desired Outcome	Timescale	Responsibility/Links to other plans
2/2021: Trauma Program Manager attended TOPIC course. Area for improvement in timeliness of chart reviews and trauma chart review process. At this moment using state registry as format for Trauma patient selection spreadsheet which is cumbersome and slowing down the process. Form for chart review needs to be refined for better tracking of chart reviews and for quick reference. Currently have two night ED nurses and one ICU day nurse performing data entry while TPM does case identification	Create a template for chart review rather than working off excel spreadsheet and use spreadsheet for tracking/hospital registry. Work to educate specific staff on event review. Have specific staff for case primary review in conjunction with TPM and have specific staff for entry into state registry.	Improve timeliness of case identification and review. Defined roles for trauma case identification and review. More visible process for case review and process improvement associated with case.	Goal is to have this achieved over the next 2 months. Update: 3/2021 first version of the chart review format in trial. ED day shift RN Shelley MacKay taking on case identification and review role. 4/2021: After attending the Mock review at Parkland Medical center TPM has made changes to the trauma review form. 6/2021: chart reviews being done weekly and up-to-date. Will continue to work on state registry data entry process.	Trauma Program Manager: Natalie Kennett

and basic review. This slows down the process and leads to not timely review of events.				

Trauma Chart Reviews

Date:

Patient Name:

Acuity Score:

GCS:

ISS:

Disposition: (discharge, admit ICU, admit MS, OR, transfer, death)

Was Trauma documentation complete either on trauma flowsheet or in trauma tab:

Process improvement notes: (is there anything we could have done better)

LITTLETON REGIONAL HEALTHCARE

Littleton Regional Healthcare Trauma Review Form

Patient information

Patient Name:		
Date of Birth:		Age:
Date of Event:		
Trauma Yellow/Red:		
Summary of Event:		
Timeline:		

Process Improvement:

Level of Review:	
PI:	
Timeline for closure:	