Addendum to Questionnaires

Addendum 1

INSTITUTIONAL / MEDICAL STAFF RESOLUTION

, NEBRASKA

Be it resolved the Hospital Board of Directors (or other administrative governing board), the Administrative staff and the Medical Staff, approves the establishment and maintenance of a State of Nebraska designated (Basic, General, etc.) trauma center. The above mentioned commits to maintain the high standards needed to provide optimal care of all trauma patients.

____ _________________________

Governing Body Chairperson Date

____ _________________________

Administrator Date

____ _________________________

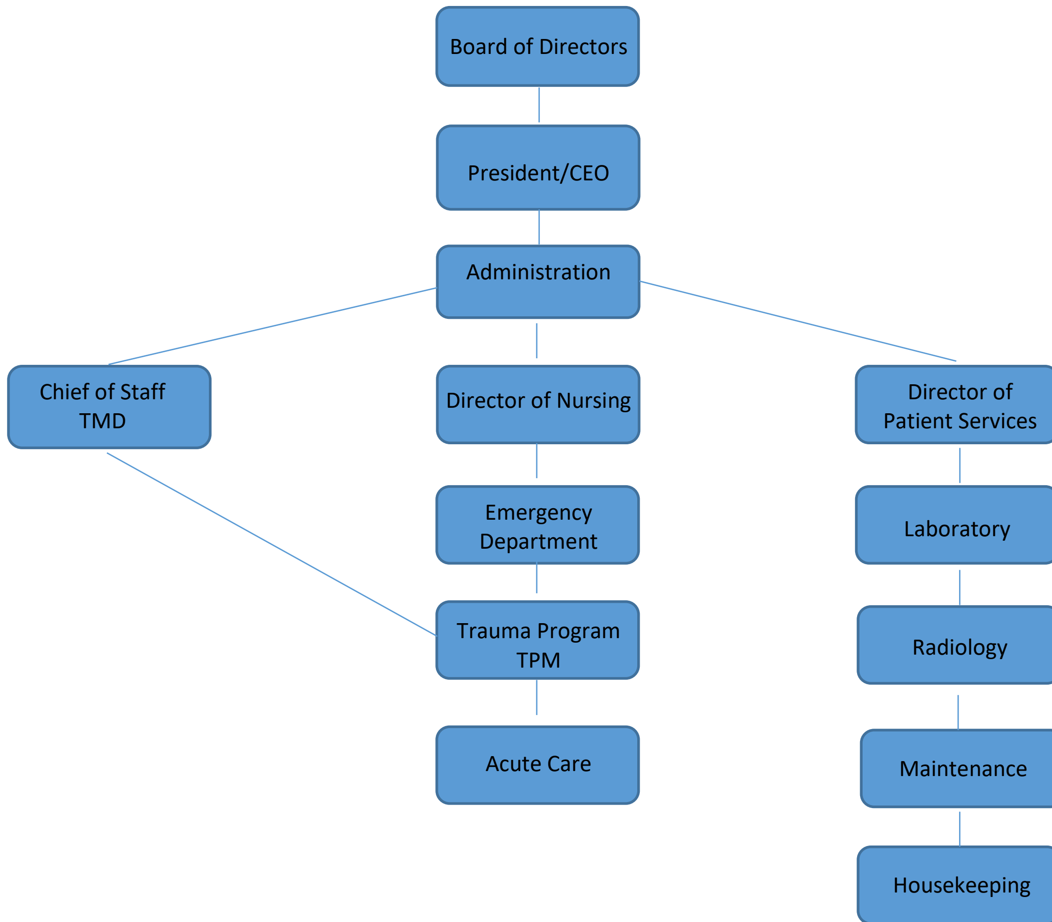
Chief of Staff Date

Resolutions should be updated and dated/signed within three years of upcoming designation/re-designation.

Addendum 2

Organizational Chart

(Insert your organization's org chart)



Addendum 3

Trauma Program Medical Director Job Description

, NEBRASKA

JOB TITLE: Trauma Medical Director (TMD)
REPORTS TO: Administrator

QUALIFICATIONS:

- Board certified in ____.
- Member in good standing of the hospital medical staff.
- Currently licensed to practice medicine in Nebraska.
- Currently certified in Advanced Trauma Life Support (ATLS).
- Three years clinical experience in emergency/trauma care desired.
- Ability to establish and maintain effective interpersonal relationships.
- Ability to accept and implement change.
- Ability to problem solve and make decisions.
- Demonstrated history of positive collegial relations with colleagues, support staff, hospital-based providers, EMS and administrators and patients.

NATURE AND SCOPE: The TMD is responsible for the ongoing development, growth and oversight/authority of the Trauma Program. He/she must be able to demonstrate effective interpersonal skills and have an understanding of the interdependent roles of various allied health professionals. The TMD is responsible for promoting a high standard of practice through development of policies, protocols and practice guidelines, participating in rigorous performance improvement monitoring and staff/EMS training. The TMD has the authority to act on all trauma performance improvement and administrative issues and critically review trauma deaths and complications that occur within the hospital. Decisions affecting the care of trauma patients will not be made without the knowledge, input and approval of the TMD.

PRINCIPAL DUTIES AND RESPONSIBILITIES:
Administrative:

- Participate in the research, development and writing of trauma policies, protocols and practice guidelines.
- Implement all trauma program policies and procedures as they pertain to patient care.
- Organize, direct and integrate the trauma program with all other departments and services within the hospital.
- Promote a cooperative and collaborative working environment among the clinical disciplines involved in trauma care.
- Maintain an effective working relationship with the medical staff, administration and other departments.
- Provide advice and direction in recommending privileges for the trauma call.
- Assesses need for equipment, supplies and budget.
- Assist the Trauma Program Manager in developing and meeting the trauma budgetary needs.
- Oversee, participate in and develop projects ensuring the cost effectiveness of care provided by physicians and hospital.

Program Initiatives:

- Lead efforts to develop and maintain a basic trauma center.
- Collaborate with the Trauma Program Manager to establish trauma program goals and objectives consistent with those of the hospital and ensure they are being met.
- Develop and provide input on the development and maintenance of practice guidelines, policies and methodologies for trauma care.
- Participate in site review by regulatory agencies.
- Organize, direct and implement departmental practices to assure continued compliance with applicable laws including the guidelines established by the Nebraska Statewide Trauma System and the Joint Commission on Accreditation of Hospitals.
- Demonstrate positive interpersonal relationships with colleagues, referral MDs, hospital personnel, EMS personnel, patients/families in order to achieve maximum operational effectiveness and customer satisfaction.
- Make appropriate referrals for specialty services and communicate regularly with referring physicians as appropriate.
- Ensure adequate attending physician availability is provided to render care to trauma patients.
- Ensure establishment of physician call schedules for all trauma related care.
- Provide trauma care leadership and consultation in all areas of the hospital.
- Participate in regional and statewide activities affecting the trauma program.
- Attend local, state and national meetings and conferences to remain current regarding issues relevant to the performance of duties.
- Demonstrate consistent, efficient, cost effective and quality trauma care at all times.

Performance Improvement:

- Determine and implement PI activities appropriate to the trauma program.
- Oversee the trauma PI program and participate in other quality initiatives dealing with the care of the injured patient.
- Review and investigate all trauma PI inquiries in collaboration with the Trauma Program Manager and refer to the appropriate committees.
- Monitor compliance with trauma treatment guidelines, policies and protocols.
- Assure the quality and appropriateness of patient care are monitored and evaluated and appropriate actions based on findings are taken on a consistent basis.
- Report quality of care issues promptly to appropriate individuals, including the Trauma Program Manager and the hospital administration.
- Consult with appropriate medical staff and administration regarding quality care issues and adverse outcomes; identify areas to improve patient care.
- Assure continuum of care is maintained.
- Identify representatives from various disciplines appropriate to participate in PI activities.
- Coordinate, schedule and facilitate the PI peer review process.
- Chair the Multidisciplinary Trauma System Committee and participate in Hospital Peer Review Committee.
- Review all trauma-related peer review and initiate action as necessary.
- Assist the Trauma Program Manager in evaluating the effectiveness of corrective actions resulting from the PI process.
- The Committee should utilize the newly revised ACS guidelines for death classification to include: mortality without opportunity for improvement, mortality with opportunity for improvement and unanticipated mortality with opportunity for improvement.

Clinical Education:

- Support the requirements for trauma CME and ATLS
- Provide education for hospital and EMS staff regarding trauma program policies, criteria and appropriate medical practices.

Community Outreach:

- Maintain relations with community organizations and legislative bodies whose activities relate to trauma care and injury prevention.
- Participate in hospital outreach activities as may be requested by administration.
- Develop and participate in trauma communication education and injury prevention activities.

Knowledge and Skills:

- Lead the hospital in trauma program development.
- Oversee the clinical practice of medical staff concerning trauma.
- Determine a course of action based on research, data, standards of care and general guidelines/protocols.
- Possess critical thinking, analytical, teaching/coaching and research skills.

Addendum 4

EXAMPLE (No Longer Required) Trauma Program Manager Job Description

, NEBRASKA

JOB TITLE: Trauma Program Manager
REPORTS TO: Director of Nursing and Trauma Medical Director (TMD)

PRINCIPAL DUTIES AND RESPONSIBILITIES:

- Assists in the organization of the trauma program.
- Has day-to-day responsibility for process and PI activities.
- Coordinates trauma care management across the continuum of care.
- Assists the TMD in research, development and implementation of policies, procedures and protocols.
- Coordinates educational and outreach programs for staff, EMS and outreach community programs.
- Works in close collaboration with the TMD.
- Meets on a regular basis with the TMD to discuss issues related to the trauma program.
- Participates in case reviews.
- Standardizes practice guidelines.
- Is instrumental along with the TMD to develop and maintain a high functioning Performance Improvement Program as it relates to the critically injured patient.
- Utilizes pre-established PI indicators to monitor patient care.
- Develops PI indicators to monitor patient care, outcomes and system issues.
- Identifies trends and sentinel events.
- Assists in development of remedial actions to address PI issues.
- Participates as an active member of the Multidisciplinary Trauma System Committee and the Peer Review Committee.
- Assists and helps with EMS education concerning PI processes, case reviews and other forms of education.
- Actively promotes injury prevention and education and community outreach as it relates to trauma.
- Participates as an active member of regional and state activities.
- Gathers and enters data into the State Trauma Registry.
- Utilizes registry data to assist in identifying PI issues.
- Current TNCC.

Competencies:

Qualifications:

Education:

Certifications/Licensure:

Addendum 5

TRAUMA ACTIVATION PROTOCOL

Minimum criteria for full trauma team activation:

- Confirmed blood pressure is less than 90 mm Hg at any time in adults and age-specific hypotension in children.
- All penetrating injuries to the neck, chest or abdomen or extremities proximal to the elbow/knee.
- Glasgow Coma Scale score is less than 9 with mechanism attributed to trauma.
- Transfer patients from other hospitals receiving blood to maintain vital signs (III, II or I).
- Intubated patients transferred from the scene or patients who have respiratory compromise or who are in need of an emergent airway. Includes intubated patients who are transferred from another facility with ongoing respiratory compromise (does not include patients intubated at another facility who are now stable from a respiratory standpoint).
- Emergency physician's discretion.

Additional criteria to be considered for trauma team activation:

- Flail chest
- Two or more proximal long bone fractures
- Crushed, de-gloved, or mangled extremity
- Amputation proximal to the wrist or ankle
- Unstable pelvic fractures
- Open or depressed skull fractures
- Paralysis
- Falls > 20 feet
- High risk auto crash
    - Ejection
    - Intrusion: > 12 inches on occupant site; > 18 inches any site
    - Death in same passenger compartment
- Auto versus pedestrian/bicyclist thrown, run over or with significant (>20 mph impact)
- Motorcycle or ATV crash > 20 mph
- Age < 5 or > 55
- Burns
- Pregnant
- Patients on anticoagulation
- EMS provider judgment

Addendum 6

PRE-HOSPITAL COMMUNICATION LOG

Date: ___________________________ Time of call: _____________ EMS Squad: ______________________________

Person taking call: ____

Mechanism Injury:

Signs and Symptoms:

Treatment:

GCS: ________ Blood pressure: ________ / ________ Pulse: _______ RR: ________ Oximetry: _________________________

Interventions:

Medications:

Trauma Activation Protocol – check all that apply

GCS < 14	Systolic blood pressure < 90
Respiratory rate/min < 10 or > 29 (20 in infant less than 1 yr)	All penetrating injuries to the head, neck, chest, abdomen or extremities proximal to the elbow or knee
Flail chest	Two or more proximal long bone fractures
Crushed, de-gloved or mangled extremity	Amputation proximal to the wrist or ankle
Unstable pelvic fractures	Open or depressed skull fractures
Falls > 20 feet	Paralysis
Auto versus pedestrian/bicyclist thrown, run over or with significant (> 20 mph impact)	High risk auto crash Ejection Intrusion: > 12 inches on occupant site; > 18 inches any site Death in same passenger compartment
Age < 5 or > 55	Motorcycle crash > 20 mph
Pregnant	Burns
EMS provider judgment	Patient on anticoagulants

Signature of person filling out form:

Addendum 7

TRAUMA ACTIVATION POLICY

Name of Hospital: ____

Location of Hospital: ____

A. Activation
   1. Staff notification
      a. The trauma team activation will be determined in collaboration with the ED registered nurse (RN) / charge nurse, Allied Health professional / mid-level practitioner and EMS personnel notifying the hospital of the event.
      b. Qualified hospital staff (RN / charge nurse, Allied Health professional / mid-level practitioner) may answer the Prehospital Care Report and receive the request to initiate the trauma team activation.
      c. The assigned ED RN will page over the intercom system or via telephone, depending upon criteria "full trauma alert – emergency department" or "partial trauma alert – emergency department" twice.
      d. For multiple trauma patients, see administration policy, "Emergency Preparedness Disaster Plan – Code Triage."
   2. Prehospital Care Report
      a. The EMS personnel at the scene may request a trauma team activation on any injured patient via radio contact with the ED staff.
      b. The qualified hospital staff will collect the following information from prehospital care personnel when available:
         1. Patient name (if known) and date of birth
         2. Revised trauma score
         3. Glasgow Coma Scale
         4. Vital signs
         5. Airway stability
         6. Level of consciousness
         7. Obvious fractures
         8. Open wounds
         9. Mechanism of injury
      c. The qualified hospital staff who answers the Prehospital Care Report is responsible to:
         1. Document the Prehospital Care Report
         2. Calculate the trauma score
         3. Calculate the Glasgow Coma Scale
         4. Categorize the patient
         5. Notify Allied Health professional / mid-level practitioner and document time of notification.

B. Criteria
   1. Trauma Alert Activation – The trauma team will be activated by the ED nurse or ED Allied Health professional / mid-level practitioner in consultation with the EMS personnel in charge of the patients who meet the following criteria based on prehospital assessment or presenting ED assessment of those patients arriving by private vehicle.
   2. Based on dispatch information, the ED nurse in consultation with the ED Allied Health professional / mid-level practitioner will determine the level of the trauma alert and activate the alert via intercom/telephone/pager.

a. Full trauma alert – This will active the entire trauma team:
   1. ED Allied Health professional / mid-level practitioner in charge of the trauma alert; the presence of the ED physician in the ED at the time of arrival of the patient is expected for all high-level trauma alert activations when the hospital was given timely notice by out-of-hospital providers as to the expected arrival of the patient.
   2. If the hospital is not given timely notice by the out-of-hospital providers as to the expected arrival of the patient, it is expected the trauma team will respond immediately upon notification of a high-level trauma alert; the on-call ED Allied Health professional will arrive within 30 minutes of being called.

b. Partial trauma alert
   1. All in-house trauma team members are notified; out-of-house trauma team members are notified upon discretion of the ED Allied Health professional / mid-level practitioner.
   2. ED Allied Health professional / mid-level provider assumes responsibility of the trauma patient.

C. Trauma team member responsibilities
1. Prehospital personnel
   a. Call trauma alert based on criteria, prehospital care, stabilization and transport.
2. ED Allied Health professional / mid-level practitioner
   a. Direct team in care of patient.
   b. Stabilize patient and perform initial assessment and resuscitation of injured patient.
   c. If necessary, consultation with specialty physicians and arrange for transfer of patients to higher level of care.
   d. If the trauma results in death, the medical examiner will be notified.
3. ED primary care nurse
   a. Functions under the ED Allied Health professional / mid-level practitioner.
   b. Communicates with prehospital care staff and ED Allied Health professional / mid-level practitioner to determine and activate level of trauma alert activation.
   c. Coordinates care of the patient and will delegate to another circulating nurse to assist with history of event and patient's past pertinent history, administration of orders, assist with documentation and ongoing assessment and use of ancillary services and remain with patient until transfer to another facility, admission to hospital/surgery or dismissed by ED Allied Health professional / mid-level practitioner.
   d. Communicates with family members.
   e. Completes trauma charting – trauma triage, primary assessment and secondary assessment.
4. Circulating ED nurse / second nurse
   a. Functions under the direction of the ED primary nurse.
   b. Assists in preparing the room for trauma patient, assess supplies and equipment needs on an ongoing basis and order as needed, set up IV lines and perform interventions and orders as directed by the ED primary nurse.
   c. Provides input to evaluation of the trauma activation.
   d. Assists with documentation, obtains copies of records for transfer, completes transfer documentation and assists with procedures.
   e. Remains with patient until transfer to another facility, admission to hospital/surgery, or dismissed by ED Allied Health professional / mid-level practitioner.
   f. After trauma, designates restocking of supplies.
5. Additional nurses will be called in after hours and on weekends at the discretion of the ED Allied Health professional / mid-level practitioner.
6. Charge nurse/med-surgical floor nurse
   a. Charge nurse to respond to trauma alert and communicate with ED primary RN regarding need for an admission bed, arranging for transfer and assisting in care of the trauma patient.

    b. Assists with meeting needs of family members, clear area of unnecessary personnel and visitors and limits all calls to departments activated to emergency requests only.

7. Respiratory therapy
    a. Reports to ED and positions at the head of the cart to manage airway, assist in intubation and other respiratory functions (ventilations, CPR, ABGs), will stay with patient to maintain airway until patient transferred to a higher level of care.
    b. Performs EKG as needed.
    c. Remains in ED area until dismissed by the ED primary nurse.
8. Radiology technician
    a. Reports to ED with portable x-ray machine and waits for direction to enter care area to obtain x-ray film.
    b. Makes copies of x-ray/CT films if patient is to be transferred.
9. Laboratory technician
    a. Reports to ED and awaits orders to enter care area to obtain blood specimens.
    b. Assists with blood products; if indicated, will place crossmatch identifications band on patient.
    c. Blood will be released and utilized without being fully crossmatched if needed.
        1. The ED Allied Health professional / mid-level practitioner will sign appropriate consent for emergency blood administration and lab will make every attempt to have the following in stock:
            a. 2 units = O Negative
            b. 4 units = A Positive
            c. 6 units = O Positive
    d. In the case the trauma patient was receiving uncrossmatched blood and needed more than was available onsite, lab will perform a quick blood type to test of the patient could receive type-specific blood on hand (A Pos or O Pos).
        1. If patient could not receive either of these types of blood, lab will contact the American Red Cross for more blood to be delivered up to our facility or contact the closest hospital for blood.
        2. Please refer to laboratory policy, “Blood Released Uncrossmatched.”
10. Social services/clergy
    a. Functions independently assessing trauma event and communicating with ED primary nurse of patient status as needed and provides support for the family, patient and staff.
    b. Arranges for debriefing session, if applicable.
    c. Assists with phone calls, arrangements, etc. of family members.
11. Paramedic
    a. Functions under the direction of the ED primary nurse, assists with CPR, ventilation, vital signs and obtaining supplies, equipment, etc. as needed.
12. Additional staff members (certified nursing assistant/ward-clerk)
    a. Assists ED Allied Health professional / mid-level practitioner and nurse with making phone calls, answering phones, assisting nurse with trauma recording of events and gathering paperwork for transfer of patients. (Pediatric/Adult Trauma Record)
    b. Assists with calling in other staff members, if needed, at the direction of the ED Allied Health professional / mid-level practitioner and nurse.
    c. Assists with gathering and setting out supplies and equipment.

D. Quality Assurance Monitoring
    1. Trauma coordinator / trauma medical director will collect and monitor trauma data.
    2. Trauma coordinator / trauma medical director and trauma committee will monitor trauma charts for documentation compliance, response times and appropriateness of care and use of the trauma alert activation.

Addendum 8

TRAUMA PERFORMANCE IMPROVEMENT AND SAFETY PLAN

Mission and Goals of the Trauma PI Program:
Our overall goal is to reduce mortality and morbidity to the trauma patients for whom we provide care and to our surrounding community. The PI program will evaluate the care provided for the trauma patient using systematic and objective data collection and analysis and multidisciplinary peer review. In doing this, we will identify opportunities for improvement of future patient outcomes and safety. We will provide education on trauma patient care to staff. We will provide community education on safety and injury prevention. PI program will facilitate effective use of resources. The role of the basic trauma center is to facilitate, stabilize, prepare for and rapidly transfer all patients with potentially life or limb threatening injuries to the trauma center best meeting the patient's needs.

Administrative Structure:
The Trauma Medical Director (TMD) and Trauma Nurse Coordinator (TNC) provide ongoing and systematic monitoring of care provided by medical, nursing and ancillary personnel. PI review consists of the utilization of pre-selected performance improvement "audit filters" and additional hospital and regional indicators when indicated. In addition, a process of tracking complications, systems issues, provider issues and adverse events is determined. The TNC will report all issues and opportunities for improvement to the TMD. Primary, Secondary and Tertiary review levels will guide management of each issue. Documentation of evaluation (loop closure) for identified issues is the responsibility of the TMD and TNC. The use of indicators to measure, evaluate and improve performance is an important component of the trauma PI plan.

Data Collection:
Methods of identifying PI issues: ED charts for trauma patients with diagnosis that fall within ICDs of 800-959.9, 994.1 and 994.8 who are either being admitted into the hospital or are transferred to a facility with a higher level of care, will be audited. Charts for those patients identified through PI committee, patient rounds, staff report, hallway conversation, email, patient complaint or direct observation may also be audited. Trauma deaths are automatic reviews. All trauma activations should be reviewed. Additional patients may be included in the trauma PI program review but they should not be entered into the state or national database.

Quality indicators may include but not limited to the following:

- Appropriateness and timeliness of care
- Appropriate documentation of patient care
- Adherence to patient care guidelines and protocols
- Specific complications

Types of PI quality indicators:
Process measures – operational issues relating to the system or structure in which care is delivered. Clinical care issues.
Outcome measures – results of the care given. Monitoring to establish if the process of care achieves the desired outcome.

Levels of Performance Improvement:
Primary review – low level risk issue
Process: contemporaneous / retrospective issue identification

- Trauma coordinator review with validation of issue.
- Immediate resolution and feedback. May be provided on the scene.
- Documented in the PI process.
- Complete Trauma Death Review form.
- Resort to TMD. Discuss need for further review.
- May be closed at this level.

Secondary review – issues with a moderate level risk. This may also be a provider issue.
Process: i.e. filter fall out, system concern or care concern

- TMD and TNC review issue.
- Judgment leads to initial action plan.
- Investigation of issue.
- Issue may be closed at this level.
- Refer to multidisciplinary trauma committee.
- Refer to peer review.
- Document in the PI process. Complete Trauma Death Review form.

Tertiary Review – critical risk issue.
Process issue, care issue, trauma committee review

Multidisciplinary Trauma Committee:

- Focused process.
- Works on global system and operational issues.
- Representatives of all phases of case with attendance recorded. (Medical providers, nursing, EMS, ancillary staff and administration)
- Linked with hospital PI process.

Medical Peer Review:

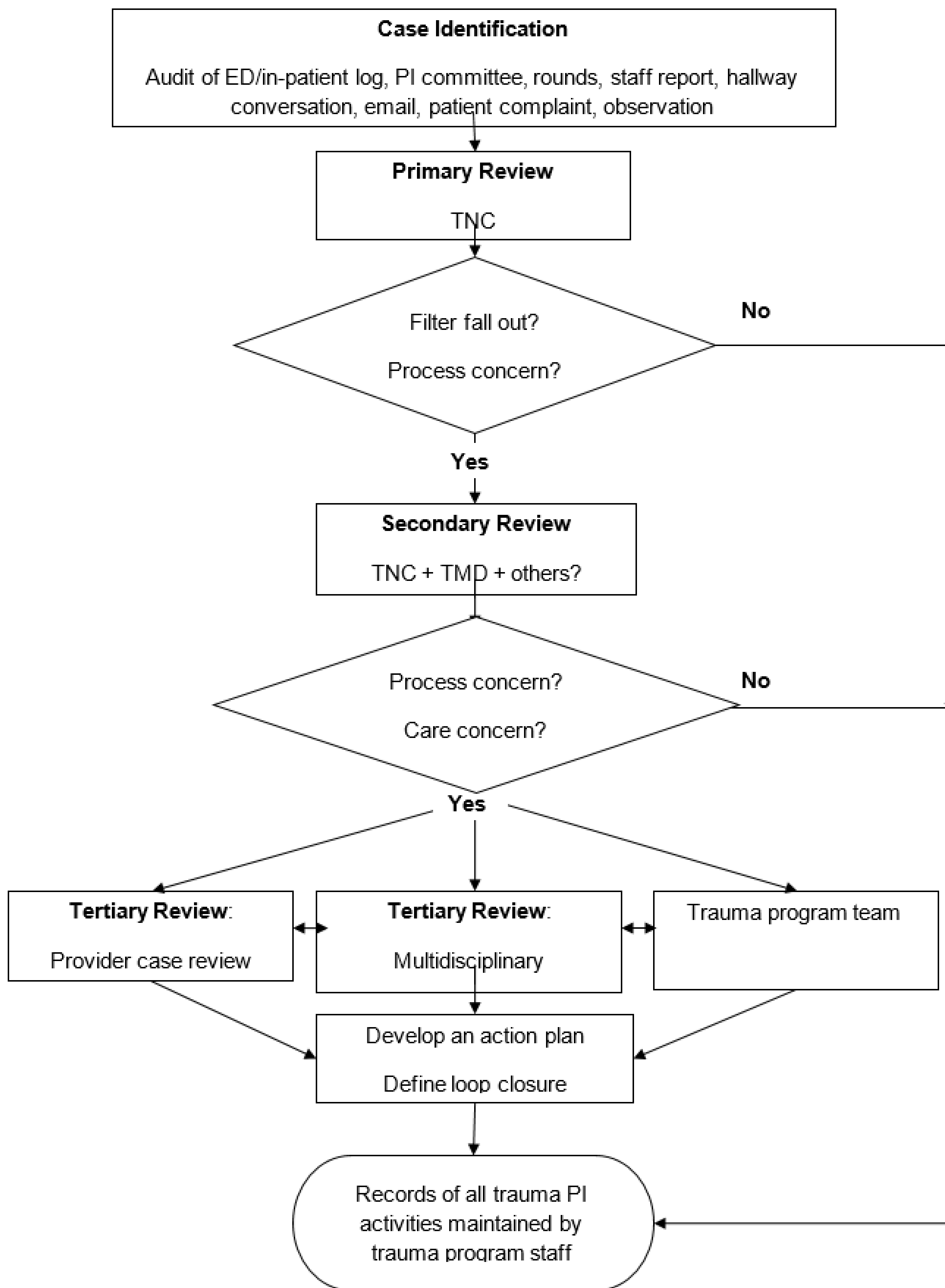
- Review of deaths, complications and clinical care issues of seriously injured patients either admitted or transferred to a higher level of care.
- Provider-focused with participation of providers involved in trauma patient care.
- Limited access to forum but TNC must attend when trauma cases are reviewed.
- Documentation to be written carefully but include discussion.
- Trauma deaths automatically included in PI review.
- Complete Trauma Death Review form.
    - A. Identify injuries
        - Autopsy report
        - Feedback from regional trauma center
    - B. Identify co-morbid conditions
    - C. Determine preventability of death
        - Preventable
        - Potentially preventable
        - Non-preventable

PI Subcommittee:

- Regional Advisory Trauma Committee (RATC)
- State Advisory Trauma Committee (SATC)

Performance Improvement Documentation:

- Case summary
- Issue identification
- Level of review
- Conclusions
- Correction Action Plan
- Implementation
- Evaluation method for “loop closure”


Case Identification
Audit of ED/in-patient log, PI committee, rounds, staff report, hallway conversation, email, patient complaint, observation
Primary Review
TNC
Filter fall out?
Process concern?
No
Yes
Secondary Review
TNC + TMD + others?
Process concern?
Care concern?
No
Yes
Tertiary Review:
Provider case review
Tertiary Review:
Multidisciplinary
Trauma program team
Develop an action plan
Define loop closure
Records of all trauma PI activities maintained by trauma program staff

TRAUMA INDICATORS

20 Trauma Audits						
Date						
Patient #						
Provider global assessment						
Provider arrival time < 15 act. / 30 non act. (min)						
Nursing global assessment						
Trauma activation Y / N, O / U, ER / EMS						
Trauma times documented						
Hourly GCS documented						
C-spine clearance protocol followed						
Pediatric appropriate IV/IO access						
Pediatric temperature on chart						
Patient to imaging time						
Radiology report time						
Imaging time						
ER admit time						
Transfer decision time						
Transfer time						
Patient transfer > 2 hours						
Delay in transfer reason						
Admit to PCU time						
Total time in ED						
PCU admit – injury category						
DVT prophylaxis-ambulates w/in 12 hours of SCD application						
Nutrition – eats w/in 6 hours						
Gastric protection H2 or PPI use						
Scene time > 15 minutes						
GCS, VS, CMS on chart						
Pre-hospital airway appropriate						
Door to drug time in long bone fx						
Mortality						
Injury severity score						
Medical Provider						
Reviewed by:						

TRAUMA INDICATORS

Trauma Indicator	Yes	No	NA	Comments

TRAUMA PI DOCUMENTATION

PI Issue	Level of Review	Conclusion	Action Plan	Implementation	Evaluation

TRAUMA PERFORMANCE IMPROVEMENT REVIEW FORM

Admit Date: ___________________________________ Patient Number: ______________________________________

Provider Number: ______________________________ Nurse Number: _______________________________________

Diagnosis:

History of events:

Source of information: TNC Nurse Manager Provider Risk Management

Other: ______________________________________

Location of issue: Pre-Hospital ED Imaging Lab

Other: ______________________________________

Issue identified:

Trauma Death Trauma Activation Process Measure Outcome Measure

Primary review date: Secondary review date: Tertiary review date:

Corrective Action Plan:

Action Plan Start Date:

Investigative Findings:

Issue revaluation date: Closed date:

Determination	Preventability	Corrective Actions
System related	Non-preventable	Education
Disease related	Potentially preventable	Peer review
Provider related	Preventable	Trend
Complication	Cannot Determine	Protocol
Adverse events		

Additional comments:

Trauma Medical Director: Date:

Trauma Nurse Coordinator: Date:

TRAUMA DEATH REVIEW FORM

Admit Date: ____________________________________ Patient Number: _______________________________________

Provider Number: _______________________________ Nurse Number: ____

History of events:

Patient Comorbidities:

Source of information: TNC Nurse Manager Provider Risk Management

Social Services PI Committee Nursing Staff Ancillary Staff

Other: _______________________________________

Location of issue: Pre-Hospital ED Imaging Lab

PCU ICU Other: _______________________________________

Autopsy report findings:

Regional recommendations:

Trauma Committee recommendations:

Open: Closed:

Determination	Preventability	Corrective Action(s)
System related	Mortality without opportunity for improvement	Unnecessary
Disease related		Trend
Provider related	Mortality with opportunity for improvement	Protocol
Cannot determine		Education
	Unanticipated mortality with opportunity for improvement	Peer review presentation
		Resource enhancement
		Process improvement
		Privilege / credentialing action
		Other:

Trauma Medical Director: Date:

Trauma Nurse Coordinator: Date:

DEFINITIONS FOR TRAUMA MORTALITY AND MORBIDITY CLASSIFICATIONS

A **mortality without opportunity for improvement** death or morbidity results from an event or complication that is a sequela of a procedure, disease, illness or injury for which reasonable and appropriate preventable steps have been taken.

For example, a gunshot wound to the head with a Glasgow Coma Scale (GCS) of 3 on arrival and subsequent death, posttraumatic pancreatitis, pneumonia, deep venous thrombosis (DVT), and so on, in patients who had appropriate preventative steps taken. Most deaths and morbidities fall into this category.

A **mortality with opportunity for improvement** death or morbidity results from an event or complication that is a sequela of a procedure, disease, illness or injury that has the potential to be prevented or subsequently ameliorated.

For example, iatrogenic pneumothorax or wound dehiscence, wherein alternate techniques or judgments may have prevented the complication with some certainty. Such a choice is always a difficult call and requires determination from experienced trauma surgeons or a panel of physicians. An example of a potentially preventable mortality may be an elderly trauma patient with a severe head injury who develops a fatal arrhythmia from electrolyte abnormality. The arrhythmia may have been preventable, but it is unlikely the death was; therefore, the death is deemed “potentially preventable.” A patient suffering a preventable morbidity who subsequently expires after being declared DNR (do not resuscitate) by family or advanced directive, may be determined to be a potentially preventable mortality. There is no precision in these determinations; these are clinical judgments based on the best available evidence.

An **unanticipated mortality with opportunity for improvement** death or morbidity results from an event or complication that is an expected or unexpected sequela of a procedure, disease, illness or injury that could have been prevented or substantially ameliorated.

For example, a patient admitted with abdominal distention and shock who dies from a ruptured spleen two hours later while waiting for a surgeon. Death as a result of a missed epidural hematoma or esophageal intubation may be preventable. Preventable mortalities should be very unusual in a mature trauma system. A missed fracture resulting from failure to examine the patient may be a preventable morbidity.

Adapted from *American College of Surgeons, Trauma Performance Improvement Reference Manual*, January 2002, pp. 6-7

Addendum 9

Other PI indicators to consider:
Prehospital:

- GCS < 9 patient intubated or definitive airway established
- Run reports legible
- Hospital received early notification
- Timing of interventions
- Followed ABC's of resuscitation

ED:

- GCS < 9 patient intubated or definitive airway established
- Proper immobilization
- Rapid triage and transfer protocol followed
- Urinary output > 30 cc/hour
- Pediatric IV fluid run according to PALS criteria
- Temperature record at a minimum of on admission and dismissal
- GCS, vital signs, oximetry documented at a minimum of every 15 minutes
- Nurse accompanies patient to CT scanner
- Trauma activation appropriate according to established criteria
- Delay diagnosis
- Misread x-ray
- Noncompliance with protocols, guidelines, standards of care, procedure
- Unplanned re-admission

Acute Care:

- Stress ulcer prophylaxis initiated day one if not fully able to take nutrition
- DVTP initiated day one if immobile > 8 hours
- Nutrition initiated day one
- Enternal feeding initiated within 48 hours if unable to take oral diet
- Mobilized day one
- Appropriate antibiotic regimen
- Appropriate pressure ulcer prophylaxis

Pediatric:

- Temperature, weight, fluid management according to PALS

Addendum 10

TRAUMA CRITIQUE

Purpose: To assist in the PI process to identify any systems, process or peer issue. The trauma program encourages anyone to add to this critique including physicians, physician providers, nurses, ancillary personnel, EMS. The nurse in charge of trauma will initiate this report. This report will not be a permanent part of the medical record and is to be placed in the trauma program manager's office.

Date: __________________ Time: _______________ Name of Patient: ____

MR#: __________________

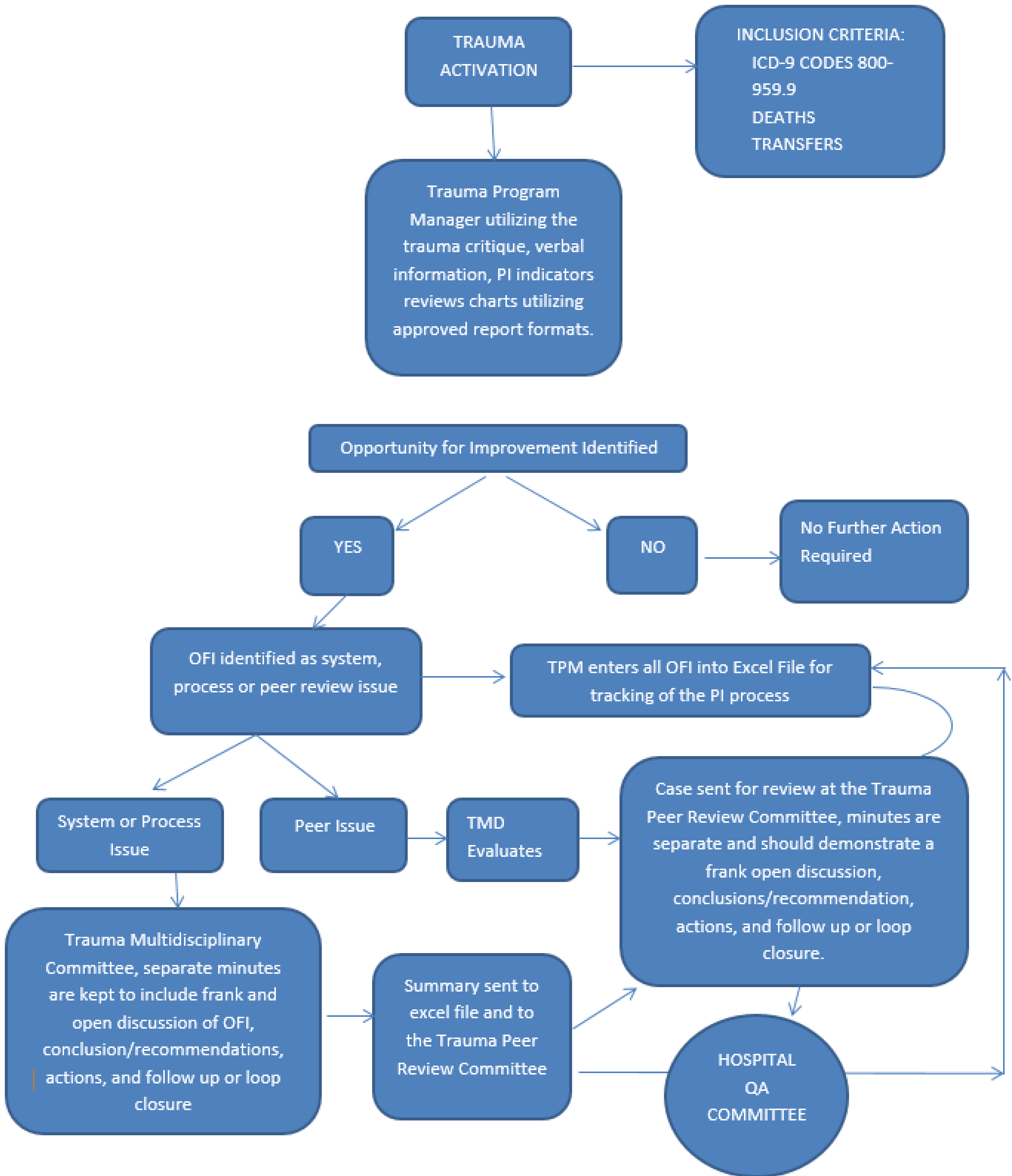
Team Response Appropriate	Yes	No	Comments
Nursing			
Physician			
PA-C			
APRN			
Lab			
Radiology			
Nursing Supervisor			
Others:			
Team worked collaboratively together			
Clear direction given by person in charge			
Team treated each other professionally / courteously			

Other: Please describe any opportunities for improvement

Signature of person completing report:

Addendum 11

TRAUMA PI PROCESS FLOW CHART



Addendum 12

TRAUMA PI EXAMPLE

Case #: 3456

Name: J. Doe

Date of Admission: 1/7/2020

Opportunity for Improvement:
- Failed procedure, insertion of central line
- Hospital not notified by EMS in timely manner
- GCS not documented by EMS
- Delayed trauma activation

Actions:
- Dr. Winner will be sent to ATLS class in March
- TPM and TMD will meet with EMS to educate about importance of documentation of GCS and early notification
- TPM will meet with nursing staff to educate on timely trauma activate and activation criteria. Trauma activation protocol will be sent to all physicians and physician assistants.

Follow Up:
- Dr. Winner attended the March 16, 2020 ATLS class and is current in ATLS. Will continue to monitor.
- TPM and TMD met with EMS squads January 16, 2020.
- TPM met with nursing staff January 16, 2020 and trauma activation protocol was sent to physicians and providers on January 16, 2020.

Loop Closure: (refer to minutes, case is closed)
- February 16, 2020 trauma peer review minutes

Addendum 13

TRAUMA PEER REVIEW

Date: _________________ Name of Patient: ____

Case#: ________________ Name of Physician: ____

Injury Severity Score: __________________

Opportunity for Improvement:

Death Transfer Admission

Sentinel Event

Complication

Trauma Medical Director Evaluation:

Conclusion / Recommendation:

Provider Related

System Related

Action:

Follow Up or Loop Closure:

Trauma Medical Director Signature:

Death Classification: Mortality with opportunity for improvement

Mortality without opportunity for improvement

Unexpected mortality with opportunity for improvement

Addendum 14

REQUIRED EQUIPMENT – BASIC TRAUMA CENTER

- Equipment for resuscitation for patients of all ages
- Airway control and ventilation equipment
- Pulse oximetry
- Suction devices
- Electrocardiograph-Oscilloscope-Defibrillator
- Standard IV fluids and administration sets
- Large bore-intravenous catheters
- Airway control / cricothyroidotomy
- Thoracostomy
- Drugs necessary for emergency care
- Breslow tape
- Thermal control for patient
- Qualitative end-tidal CO2 determination
- Communication with EMS vehicles
- Posted call lists and trauma activation guidelines
- Crash cart easily accessible to CT and x-ray
- Oxygen, suction and BMV in CT and x-ray

Addendum 15

Example Minutes for Trauma Program Operational Process and Performance Committee

Trauma Program Operational Process and Performance Committee
January 16, 2020 Minutes

Attendance: Trauma Medical Director, Director of Nursing, Trauma Program Manager, Manager of Radiology, Manager of Laboratory, etc.

<u>Agenda Item: Unavailability of Pediatric Chest Tube</u>

Dr. John Smith reported on case #34756 on January 6, 2020, he had a pediatric patient requiring a chest tube for a diagnosis of pneumothorax. When he requested a #12 chest tube, it was reported the smallest chest tube available was #20. A #20 chest tube was inserted and the patient was transferred to a higher level of care.

Conclusions / Recommendations: Discussion about the need for pediatric sized chest tubes. It was agreed upon by members concerning trauma cases, a larger chest tube can be appropriate in certain cases. The committee members recommended the regional trauma coordinator be called to discuss the need for smaller chest tubes for pediatric patients.

Actions: Dr. Smith will call the regional trauma center and discuss the issue and will bring back the information at the next PI meeting.

Follow Up / Loop Closure: Refer to minutes of the February 12, 2020 committee meeting.

<u>Agenda Item: Laboratory Response After-Hours</u>

Carol reported twice in two months, the laboratory did not meet response times for trauma activations.

Conclusions / Recommendations: Gene Hansen, laboratory manager, was available to respond to this system issue. He investigated the reason for the delayed response and was informed the group pager had the wrong number for the on-call lab technician.

Actions: Gene has notified their pager carrier and the number has been updated. A trial was completed on January 7, 2020 and the technician received the page and responded in the appropriate time frame.

Follow Up: Carol will continue to monitor response times of team members. Loop closed.

<u>Agenda Item: Case #3456</u>

This case involved a 66-year-old male who was the driver of a tractor that rolled over the patient's abdomen. Upon arrival of EMS, the patient was unresponsive, GCS of 9, blood pressure 66/40, pulse 160, pulse oximetry 86%. A combi-tube was placed, the patient was ventilated, an IV was initiated with a 20 gauge needle, full spinal immobilization was completed and the patient was transferred to "Any" Hospital. This was a trauma activation. Upon arrival at the hospital, the trauma team was present. A primary assessment was completed. Vital signs included: GCS of 8, combi-tube in place, decreased breath sounds on the right, blood pressure 60/45, pulse 166, bagged, oximetry 86%. The combi-tube was exchanged with an endotracheal tube and the patient was ventilated. A central line was attempted to be placed, but was unsuccessful, so an I/O was inserted and fluids initiated. O-negative blood was ordered and 2 units initiated. A chest tube was placed, with return of a lot of air. After a CT of the abdomen, arrangements were made to

transfer the patient to a higher level of care by air. The patient was transferred by air after 2 hours and 30 minutes in the ED. The patient expired prior to arrival at the regional trauma center.

Reason for review:

- Death
- ATLS not followed; decreased breath sounds on the right but chest tube not inserted until after I/O placed
- Failed procedure: central line placement
- > 2 hours in the ED prior to transfer
- Rapid triage and transport protocol not followed

What went well?

- EMS in field < 15 minutes
- Combi-tube inserted to manage airway (basic unit)
- Patient intubated on arrival
- Team member response times appropriate
- O negative blood initiated
- I/O place
- Transferred by air

Conclusions / Recommendations:
The committee members discussed the fact the chest tube should have been inserted prior to starting an I/O, thus following the ABC's of ATLS resuscitation. Dr. Winner was present and stated he had not placed a chest tube for some time and realized his ATLS certification had expired. A recommendation was made Dr. Winner be sent by the hospital to be recertified in ATLS, this being able to practice chest tube insertion and primary survey skills. Dr. Winner will also be sent to ATLS for practice with central line insertion and a competency program will be established biannually for physicians to include intubation, chest tube insertion and central line insertion. The rapid triage and transfer protocol will be sent out by the trauma program manager to all physicians and surrogates on trauma calls to educate them about timely transfer.

The death was voted as possibly preventable.

Action: Dr. Winner will be scheduled to take an ATLS course within the next 3 months. Carol will send out the rapid triage and transfer protocol.

Follow Up: Refer to February 16, 2020 minutes of the trauma peer review committee.

The February 16, 2020 minutes should reflect under Old Business, Dr. Winner was scheduled for ATLS March 16, 2020. The rapid triage and transfer protocol was sent to all physicians and surrogates by Carol on January 16, 2020. Death charts will continue to be reviewed. Loop closed on case #3456.

Addendum 16

Example Written Transfer Agreement Guidelines

EXAMPLE A

Purpose
To establish guidelines for the proper and efficient transfer of traumatically injured patients out of Hospital A.

Policy

1. As a Level IV Trauma Center Hospital A will accept all trauma patients arriving by walk-in or EMS
2. All trauma patients including burn, pediatric, spine, and brain trauma will be stabilized as appropriate including fluids, intubation as needed, blood products as needed and any other stabilization procedures needed prior to the transfer of the patient.
3. The patient will be transferred by ground transport XXXXXXX or XXXXXX or air as appropriate for the patient's condition as deemed necessary by the provider.
4. EMTALA guidelines will be followed.
5. Bed acceptance will be obtained by the Trauma RN prior to transfer.
6. Medical records for the patient including lab, radiology and procedures completed will be printed and sent with the patient on transfer.
7. The patients' belongings will be either given to the family or sent with the ambulance attendant.
8. The Nurse must conduct a 1:1 report with the receiving nurse.

EXAMPLE B

Transfer of Patients from Hospital Z

Purpose
To ensure proper and efficient transferring of trauma patients to outside facilities from Hospital Z when resources are not available or the patient requests transfer.

Trauma Patients to Consider for Transfer

A. Any pediatric patient requiring admission for traumatic injury
B. Any adult trauma patient requiring admission for the following types of traumatic injury:
    a. Any burn patient that meets American Burn Association (ABA) transfer criteria
    b. Patients with burns AND traumatic injuries – consider transfer to a level 1 trauma/burn center
    c. Patients with Spinal Cord Injuries
    d. Patients with traumatic brain injury
    e. Trauma patients requiring acute hemodialysis
    f. Patients requiring inpatient acute rehabilitation or inpatient social services following traumatic injury

Procedure

A. The patient or their representative should be made aware of the reason for transfer and consent to the transfer if capable.
B. Transfer should be to the closest capable hospital/trauma center unless the patient requests transfer to another facility and has been stabilized for a longer transport.
C. Confirmation of the availability of the receiving hospital and an accepting physician is required following EMTALA guidelines.
D. Any life or limb threatening injury must be temporized based on available resources prior to transport. This includes, but not limited to, initiating fluids, intubation, or administering blood products as needed.
E. Communication with the receiving facility should be provider to provider report unless the attending provider is unavailable.
F. The appropriate transfer mode (ground or air) should be determined by the transferring provider based on the patient’s injury and potential for deterioration en route.
G. Copies of the patient chart and any laboratory and radiology studies must be transferred to the receiving facility. If radiology imaging is not able to be pushed to the receiving facility, ensure a digital copy of the films are sent with patient.
H. Nursing must conduct a 1:1 report with the receiving nurse.

HOSPITAL RN's							
Staff Name	DOH	PALS/ENPC exp	ATCN/TNCC exp	Event/Name of Program	Date Attended	Adult Hrs.	Ped Hrs.
					Totals:		
					Totals:		
					Totals:		

HOSPITAL RN's							
Staff Name	DOH	PALS/ENPC exp	ATCN/TNCC exp	Event/Name of Program	Date Attended	Adult Hrs.	Ped Hrs.
					Totals:		
					Totals:		
					Totals:		

HOSPITAL RN's							
Staff Name	**DOH**	**PALS/ENPC exp**	**ATCN/TNCC exp**	**Event/Name of Program**	**Date Attended**	**Adult Hrs.**	**Ped Hrs.**
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HOSPITAL RN's							
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HOSPITAL RN's							
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HOSPITAL RN's							
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HOSPITAL RN's							
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