



Developing a Trauma Center

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Trauma
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Objectives:

- Describe the role of the Trauma Program Manager in developing a trauma center
- Define physician infrastructure components & resources required to develop a level III or IV center
- Define trauma activation process for a hospital to meet either Level III / IV trauma designation
- Describe educational components for nurses, physicians, EMS and other staff



Role of the Trauma Program Manager / Coordinator

- Educational preparation: Knowledgeable / expertise in trauma
- Educational degree will assist with salary level. Required versus preferred
- Level III/ IV no regulatory requirement for FTE only trauma / may be a split role



Trauma Program Manager Roles:

- Clinically related activities
- Educational responsibilities
- Performance Improvement activities
- Registry supervision / data management
- Consultant / Liaison
- Champion



Clinically Related Activities

- Involvement in clinical care:
- May require some bedside staff hours
- Adjunct team member in activations
- May participate in daily / weekly trauma team rounds



Educational Responsibilities:

- Trauma educator: formal or informal role
- Formal Courses: ATCN, TNCC, RTTDC (instructor or coordinate with Level I or II)
- Developed hospital specific trauma educational series or presentations
- EMS education: cases or requested topics
- PI driven education may include physicians, nurses and EMS
- Educate: new guidelines, protocols, equipment



Performance Improvement

- Development of PI team / “spies”
- Concurrent case review
- Compliance with guidelines / policies
- Tracking / re-evaluating PI issues
- Integration with hospital incident system, quality committees



Registry / Data Management

- Identify resources for registry
- Understand importance of dictionary
- All Trauma Program Manager need to understand registry from data entry, reports, validation, and PI documentation.
- Participate in validation process



Consultant / Liaison / Champion

- Have to be relevant in the building
- Need to be accessible & accountable
- Importance of feedback
- Link with administration with annual report, for board resolutions

Physician Resources & Leadership

- Level III Center
- Level IV Center



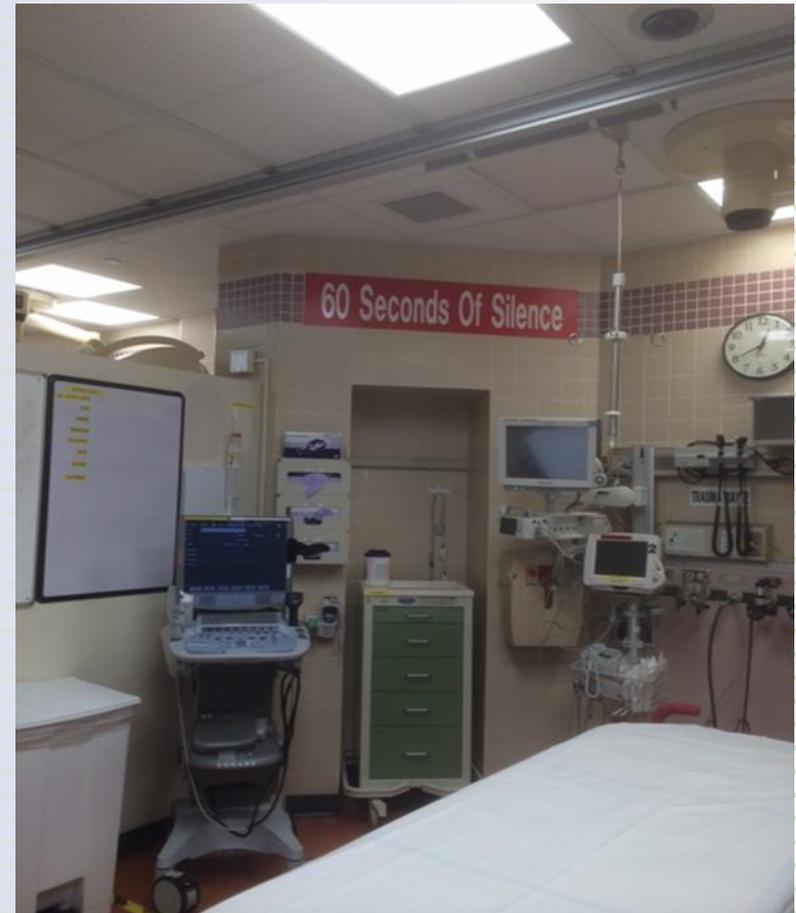
Trauma Medical Director Level III

- ED physician resources for trauma
- Trauma Activation Criteria
- Trauma Surgeon / General Surgeon care model
- Trauma admission policy / guideline
- PI Process



Trauma Medical Director Role in ED Care / Process

- Work with ED liaison to ensure ED physician & advance practice providers care is defined
- Develop, implement, and evaluate activation criteria and response for all level activation
- Engage local EMS



Level III Physician In-patient care

- Leader of patient care activities
 - General Surgery
 - ICU
 - OR
 - General Medical /Surgical Floor
- Involved in policy development & implementation for trauma patients
- Responsible for PI with Trauma Program Manager

Admitting Process for Trauma

- Non-surgical service admits have to be part of PI process (ACS 5.18)
- Who admits :
 - Low impact energy (ground level falls)
 - Isolated injury
 - Multi-system injured
 - Patients on blood thinners
- How are co-morbidities factored in?



Level III ICU

- Surgeon involvement in ICU care
- Surgeon involvement in policies / guidelines
- PI that reviews any transfers out to acute care



Trauma Medical Director: Leading Trauma PI

- Maintains responsibility for trauma PI
- This will be detailed in PI section

Physician Responsibilities

- Identification of liaisons for trauma committee
- Identification of admit process, rounding on trauma patients, hand offs, use of mid-levels
- Care in ICU / OR



Level IV TMD roles

In Level IV Center TMD can be emergency medicine or general surgery

- EM physician resources for trauma
- Trauma Activation Criteria
- Trauma Surgeon / General Surgeon care model
- Trauma admission policy / guideline
- Trauma transfer policy
- PI Process



Level IV ED Role

- Care model
- Trauma Activation criteria for levels, response times, evaluation of care
- Triage & transfer
- Timeliness of consults / admission



Level IV Trauma Medical Director

- General surgeon not required on staff
- Need to have guidelines for hospitalist or internal medicine admit
- Plan for in hospital trauma care – Trauma Program Manager as “rounder” for PI process
- Leads peer review committee



Trauma Activation

Where to Start?

- Determine Criteria for Trauma Team Activation (TTA)
- Multitier TTA protocol
 - ACS-COT Minimum Criteria For Full Trauma Team Activation
 - Limited Response Criteria



STATE DESIGNATION/ORANGE BOOK CRITERIA

- Definitions/Expectations (Criteria Deficiencies)
- Full TTA Activation
- Limited Response

- Trauma Activation and EMS/CDC Field Triage Guidelines



Minimum Criteria

- Confirmed blood pressure less than 90 mm Hg at any time in adults and age-specific hypotension in children;
- Gunshot wounds to the neck, chest, or abdomen or extremities proximal to the elbow/knee;
- Glasgow Coma Scale score less than 9 with mechanism attributed to trauma;
- Transfer patients from other hospitals receiving blood to maintain vital signs;
- Intubated patients transferred from the scene, - OR -
- Patients who have respiratory compromise or 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



Criteria Development

- Who do you need on a team to develop criteria?
 - Content experts
- Who are the decision makers?
- What is the culture of your ED?
- What is the culture of your hospital?



Criteria

- Utilize your criteria
- Educate staff and physicians
- Presence at the trauma activations
Educate, teach, mentor, support
 - Real time feedback



The Team

- *Members of a Team*
- Physicians, Nurses, Allied Health
- Team Leader

- Team Response
 - Level of activation
 - Hospital size



Defining roles



TRAUMA CODE TEAM ROLES

ED Attending

- Supervises Airway MD
- Assists with FAST exam
- If AACL code, runs code

Airway / FAST MD

- Assess Airway
- Intubate / place OG/NG as needed
- Ensure C-spine precautions
- FAST exam after airway assessed & secure

Respiratory Therapist

- Assists with airway
- Set up suction
- Places O₂
- Sets up vent/ETCO₂

Primary RN

- Attach monitor devices
- Obtains vitals- reports vitals Q5-15 mins
- Ensures patency of current IV
- Hangs IVF and blood with 2nd RN

PATIENT



Second RN

- Pushes medications
- Places 2nd IV if needed
- Assists with MTP/Belmont
- Sets up Central /art line

Second MD

- Primary Survey- calls out exam
- Fem Stick
- Secondary Survey- calls out exam
- Conduct AMPLE history
- Foley Placement

Medical Student

- Remove Clothes
- Assist w/ feml stick / foley
- Take direction from team leader and Second MD

Trauma Surgeon

- Supervises Code
- Supports Trauma Leader
- Assists with assessment/plan
- Takes Team Leader role if involved in procedure
- Communicates emergent consults to attending MDs

Trauma Leader MD

- Lead time out
- Gives all orders
- Manages Code
- Delegates Procedures/Task
- Priorities (x-ray, FAST, CT, OR)
- Decides on consults and pt destination

Support Team

Tech

- Pre check equipment
- Place pt ID band
- Exposure/Blankets/ Bair hugger
- Set up for procedure

Pharmacy

- Calculate / prepare RSI and other resuscitation meds

Charge Nurse

- Secure additional resources / communication
- Crowd Control- excuse unnecessary people

Third MD

- Enter CPOE orders
- Delegate H&P
- Pulls up x-rays
- Ensures outside films are sent to radiology
- Notify consultants and OR

RN Scribe (Secondary RN)

- Scribe clinical information
- Monitor I/O's
- MRN obtained /correct
- Report CT availability

X-Ray

Lab

MSW/Chaplain/child life



Role Definition



Activation Documentation

- Data acquisition
- Risk Adjusted National Benchmark
 - NTDB
 - TQIP/MTQIP/State
- Process Improvement
- Support of Trauma Services



Trauma *Flow Sheet*

- Design to reflect Primary and Secondary Assessment
- EMR vs Paper documentation
- Data Rich



Transferring to a higher level of care

- Critical Injuries
- Level III
 - Consider early transfer with critical injuries
- Level IV
 - Early transfer without holding patient for diagnostic tests



When to Transfer?

- Who to transfer
- Where to transfer
 - Level I or II Center
- When to transfer
- How to Transfer

- Transfer Protocols
- Transfer Agreements



Educating “The Building”

- Nursing Education
- Physician/Residents/MLP
- Prehospital
- Multidisciplinary



Nursing Education

- ATLS, ATCN; TNCC, TCAR
- ENPC; PALS
 - Education to compliment practice
- Development of education program within your institution
 - Financial support



Physician Education

- ATLS
 - TMD/MLPs must be current
 - General Surgeons; ED Physicians
Residents; Midlevel providers
 - Certification at least once



EMS Education

- CME Requirements per County Medical Authority Boards, State and National
 - PHTLS, BTLS,
- Partnering with Hospitals to Achieve CME
 - Lectures
 - PIPS/Case Reviews



Education and Clinical Practice

- PIPS
- Mock Traumas
- Case Reviews
- Self-Directed Learning
- Internal Education Program
- Multidisciplinary



The Rest Of The Building

- Support/Ancillary Staff
- Medical Staff
- Administrators
- Community Physicians



Trauma Program Management

- Challenges > The unknown
- Opportunities > Raising the Level of Care
- Rewards
 - Making a difference one patient at a time
 - Patients' smiles



The best gift you could ever give someone is your time because you're giving them something that you'll never get back.

David Avocado Wolfe

QUESTIONS?

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