Developing a Trauma Center

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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

Michigan Trauma Coalition

TRAUMA CODE TEAM ROLES

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

**Primary RN**
- Attaches monitor devices
- Obtains vital signs reports
- Assists with current airway
- Hangs IV fluid and blood with 2nd RN

**Second RN**
- Primary Survey—calls out exam
- Felt Stick
- Secondary Survey—calls out exam
- Conduct AMPLE history
- Foley Placement

**Trauma Surgeons**
- Supervisor Code
- Supports Trauma Leader
- Assists with care plan
- Takes Team Leader role if involved in procedures
- Communicates emergent consults to attending MDS

**Trauma Leader MD**
- Lead time out
- Gives all orders
- Manages Code
- Delegates
- Coordination/Tools
- Phlebotomist/Spec (lab, FAST, CT, OR)
- Decides on consults and or destination

**TRU Scribe/Secondary RN**
- Scribe clinical information
- Monitor V/Qs
- MRN ordered/Correct
- Report CT availability

**Tech**
- EKG
- Vital signs
- Monitor

**Pharmacy**
- Calculate/prepare RX and other medication needs

**Surgical Technicians**
- Sign in
- Check equipment
- Place or ID band
- Exposure/Sealers/ Bair Hugger
- Set up for procedure

**Critical Care**
- Secure additional resources
- Communication
- Crowd Control/secure unnecessary people

**Radiology**
- Lab
- MSW/Chaplain/teal life
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