Trauma ED Through put

Phil Johnson, MD
ER Medical Director Summit Regional Medical Center
Level IV Trauma Center
• Trauma, Trauma, Trauma
• ATLS
Disclosure.

I have stock in and on the Advisory Board of Global Med.... A Telemedicine company.
• Treat the patient first
• Treat the patient as a family member
• Put the team together to put the patient first
• Trauma is a Team Sport
• Pre-hospital
• ER
  ER Doc, Nurse, Tech

Rest of the Team
Surgeon, Ortho, OR, Vascular, Neurosurgeon
Transfer Team
Trauma Update

- Permissive Hypotension is real
- Fast Ultrasound and IVC measurement
- No more Pre-hospital, or ED Fluid, Fluid, Fluid
- Hypertonic fluid is being used in the OR
- Echo is being used more in ICU setting to monitor
- Hybrid OR.... CT and Angiocapabilities
- Balloon in the aorta just below the diaphragm
Trauma is Time Sensitive Disease

- Golden Hour
- 50% of all trauma deaths happen in first 2.6 hrs
- Trauma should be treated Fast. Time=Life
  - Like STEMI
  - Like Stroke and Thrombolyzing
  - Sepsis
  - Time Protocols
  - Track everything
Level I

- Physiologic
- Mechanism
TRAUMA GUIDELINES
ANYONE MEETING TRAUMA CRITERIA SHOULD HAVE TEAM ACTIVATED

TRAUMA CRITICAL
- Respiratory compromise (distress, intubated, and/or hypoxic)
- Glasgow Coma Scale \(<\ or = 13
- Systolic BP < 90 in adults
- Signs of shock in pediatric patients
- Penetrating trauma to the head, neck, chest or abdomen/pelvis
- Blunt abdominal trauma with hypotension
- Pneumothorax or flail chest
- Amputation above the wrist or ankle
- Blood infusing during transport

TRAUMA GUARDED
- Burns to face, with no respiratory difficulties > 20\% BSA
- Spinal Cord Injury with or without limb paralysis
- Open or depressed skull fracture
- Rib fractures or pulmonary contusion
- Poly Trauma < 6 years or > 60 years multiple injury sites
- Two or more long bone fractures
- Pelvic fracture
- Pregnancy > 3 months
- Severe Head Injury

TRAUMA MECHANISM
- Fall > 15 feet
- Fall > twice patient’s height (peds)
- Pedestrian v. motor vehicle > 5 MPH
- MVA or ATV > 20 MPH
- MVA > 20 MPH unrestrained
- MVA > 40 MPH, restrained
- High speed rollover
- Ejection from vehicle
- Death in same compartment
- Intrusion > 18 inches
- Extrication > 20 minutes
- Bicycle > 5 MPH with injury
- Equestrian trauma – falls, dragged by, bucked off, etc.
- Snow sports injuries to head, neck, chest or abdomen

TO ACTIVATE TRAUMA TEAM: Dial 6299, then 77 then **1
DOCUMENT IN TRAUMA LOG
RUN SHEET and t-SHEET MUST HAVE INITIAL AND SECOND GCS
Trauma Activation

- Full Activation
  - ER Doc
  - Surgeon
  - Primary nurse, other
  - Charge nurse
  - Lab
  - Xray
Partial Activation

- ER Doc
- Primary Nurse
- Charge Nurse
- Lab
- Xray
TRAVMA GUIDELINES

ANYONE MEETING TRAUMA CRITERIA SHOULD HAVE TEAM ACTIVATED

TRAUMA CRITICAL

- Respiratory compromise (distress, intubated, and/or hypoxic)
- Glasgow Coma Scale < or = 11
- Systolic BP<90 in adults
- Signs of shock in pediatric patients
- Penetrating trauma to the head, neck, chest or abdomen/pelvis
- Blunt abdominal trauma with hypotension
- Pneumothorax or flail chest
- Amputation above the wrist or ankle
- Blood infusing during transport

TRAUMA GUARDED

Polytrauma <6 years or > 60
- Glasgow Coma Scale < 6 or > 13
- Systolic BP < 90 in adults
- Signs of shock in pediatric patients
- Penetrating trauma to the head, neck, chest or abdomen/pelvis

Amputation above the wrist or ankle
Blood infusing during transport

TRAUMA GUARDED
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Pelvic fracture
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Sever Head Injury

TRAUMA MECHANISM
- Fall >15 feet
Fall > patient’s height

Death in same compartment
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**TRAUMA MECHANISM**

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**TO ACTIVATE TRAUMA TEAM:** Dial 6299, then 77 then **1**

**DOCUMENT IN TRAUMA LOG**

**RUN SHEET AND t-SHEET MUST HAVE INITIAL AND SECOND GCS**
Level I Trauma

- Full Activation
- Partial Activation
  - Track Everything
    - X-ray, CT done quickly  Head/pelvis CT takes 54 sec
    - Radiologist notified...track turn around time.
    - Night Radiologic Reads
    - Lab decide of needing O neg, Massive transfusion
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<tr>
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<tr>
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<td>32 %</td>
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<tr>
<td>2011</td>
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<tr>
<td>&lt; 2 Hrs</td>
<td>10/ 32%</td>
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<tr>
<td></td>
<td>&lt;2 Hrs 175/25%</td>
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<tr>
<td>&gt; 2 Hrs</td>
<td>21/67%</td>
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<tr>
<td></td>
<td>&gt; 2 Hrs 527/75%</td>
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<td>&lt; 2 Hours</td>
<td>10</td>
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<tr>
<td>&gt;2 hours</td>
<td>37</td>
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</tr>
<tr>
<td></td>
<td>21%</td>
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<td>78.2%</td>
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Yearly Trauma Data

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<tr>
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<th>Transfers</th>
<th>ICU</th>
<th>M/S</th>
<th>Deaths</th>
<th>Discharge</th>
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- Summit Hurdles
- ED Physician buy in
- Level I Trauma communicated to Radiologist
- Level I Trauma night Radiologists reads

- Get the Radiologist coming to meetings.
- Track By Radiologist
- Track Night Reads
- READ THE CT YOURSELF.
- Summit Hurdles
- Surgeon Buy in
- Helped having a Trauma/General/Vascular
Trauma Documentation

- Trauma Flow
- Trauma Activation order
- Trauma Activation First thing on MDM
- Primary and Secondary Survey Timed and Repeated
- Document when surgeon called, return call, in ER
- Document when ortho called, return call, in ER
- Document Transfer call placed, talked to Trauma
- Physician side > 30 min of Critical Care
- Hospital Side > 30 min of Critical Care
  - Frequent Vitals. One on One Nursing
Level IV Helicopter review
Summary

- Trauma is Time sensitive
- Label it Level I trauma
- Can down grade it and discharge if appropriate eval
- If Transferring put the goal of less that 2 hours... I would say well under 1 hour
- Damage Control operation and keep what you can
- Track and review everything