Trauma Codes: Enhancing Teamwork in Critical Situations

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Rural Trauma

- 19% US population lives in rural areas
- 54% of MVC deaths
- 50% more likely to die from trauma in rural areas
- Fatality rate 2.6x higher in rural areas per 100 million vehicle miles

Why?
- Limited access to healthcare
  - Geography
  - Weather
  - Resources
  - Lack of expertise
- More likely to die from survivable injuries
Trauma Code

- Loss of vital signs due to trauma → very poor outcomes
- ED thoracotomy → penetrating thoracic injuries, still poor outcomes
  - ONLY to be performed by trauma surgeon
- Goal: intervene BEFORE they code
Advent of ATLS

- 1976 → plane crash rural Nebraska
  - Orthopedic surgeon
  - Wife killed, kids critically injured
  - Received poor care
- 1980 → ATLS rolled out nationwide/internationally
- Goal: early appropriate care improves outcomes
ATLS - Primary Survey

- A - Airway
- B - Breathing
- C - Circulation
- D - Disability
- E - Exposure

Purpose: identify immediate life threatening injuries
Beyond ATLS

- Rural Trauma Team Development Course (RTTDC)
  - Critical access hospitals
  - Limited resources/staff
  - Goal: standard roles, standard procedures, improve efficiency
    - early appropriate care improves outcomes

- Example: 2 RNs always do same tasks for traumas
  - “Well we just always do it this way.”
  - What if one is gone and new RN is now part of trauma
  - Does she know her role?
Solution - Standardized Roles

- Trauma = Dictatorship
  - NOT democracy

- Team Leader - Physician, NP, PA
  - Dictator

- Team Member #1 - RN, EMS, etc
  - Set of defined roles/tasks
  - Assists/takes direction from Team Leader

- Team Member #2 - RN, EMS, HUC, chaplain, etc.
  - Set of defined roles/tasks

- Result → everyone has a job
  - Feel useful, not in the way
  - Tasks don’t get omitted
Roles at Avera McKennan

- **Team Leader** - Trauma Surgeon (ED MD until surgeon arrives)
- **Primary RN**
- **Secondary RN**
- **Patient Care Tech**
- **Scribe (eEmergency)**
- **Resource RN**
- **Anesthesia**

- **RT**
- **HUC**
- **Patient Access Representative**
- **Rad Tech**
- **US Tech**
- **Pastoral Care**
- **Women’s Center Staff (if >20 wks pregnant)**
Tips & Tricks - ATLS Primary Survey
Airway

- GCS <8 → intubate
- Think patient might need intubation? → intubate
- Intubation
  - Equipment location - same place? Easy to find?
  - RSI drugs - quick to access? Where?
- Airway adjuncts
  - Jaw thrust - simple, very effective maneuver
  - Oral/nasal airway
  - Combitube, King tube, iGel, LMA, etc
    - Pick ONE and use it well
Breathing

- Tension pneumothorax - CLINICAL diagnosis
  - Hypotensive + absent breath sounds = needle in chest
  - Do NOT wait for CXR

- Chest tube insertion
  - What size tube?
  - How big is incision?
  - Chest tube insertion kit - tools in one place
Circulation

- External hemorrhage - Stop the Bleed Campaign
  - Pack wounds, hold direct pressure, tourniquets IF direct pressure fails
- Resuscitation - use warmed fluids
  - IO access always an option - quick
- Early transfusion of RBC (if available)
  - THIS is the patient you’ve been saving the blood for!
- Scalp Lacerations
  - People die from these - massive blood loss possible
- Pelvis fractures → commercial binders >> sheet wraps
  - Do you have binders? Know how to apply?
  - Go at level of greater trochanter - often placed WAY too high
Disability

- Always get GCS

- OR.......describe what patient is doing
  - Opens eyes to pain (2)
  - Mumbles incoherently (2)
  - Withdraws to pain (4)

- Neurosurgeons more likely to believe description*
  - *personal experience

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**Glasgow Coma Scale**

<table>
<thead>
<tr>
<th>BEHAVIOR</th>
<th>RESPONSE</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye opening response</td>
<td>Spontaneously</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>To speech</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>To pain</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1</td>
</tr>
<tr>
<td>Best verbal response</td>
<td>Oriented to time, place, and person</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Confused</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Inappropriate words</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Incomprehensible sounds</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1</td>
</tr>
<tr>
<td>Best motor response</td>
<td>Obey commands</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Moves to localized pain</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Flexion withdrawal from pain</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Abnormal flexion (decorticante)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Abnormal extension (decerebrate)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total score:**
- Best response: 15
- Comatose client: 8 or less
- Totally unresponsive: 3
Trauma Flowsheet - allows PI

Activation Criteria

Transfer - decide within 15 MINUTES if needs transfer
- Decrease delays in definitive care
- Do NOT get images if won’t change YOUR management of patient
  - Ex: if abd bleeding, don’t get CT abd/pelvis if no surgeon available
  - Establish transfer criteria

Noise Control
- If you can’t hear, nobody else can either

Crowding
- If space limited, clear anyone not actively helping
Summary

- Poor outcomes with codes in trauma
- Intervene BEFORE patient’s code
  - ATLS (ABCDE)
  - RTTDC
  - Run same way, every time.
    - Even minor traumas - repetition is key
  - Organization of trauma bay → less chaos, saves time