Trauma Patients
What do we really know?

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Objectives

- Introduction to trauma
- Overview of the trauma system
- Overview of the traumatic injury
- Case review
Trauma

From the Greek work meaning - Wound

Pathology - a body wound or shock produced by sudden physical injury, as from violence or accident.

Two types of trauma - Blunt and Penetrating
The Most Common Traumatic Injuries

- Falls
- Motor Vehicle Collisions (MVC)
- Motorcycle Collisions (MCC)
- Pedestrian vs. Auto
- ATV Accidents
Trauma

Less Frequent Traumatic Injuries
- Gun Shot Wounds (GSW)
- Stabbings
- Animal Related Injuries
- Blast Injuries
- The Odd Ball (What The...?)
## Florida Trauma Alert Criteria

### Florida Adult Trauma Triage Criteria

<table>
<thead>
<tr>
<th>Any 1 in this Category</th>
<th>Any 2 in this Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Active airway assistance more than oxygen</td>
<td>- Sustained respiratory rate = 30 or greater</td>
</tr>
<tr>
<td>- Glasgow Coma Score [GCS] = 12 or less</td>
<td>- Sustained heart rate = 120 or greater</td>
</tr>
<tr>
<td>- Beet Motor Response = 4 or less (withdrawal from pain)</td>
<td>- Beet motor response = 5 or less (localizes pain)</td>
</tr>
<tr>
<td>- Lack of radial pulse with sustained heart rate = 120 or more</td>
<td>- Major degloving injury</td>
</tr>
<tr>
<td>- Systolic B/P &lt; 90mmHg</td>
<td>- Injury flap avulsion = 5 inches or more</td>
</tr>
<tr>
<td>- Paralysis</td>
<td>- Gunshot wound to extremities</td>
</tr>
<tr>
<td>- Suspected spinal cord injury or loss of sensation, GCS motor score of 4 or less</td>
<td>- Single long bone fracture as a result of MVC</td>
</tr>
<tr>
<td>- Amputation proximal to wrist or ankle</td>
<td>- Single long bone fracture as a result of fall equal to or greater than 10 feet</td>
</tr>
<tr>
<td>- 2nd or 3rd degree burns = 15% or more TBSA</td>
<td>- Age = 55 or older</td>
</tr>
<tr>
<td>- Penetrating injuries to head, neck or torso (excluding superficial wounds where depth of the wound can be determined)</td>
<td>- Ejection from inside enclosed vehicle (excluding motorcycles, ATVs, bicycles, the open bed of PUCs)</td>
</tr>
<tr>
<td>- 2 or more long bone fracture sites (humerus, radius, ulna, femur, tibia, fibula)</td>
<td>- Severe wheel deformity by driver</td>
</tr>
</tbody>
</table>

### Florida Pediatric Trauma Triage Criteria

<table>
<thead>
<tr>
<th>Any 1 in this Category</th>
<th>Any 2 in this Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Assisted or intubated airway</td>
<td>- Weight 11kg or less</td>
</tr>
<tr>
<td>- Multiple time suctioning</td>
<td>- Length 33 inches or less</td>
</tr>
<tr>
<td>- Altered mental status</td>
<td>- Amnesia or LOC</td>
</tr>
<tr>
<td>- Paralysis</td>
<td>- Carotid and femoral pulses present with no radial or pedal pulse</td>
</tr>
<tr>
<td>- Suspected spinal cord injury or loss of sensation</td>
<td>- Systolic BP &lt; 90mmHg</td>
</tr>
<tr>
<td>- Weak or no palpable radial or femoral pulses</td>
<td>- Single closed long bone fracture</td>
</tr>
<tr>
<td>- Systolic BP &lt; 80mmHg</td>
<td></td>
</tr>
</tbody>
</table>

Any patient may be designated as a “Trauma Alert” if local criteria is met or if the EMT or paramedic determines the patient should be designated as a “Trauma Alert.”
Trauma

Does it matter where the trauma patient goes?
Trauma

Legend
- Level I - 8
- Level I Provisional - 1
- Level II - 14
- Level II and Pediatric - 2
- Pediatric - 2
- Acute Care Hospitals - 221

*As of 05/19/2014
Trauma

The Facts About Trauma in the U.S.

■ Trauma is the #1 cause of death for Americans between 1 and 46 years old.

■ Trauma is the #3 cause of death overall.

■ Each year, trauma accounts for 41 million ER visits and 2 million hospital admissions.

■ Trauma injury accounts for 30% of all life years lost.

■ The economic burden of trauma is more than $671 billion annually.

■ Each year, more than 192,000 people lose their lives to trauma.
Trauma

So what do we really know about a trauma?
Trauma

The Ultimate Trauma Case

- 3 vehicle MVC
- 4 people involved
- Driver of blue truck ambulatory on scene with laceration to left side of head and left ankle pain (45 y/o male)
- Driver of black car remains seat-belted in drivers seat complaining of left chest wall pain, difficulty breathing and left tib/fib pain. Laceration to the left side of the head (76 y/o female)
- Driver of the van unrestrained partially ejected DOA (38 y/o female)
- Passenger of van in back seat restrained on a boaster seat, complains of left shoulder and collar bone pain, left leg pain and has laceration to forehead (8 y/o female)
Patient Care... What would you do?

**Patient #1**

Driver of blue truck (45 y/o male)
- Ambulatory on scene
- Laceration to left side of head
- Left ankle pain with open wound
Trauma

Patient Care... What would you do?

Patient #2
Driver of black car (76 y/o female)
- Seat-belted in drivers seat
- Left chest wall pain
- Difficulty breathing
- Left tib/fib pain
- Laceration to the left side of the head
- Amnestic to event
Patient #3
Back seat restrained passenger of van (8 y/o female)
- In a boaster seat
- Complains of left shoulder and collar bone pain
- Left leg pain
- Laceration to forehead
- Questionable mentation, confused and amnestic to event
Trauma

Patient

Initial Injuries

Outcome

Death

Trauma

R.I.P.

Trauma

Death

Every Second Counts
With nothing to slow or stop the progression of traumatic injuries, the morbidity and mortality rate greatly increases.
Trauma

So How Do We Stop It?
Trauma assessment and treatment should always follow some basic principles

The 4 “A’s”

- Address life threatening injuries first
- Address ABC’s
- Assess patient mentation
- ReAssess frequently
Trauma

Patient

Rapid Trauma Assessment

Addressing Life Threats

R.I.P. Trauma Death
Trauma

Address the ABC’S
Trauma

Reassess
Reassess
Reassess
Reassess...
By Applying the 4 “A’s”, progression of the trauma injuries and traumatic life threats should slow down or even stop until the patient reaches a trauma center for definitive care.
Patient #1:
45 y/o male ambulatory on scene with laceration to left side of head and left ankle pain with open wound

- Address life threatening injuries first - None
- Address ABC’s – Airway patent, Breathing 20min/lungs clear, Circulation-BP 133/91, P 99
- Assess patient mentation – GCS 15, AAOx4
- ReAssess frequently – BP/GCS trends established
  - Spinal precautions not needed (backboarding and c-collar)
  - Splint ankle
  - Address any superficial lacerations
Trauma

Patient #2:
76 y/o female complaining of left chest wall pain, difficulty breathing and left tib/fib pain. Laceration to the left side of the head, amnestic to event

- Address life threatening injuries first – Airway, possible pneumothorax and/or hemothorax
- Address ABC’s – Airway patent, Breathing 30min/lung sounds absent on left, Circ-BP 110/76, P 76
- Assess patient mentation – GCS 13 (E-4, V-4, M-5)
- ReAssess frequently – BP/GCS trends established – medication influenced?

- Spinal precautions not needed (backboard and c-collar), will make Hemo/pneumo worse. If used with geriatric, special padding precautions should be taken
- Splint leg for possible Fx
- Address any superficial lacerations
- Pay special attention to mentation changes, decompensation may happen quickly.
Patient #3: 8 y/o female complains of left shoulder and collar bone pain, left leg pain and has laceration to forehead. Questionable mentation, confused and amnestic to event

- Address life threatening injuries first - None
- Address ABC’s – Airway patent, Breathing 25min/lungs clear, Circulation-BP 121/84, P 120
- Assess patient mentation – GCS 13 (E-3, V-4, M-6)
- ReAssess frequently – BP/GCS trends established – Age appropriate?
  - Spinal precautions not needed (backboard and c-collar)
  - Splint leg and shoulder for possible Fx
  - Address any superficial lacerations
  - Pay special attention to mentation changes, decompensation may happen quickly.
  - Watch airway and breathing closely, children go into respiratory failure first.
The trauma patient can be a distracting and difficult patient to care for, especially when age issues come into play. As long as your approach follows the basic principles of trauma care, the fundamentals of BLS and the ability to address immediate life threats, the progression of serious and sometimes fatal outcomes can be slowed and even stopped.

- Address life threats
- Address the ABC’s
- Assess patient mentation
- ReAssess often
Questions

Early experiments in transportation
References

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