EMS Collaboration

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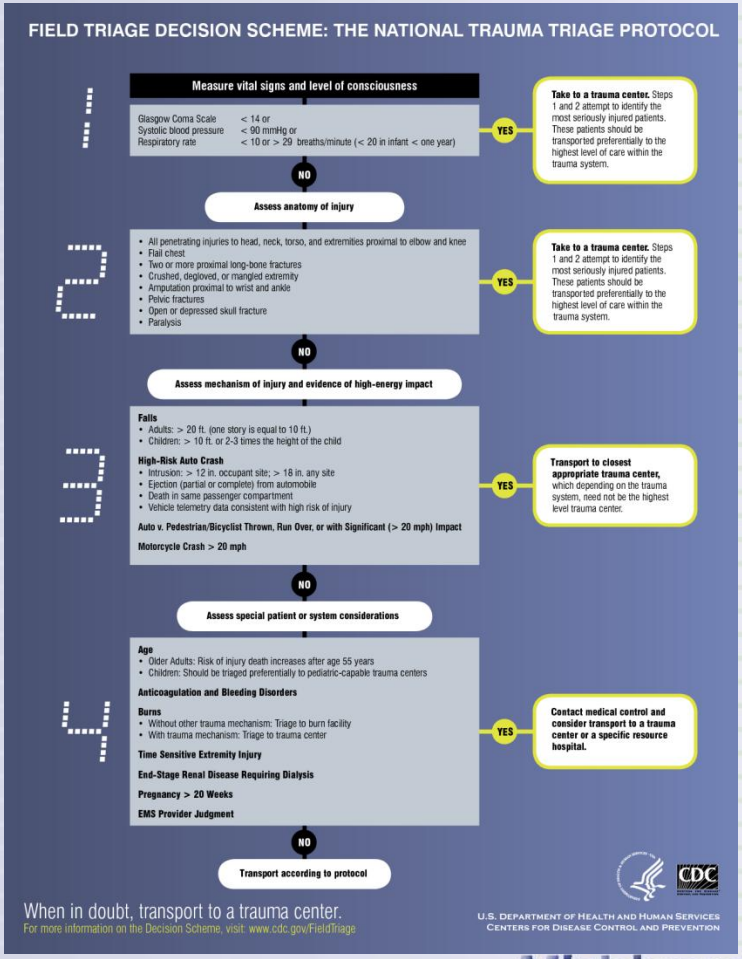
EMS Providers and Systems

- Brief History
- Regional trauma Systems
- Your role

EMS

- Current relationships
- Who are they?
- What are their capabilities?
- Current timelines
- Current transport times

Field Triage



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Field Triage

- History and development-1976, ACS-COT
- Triage decision scheme: “Right patient, right place, right time”.
- Destination protocols-link with triage criteria and activation protocols

Who are your trauma patients?

- Pediatric- Age 0 to ≤ 15 years
- Adult- Age 15 to ≤ 64 years
- Geriatric- Age 65 years and older
- Special considerations

Criteria

- CD 2-20: The protocols that guide prehospital trauma care must be established by the trauma health care team, including surgeons, emergency physicians, medical directors for EMS agencies and basic and advanced pre-hospital personnel.

Criteria for Level III and IV

- Level III-CD 1-3
- The trauma facility must demonstrate participation in regional and /or state trauma organizations. Examples are state advisory committees, MCOT, state registry committees, and state EMS committees. Examples of regional committees would be Injury Prevention, trauma advisory, and EMS committees.

Criteria Level IV

- Level IV-CD 2-20
- Because of the greater need for collaboration with receiving trauma facilities, the Level IV trauma facility must actively participate in regional and statewide trauma system meetings and committees that provide oversight.

Provisional Status

- Participate in the EMS Medical Control Authority as a Provisional Trauma Center.
- Macomb County-had a consultative visit
- 2 South-HEMS MCA
- State exploring
- No longer than 24 months
- Application/resources in place
- Updates q 6 months

Over and Under Triage

- **Level III-3-3** Rigorous multidisciplinary performance improvement is essential to evaluate over triage and under triage rates to attain the optimal goal of less than 5 percent of under triage (Should be an audit filter)

- **CD 16-7** Rates of Under Triage and Over Triage can be calculated after the potential cases have been identified and validated. These rates must be monitored and reviewed quarterly.

Over triage/Under triage

- **Level IV or rural area** centers have limited resources. Creating protocols with the regional trauma system will assist in the establish destination and triage protocols.
- Benefits of accurate Field Triage

Over Triage

- Minimally injured patients transported to higher-level trauma centers.
- Can create a burden on systems resources.
- Most trauma systems need 25-30% Over Triage to ensure ALL severely injured patients get to a trauma center.

Under Triage

- Severely injured patients transported to lower-level trauma centers.
- Transporting severely inured to a hospital not a trauma center puts them at risk.
- What are your resources, transfer protocols and regional protocols?

How to monitor over/under triage

- Rating scale for Injury Severity
- (AIS)Abbreviated Injury Scale-rank 1 minimal to -6 (probably lethal/maximum injury)
- Permits comparisons of medical outcomes with different type and extent of injuries.

Cabrari Tools

Cribari Grid Methodology
For Over and Under-triage of traumas

ACTIVATION LEVEL	ISS 1-15	ISS 16-75	TOTAL
LEVEL I	43	9	52
LEVEL II, III, OR NONE	106	5	111
TOTAL	149	14	163

Date

OVER-TRIAGE 43/52=82% Goal is < 50%

UNDER TRIAGE 5/111=4.5% GOAL is< 5%

Bypass or Diversion

- **Level III and Level IV –CD 3-7**

When a trauma facility is required to go on bypass or divert, the facility must have a system to notify dispatch and EMS agencies. (other criteria including having prearranged alternative destination with transfer agreements in place)

CD 3-6 Level III the trauma center must not be on bypass more than 5% of the time.

Transfers-Level III

- **Level III** should have the capability to initially mange the majority of injured patients and have transfer agreements with Level I and Level II Trauma centers for seriously injured or when resources exceeded. **CD 8-8**
- Transfer protocols must be developed that required physician to physician communication
- **CD 4-1**

Transfers-Level III

- **CD 4-3** Establish a transfer protocol that is approved by TMD and monitored by the PI program which includes:
  - Anatomical and physiologic characteristics identifying a patient in need of transfer
  - List of transfer services w/contact info (air or ground)
  - List of supplies/equipment that will accompany pt.
  - List of records/documentation that will accompany
  - Personnel needed to accompany

Transfers-Level III

- Have a written plan or protocols that specifically addresses an exclusion and inclusion of injuries **CD 8-7**
- The PI program must review the appropriateness of the decision to transfer or retain major **orthopedic cases CD 9-13, Burns, CD 14-1, CD 11-78,**
- **Neurosurgical cases**

  CD 8-7.

Plans approved by TMD

Transfers

- Decisions to transfer an injured patient to a specialty care facility in an acute situation must be based solely on the needs of the patient and not on the requirements of the patient's specific network or the ability to pay. **CD 4-2** document reason for transfer

ACS Orange Book

- **Criteria for Consideration of Transfer from Level III Centers to Level I or II Centers**

- 1. Carotid or vertebral arterial injury.
- 2. Torn thoracic aorta or great vessel.
- 3. Cardiac rupture.
- 4. Bilateral pulmonary contusion with Pao2:Flo2 ratio less than 200.
- 5. Major abdominal vascular injury.
- 6. Grade IV or V liver injuries requiring transfusion of more than 6 U of red blood cells in 6 hours.
- 7. Unstable pelvic fracture requiring transfusion of more then 6 U of red blood cells in 6 hours.
- 8. Fracture or dislocation with loss of distal pulses.
- 9. Penetrating injuries or open fracture of the skull.
- 10. Glasgow Coma Scale score of less than 14 or lateralizing.
- 11. Spinal fracture or spinal cord deficit.
- 12. Complex pelvis/acetabulum fractures.
- 13. More than two unilateral rib fractures or bilateral rib fractures with pulmonary contusion (if no critical care consultation is available).
- 14. Significant torso injury with advanced comorbid disease (such as coronary artery disease, COPD)

Transfers-Level IV

- Usually sparsely populated, geographically isolated, often underserved rural
- Provide initial evaluation and assessment but most need transfer
- **BEGIN** plan for transfer with pre-hospital notification.
- Testing and procedures-have guidelines
- Don’t delay transfer

Transfers-Level IV

- **CD 1-1** Hospital and TS should have clear understanding of what pts are admitted and who transferred. Clear transfer plans with other hospitals in region.
- Guidelines and plans between facilities are crucial and must be developed after evaluating capabilities of rural hospital and medical transport agencies.

Transfers-Level IV

- Collaborative TX and transfer guidelines reflecting the facilities capabilities must be developed and regularly reviewed, with input from higher-level trauma facilities in the region. Well defined transfer plans are essential. **CD 2-13**

Transfer-Level IV

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Transfer
Follow-up/feedback/collaboration

- **CD 4-3** all transfers are to be reviewed through the PI program.
- Need a process to provide/receive feedback to or from receiving facilities.
- Develop a process to disseminate feedback from receiving facilities to staff, physicians, EMS, etc.

Education
Level III and Level IV

- The trauma program must participate in the training of pre-hospital personnel, the development, and improvement of pre-hospital care protocols, and performance improvement and safety programs. **CD 3-1**

- Grand Rounds, trauma conferences, drills, IP,

Lectures, case reviews, TOPIC, regional activities, already established programs.

Education

- All verified trauma facilities must engage in public and professional education **CD 17-1**
- The facility must participate in regional disaster management plans and exercises.

  CD 2-22
- The level IV must be the local trauma authority and assume responsibility for providing training for pre-hospital and hospital based programs. **CD 2-21**

EMS Collaboration

- Close collaboration with EMS:
  - _ pre-hospital protocols
  - – Destination and triage protocols
  - – Training and education
  - – Regional disaster management
  - – “Right patient to the right place, right time”

Questions

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