State EMS Leadership Perspective on Reducing Responder Injuries and Patient Handling Incidents

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Patient movement evolutions occur daily.

Are EMS crews prepared for the various situations?

How are responders injured?

How are patients hurt?

How can a State EMS Agency assist in reducing responder injuries, patient injuries, & patient handling incidents?
Program Overview

- Understanding the Patient Handling Risk
- Identifying the Hazards
- Reducing the Hazards
Program Objectives

- Understanding the **importance** of a Patient Handling program.

- Identifying elements of a **comprehensive** Patient Handling program.

- Identifying actions for **reduction** of...
  - Responder injury
  - Patient injury
  - Patient handling incidents
Back Injury is one of the leading causes of disability for pre-hospital healthcare providers under the age of 45.
62% of Professional Healthcare Liability Claims are a result of patient handling
NHTSA

4,500 vehicle traffic crashes involving an ambulance per year

34% result in injury

33 people killed each year

84% of EMS Providers were not restrained in the patient compartment
Only 33% of patients were secured with shoulder and lap restraints

Serious crashes investigated by NHTSA…

- 44% of patients were ejected from the stretcher in serious crashes
- 61% restrained with lateral belts only
- 38% had shoulder harnesses available but not used
• Occupational injury illness and injury report on private industry…
  
  ▪ 1.162 Million injuries / illnesses requiring at least 1 day of missed work
  
  ▪ Average general occupational rate of illness / injury was 109 per 10,000 fulltime employees
  
  ▪ 33% (of all cases) were musculoskeletal disorders (MSDs)
  
  ▪ “Ambulance Services” 2.5x higher than general occupational rate
650,000 work-related MSDs annually (average)

- $1 of every $3 of Worker's Compensation costs are spent on (MSDs)

Average $15,000 per injury claim (direct costs)

- Source: National Safety Council & BLS

Indirect costs are 3 to 5 times higher, reaching approximately $150 billion per year.
National Electronic Injury Surveillance System (NEISS)

- 24,200 injuries / illnesses requiring ED treatment
- Most common - sprains and strains (37%)
- Patient or responder most common source of injury / illness
Why Do Injuries Occur
No Particular Order

- Lack of leadership
- Responder attitude
- Lack of general health and fitness
- Lack of knowledge / training
- Lack of situational awareness
- Improper lifting
- Improper equipment utilization
- Improper equipment maintenance
*Recognize hazards*
- Administrative controls
- Engineering controls
- Personal protection measures
Administrative Controls

- Human resource issues
- Education and training
- Operations
- Maintenance
- Actions after an injury or patient handling incident
- Incident investigation
Engineering controls attempt to reduce the potential for exposure to hazards by improving the equipment used for a task.

– Patient handling equipment improvements
Personal Protective Measures

- General health
- Situational awareness
- Education and training
- Proper lifting
- Monitoring the incident scene
As a State EMS Office, What Can I Do?
EMS Vehicle Operations / Safety #123

EMS Vehicle Operations / Safety #123

d. Seat Belt and Restraint Use: Seat belts or restraints will be securely fastened to the following individuals when the vehicle is in motion:

1) All EMS vehicle operators
2) All patients on stretcher, following manufacturer’s recommendation for straps.
3) All non-EMS passengers (cab and patient compartment)
4) All EMS practitioners (when patient care allows)
EMS Vehicle Equipment and Supply Requirements

- Wheeled stretcher, multi-level, with 5-point (over shoulder) patient restraint

http://www.wvoems.org/media/277475/equipment%20supply%20memo.pdf
Patient Movement Devices
- Stretcher rolled or moved in “high” or “loading” position.
- Lack of attention by responder(s).
- Responder(s) don’t stay in contact with stretcher.
- Stretcher moved laterally (sideways).
- Undercarriage contact with obstacle.
- Movement over surface hazards.
Read, train, learn and follow user manual guidelines.

Situational awareness

Secure the patient with all appropriate straps.

Roll the stretcher at a level not to exceed waist height (adjust lower for certain circumstances)

Roll the stretcher feet first

At least minimum number of recommended responders in contact with stretcher at all times

Turn stretcher in direction of movement
Lack of attention by responder(s).

Responder(s) don’t stay in contact with wheelchair when it is being moved.

Not using both brakes.

Not using as recommended.

Movement over surface hazards incorrectly.

Carrying up / down stairs.
Read, train, learn & follow user manual guidelines

Situational awareness

Safety belt

Responder(s) in contact with wheelchair during movement

Use brakes

Move footrests when patient is moved into or out of wheelchair

Navigate surface hazards correctly

Wheelchair not used on steps
Follow the safety belt manufacturer’s directions to ensure that the device is applied correctly and safely.

Monitor the patient during the time the safety belt is applied.

Ensure safety belt is positioned appropriately.

Use safety belts that can be self-released.
• Situational awareness

• One continuous flat surface to one elevated continuous flat surface

• Responder and wheelchair (all wheels) must be capable of being on the same flat surface simultaneously

• No multi-step situations
Best Practice
Wheelchair Vehicle Lift Operations

- Read, train, learn & follow user manual guidelines
- Situational awareness
- Wheelchair safety belt & brakes
- Calculate total weight
- Most user manuals / manufacturers suggest…
  - Patient facing away from vehicle
  - Places weight mass close to vehicle and lifting mechanism
  - Operator may stand outside of vehicle or on lift behind occupant
- Load patient / wheelchair per manufacturer recommendations
- Secure wheelchair / patient per manufacturer recommendations
Follow the manufacturer’s recommendations for safe loading of the patient.
NHTSA has released Best Practice Recommendations for Safe Transportation of Children in Emergency Ground Ambulances.

The new guidelines provide national, state and local emergency medical services organizations with clear guidance on best practices for properly restraining children traveling by ambulance from the scene of a traffic crash or medical emergency to a hospital or medical facility.

DOT HS 811 677

http://www.ems.gov/BestPracticeRecommendations.htm
Lifting & moving evolutions are accomplished constantly.

Identify the risks and implement risk reduction measures.

Ongoing education, training, and practical applications are essential for improving responder and patient safety.
THANK YOU!

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