Reducing EMS Workforce Injuries And Illness – What the Data Tell Us
Today

- National Institute for Occupational Safety and Health Report on Injuries Among EMS Personnel
- National EMS Safety Council
- Everyone’s Role in Creating a Culture of Safety

Today’s Speakers

- Audrey Reichard, MPH, Epidemiologist
  - National Institute for Occupational Safety and Health
- Mike Szczygiel, Chair of EMS Safety Committee
  - National Association of EMTs
- Bryan McRay, MBA, Director of Safety
  - Richmond Ambulance Authority
- Noah Smith, MPH, EMT, EMS Specialist
  - NHTSA Office of EMS
Nonfatal Work-Related Injuries Among Emergency Medical Services Personnel

Audrey Reichard
Epidemiologist
National Institute for Occupational Safety and Health

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National Institute for Occupational Safety and Health (NIOSH)

- Part of the Centers for Disease Control and Prevention (CDC)
- Research and recommendations to prevent work-related injuries and illness
- Does not have a regulatory role
Nonfatal EMS Injuries, 2003-2007

- **99,400** ED-treated injuries
- **21,960** injuries resulting in days away from work
- Other injuries


Why is this important?

- Critical public health and safety function

Increased workforce demand  
Decreased worker retention due to injuries
Understanding EMS Injuries

- Necessary for injury prevention
- No single EMS data source
- NIOSH/NHTSA collaboration

EMS Injury Study

- NEISS-Work*
  - ED surveillance system
  - Telephone interview surveys
  - Four years of data (2010-2014)
  - National estimates

*Occupational supplement to the National Electronic Injury Surveillance System
EMS ED-treated injuries, 2010-2014

- 89,100 total injuries
- 22,300 annual average

Sex

- Female: 0%
- Male: 100%

Age

- 25-29: 30%
- 30-34: 15%
- 35-39: 10%
- 40-44: 10%
- 45+: 5%

Practice levels

- 55% EMT-B
- 30% paramedics

- 52% had less than 10 years’ experience

Most injured:
Younger, less experienced, full-time workers

75% full-time, career EMS

8.6 injuries per 100 full-time workers
EMS ED-treated injuries, 2010-2014

Diagnosis

- Sprain/strain: 41%
- Exposure: 20%
- Contusion/abrasion: 14%
- Puncture/laceration: 10%
- Fracture/dislocation: 5%

Injured part of body

- Trunk/neck: 31%
- Upper extremity: 16%
- Hand: 16%
- Lower extremity: 13%
- Face: 11%
- Head: 5%
EMS ED-treated injuries, 2010-2014

- **Body motion** 28%
- **Exposures** 27%
- **Slips/trips/falls** 16%
- **Motor vehicle incidents** 8%
- **Assaults/violence** 7%

Body Motion Injuries (n=24,900)

- **2.6** injuries/100 full-time workers
- **3.3/100 workers 40 and older**
- More than half miss ≥ 1 day of work
- Sprains and strains
- Trunk and neck
- Contributing factor: Heavy, obese or overweight patients
Body Motion Injuries (n=24,900)

Activity at the time of injury

- Transfer/carry/lift: 90%
- Twisting: 31%
- Awkward posture/mvmt: 22%
- Work above shoulder level: 19%
- Navigating stairs/steps/curb: 17%

90% were lifting a patient

Exposures (n=24,400)

- 53% were 18-29 years old
- How exposures occurred
  - 21% needlesticks
  - 14% spit on
- Harmful substance
  - 64% blood
  - 23% respiratory secretions
Exposures (n=24,400)

Exposed part of body:
- Eyes: 23%
- Skin: 22%
- Face: 20%
- Mouth & nose: 17%

PPE at time of exposure:
- Medical gloves: 91%
- Gown: 42%
- Eye protection: 10%
Slips, Trips and Falls (n=14,000)

- 43% on same level
- 40% going up or down steps or curb
- 48% pushing, pulling, lifting or carrying
  - 56% during patient handling

Motor Vehicle Incidents (n=7,400)

- 66% missed ≥ 1 day of work
- Ambulance incidents
  - Front and patient compartment
  - Most seatbelt use in front
  - Almost 2/3 collided with another vehicle
Violence Incidents (n=6,400)

- 43% had less than 5 years’ experience
- 52% physical; 34% physical and verbal
  - Very few involved weapons
- Patient perpetrators
  - Alcohol involved in nearly half
  - 42% reported to police

EMS Study Summary

Results

- Injury risk continues to be high
  - Full-time, career workers
- Body motion and harmful exposures

Limitations

- ED-treated injuries only
- Injury identification
- Recall bias
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    - Gam Wijetunge, NRP

Connect With Us

- NIOSH Emergency Medical Services Workers
- cdc.gov/niosh/topics/ems

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The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the National Institute for Occupational Safety and Health.
Culture of Safety
A National Collaborative Approach

Michael Szczygiel
Chair, NAEMT Safety Committee
Senior Loss Control Specialist
Markel Specialty Commercial

Purpose: Ensure that patients receive emergency and mobile healthcare with the highest standards of safety, and promote a safe and healthy work environment for all emergency and mobile healthcare practitioners.
Council Activities

- Develop practical methods for implementing a Culture of Safety
- Review the latest research and best practices
- Consensus statements
- Raise awareness within the EMS community
- Identify additional steps to improve safety

Participating Agencies

- American Ambulance Association
- American College of Emergency Physicians
- Association of Air Medical Services
- Center for Patient Safety
- International Association of Fire Chiefs
- National Association of EMS Educators
- National Association of EMS Physicians
- National Association of Emergency Medical Technicians
- National Association of State EMS Officials
- National Registry of Emergency Medical Technicians
- National Safety Council
NAEMT Safety Initiatives

- Stay safe on the job
- Crosschecks for safety
- EMS E.V.E.N.T. reporting
- Mental health
- Health & safety resources
- Fitness
- EMS safety course

Stay Safe on the Job

- Communicate
- Maintain situational awareness
- Take care of your tools
- Drive like a professional
- Watch your back
- Protect yourself from violence
- Take care of your body
Health & Safety Resources

- Patient safety in EMS whitepaper
- Three pages of resources
  http://www.naemt.org/emshealthsafety/HealthSafety_Resources.aspx

EMS Safety Course

- Promote a Culture of EMS Safety and help reduce the number and intensity of injuries incurred by EMS practitioners in carrying out their work
  - Taking safety to the streets
  - Crew resource management
  - Emergency vehicle safety
  - Responsibilities in roadway operations
  - Patient handling
  - Patient, practitioner & bystander safety
  - Personal health
  - Conclusion
Other National Initiatives

- NAEMT Workforce Committee
- NAEMT “On The Hill” Day
- EMS Safety Foundation
- Federal Legislation
- Revision of ambulance manufacturing standards
- Federal “Culture of Safety” Initiative
- Transportation Research Board
- Coalition of Advanced Emergency Medical Systems

More Information

- National EMS Safety Council
- NAEMT EMS Health & Safety
  - [http://www.naemt.org/emshealthsafety.aspx](http://www.naemt.org/emshealthsafety.aspx)

- Mike Szczygiel
  - MESzczygiel@markelcorp.com
Culture of Safety
Taking Care of The Caregivers

Bryan S. McRay
Safety and Risk Management Director
Richmond Ambulance Authority

Culture of Safety

- Everyone has a role
Culture of Safety

- Commitment vs. Investment

Starting the Process of Introducing the Culture

- HR: Hiring Process
- Clinical: New Employee Orientation, Perception
- Field Ops: Career
Injury Prevention

- Pre-hire physical ability testing
- EMS Safety Course during New Employee Orientation
- Equipment training during NEO
- Remedial training post near miss or incident
- Exposure control and follow-up

Self Reporting

- “Just Culture”
- Near Miss
  - Patients
  - Vehicle Operations
- Vehicle Contacts/Violations
- Med Errors
- Protocol Errors
Personal Accountability

- Professionalism
- Self-Worth/Pride and Confidence
- Attitude
- Behavior
- Working with a partner
- Mental well-being
- Physical well-being

Process Verification
Type of Injury

Location of Injury
Cause of Injury

Year over Year Data

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Q&A