



WELCOME



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

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Today

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Presented by NHTSA Office of EMS

- ▶ 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

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Today's Speakers

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- ▶ 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

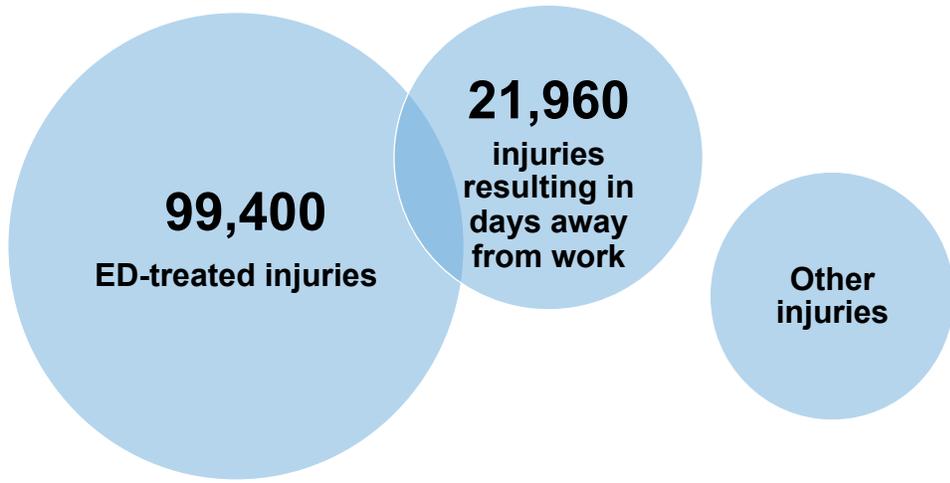


National Institute for Occupational Safety and Health (NIOSH)



- ▶ 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



Reichard AA, Marsh SM, Moore PH. Prehosp Emerg Care. 2011.
Maguire BJ, Smith S. Prehosp Disaster Med. 2013.

Why is this important?



- ▶ Critical public health and safety function



Increased workforce demand



Decreased worker retention due to injuries

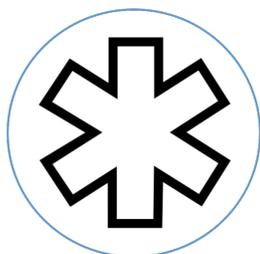
Understanding EMS Injuries

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

EMS Injury Study

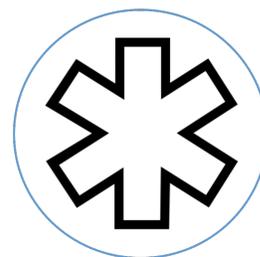
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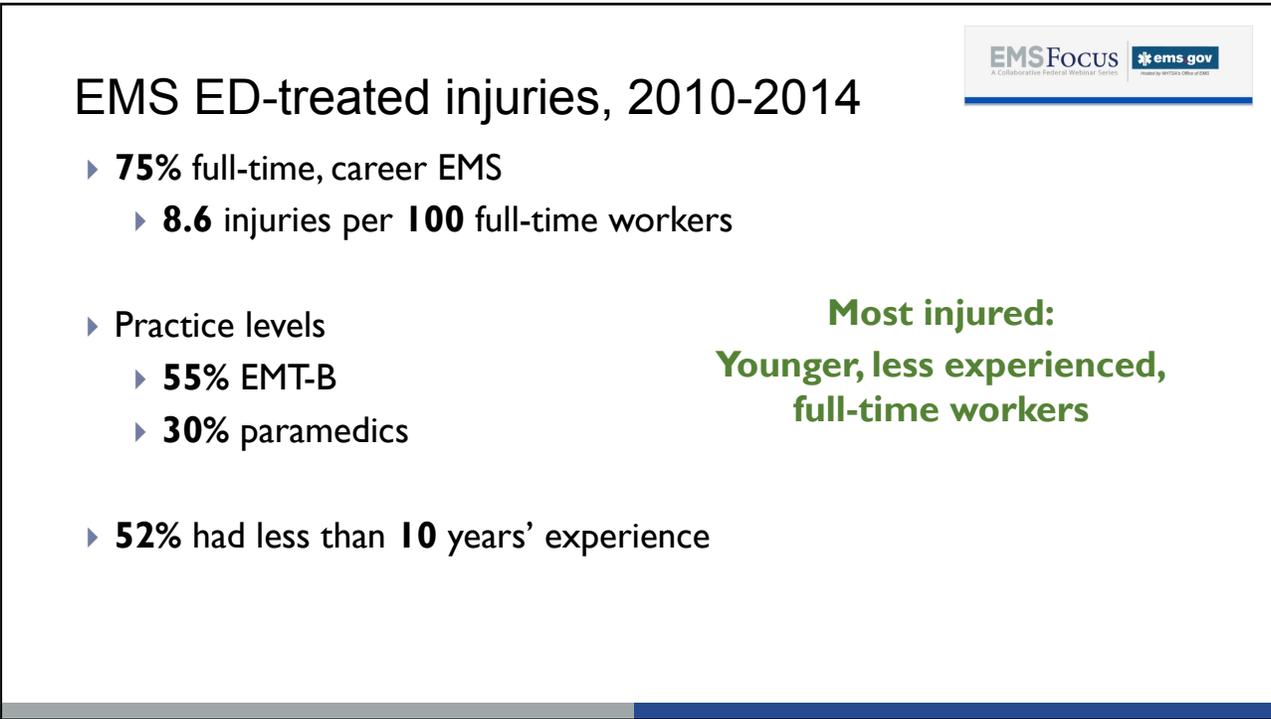
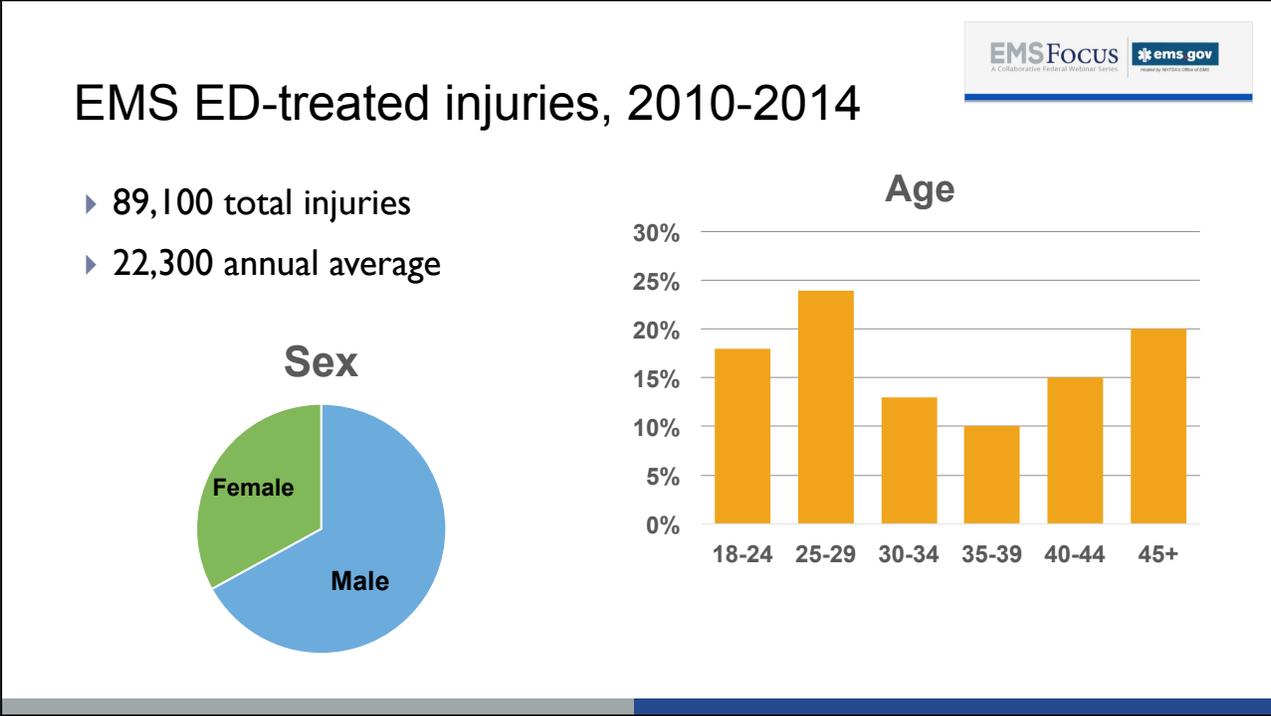
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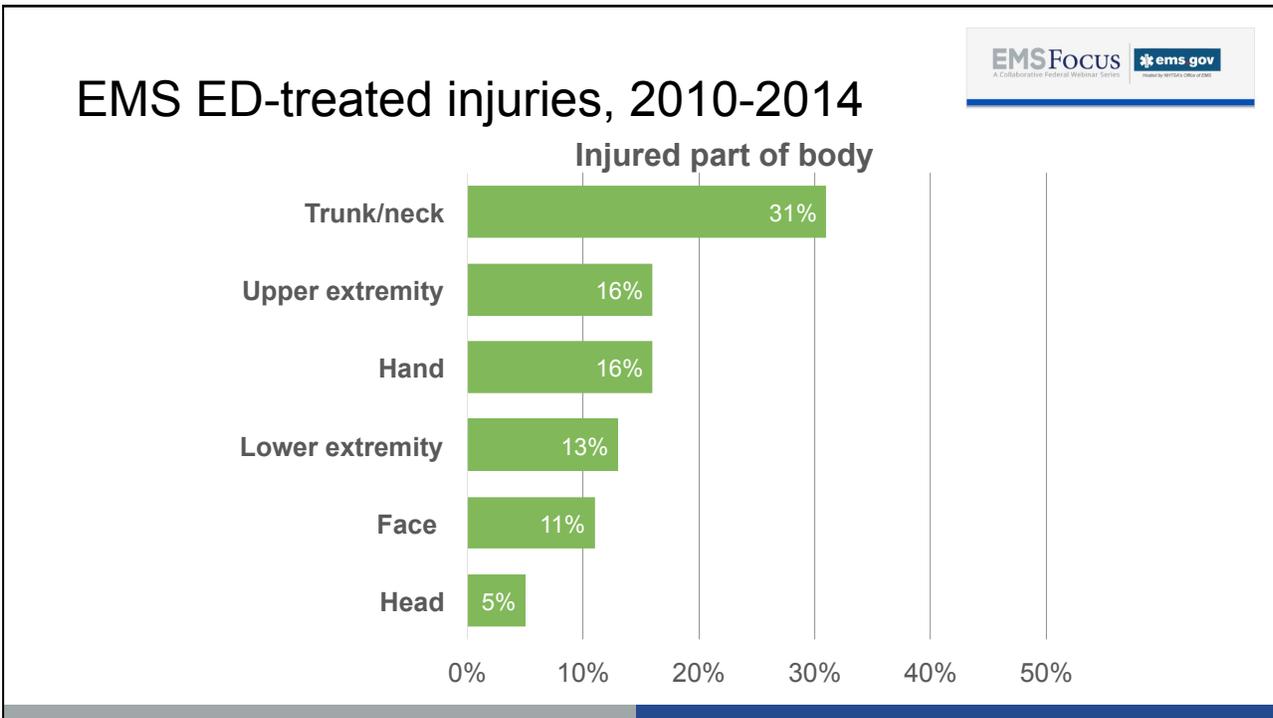
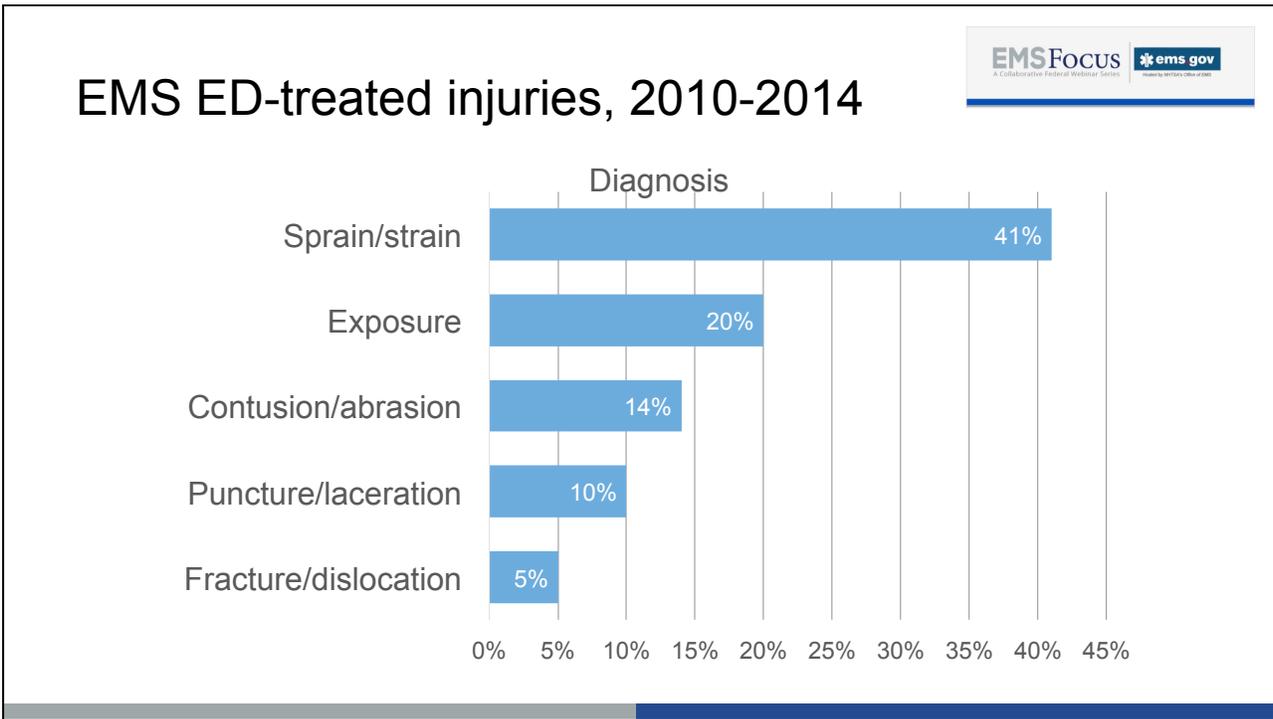
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- ▶ NEISS-Work*
 - ▶ ED surveillance system
- ▶ Telephone interview surveys
- ▶ Four years of data (2010-2014)
- ▶ National estimates



*Occupational supplement to the National Electronic Injury Surveillance System

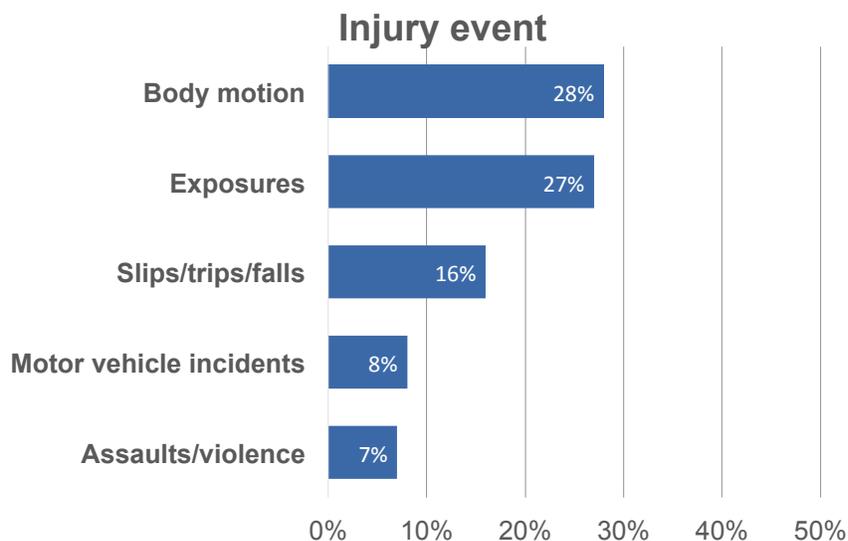




EMS ED-treated injuries, 2010-2014

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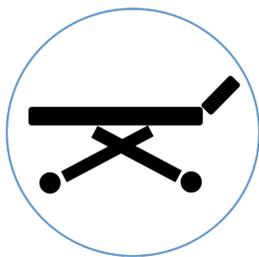
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Body Motion Injuries (n=24,900)

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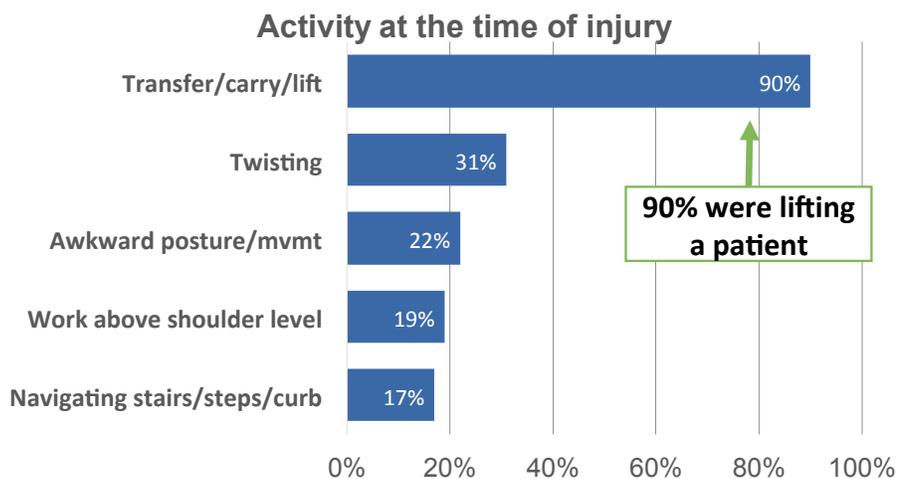


- ▶ **2.6** injuries/100 full-time workers
 - ▶ **3.3/100** workers **40** and older
- ▶ More than half miss \geq 1 day of work
- ▶ Sprains and strains
- ▶ Trunk and neck
- ▶ Contributing factor: Heavy, obese or overweight patients

Body Motion Injuries (n=24,900)

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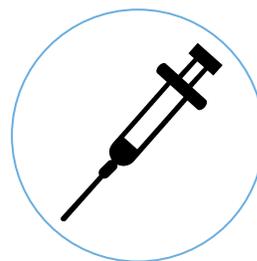


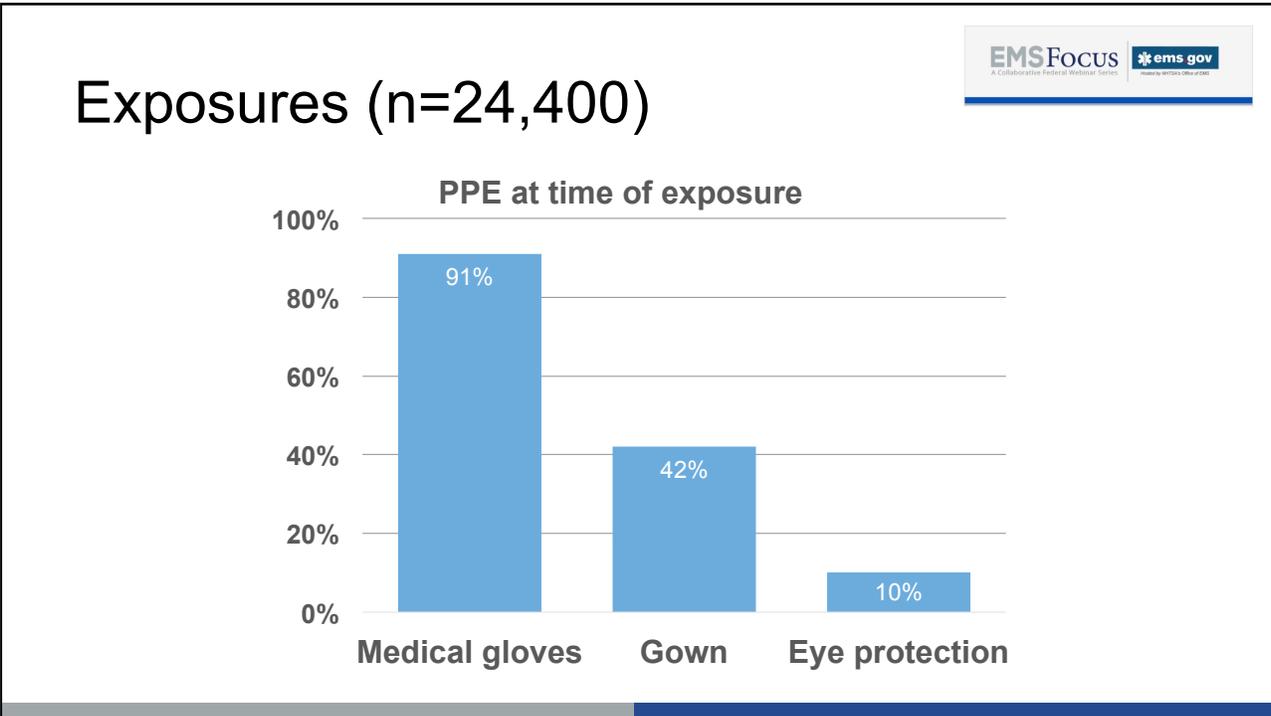
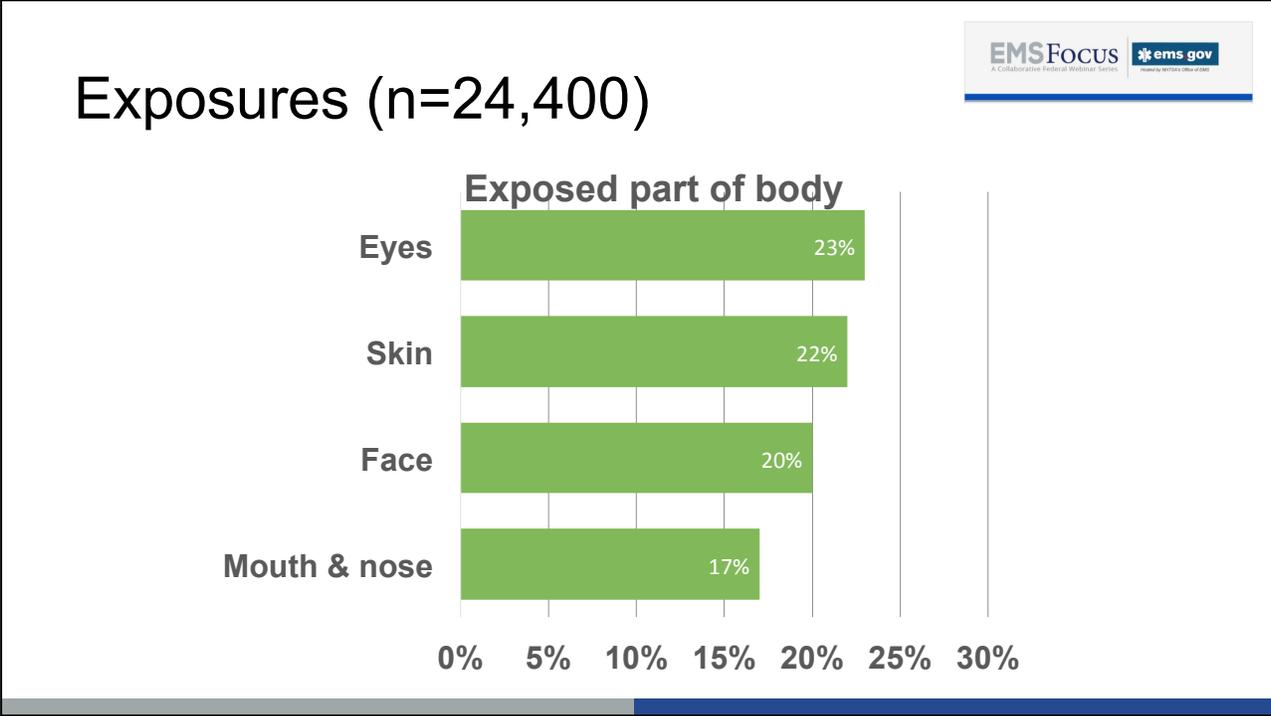
Exposures (n=24,400)

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- ▶ **53%** were **18-29** years old
- ▶ How exposures occurred
 - ▶ **21%** needlesticks
 - ▶ **14%** spit on
- ▶ Harmful substance
 - ▶ **64%** blood
 - ▶ **23%** respiratory secretions





Slips, Trips and Falls (n=14,000)

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- ▶ **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)

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- ▶ **66%** missed \geq 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)

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- ▶ **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

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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

Acknowledgments

- ▶ Co-authors
 - ▶ NIOSH:
 - ▶ Suzanne Marsh, Theresa Tonozzi, Srinivas Konda
 - ▶ Virginia Commonwealth University:
 - ▶ Mirinda A. Gormley, NRP
- ▶ Collaborators:
 - ▶ NHTSA:
 - ▶ Gam Wijetunge, NRP



Connect With Us

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



National EMS

SAFETY COUNCIL

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

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- ▶ 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



National EMS
SAFETY COUNCIL

Participating Agencies

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



National EMS
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

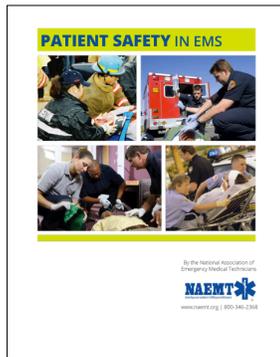
- ▶ Communicate
- ▶ Maintain situational awareness
- ▶ Take care of your tools
- ▶ Drive like a professional
- ▶ Watch your back
- ▶ Protect yourself from violence
- ▶ Take care of your body

Health & Safety Resources

- ▶ Patient safety in EMS whitepaper
- ▶ Three pages of resources

http://www.naemt.org/emshealthsafety/HealthSafety_Resources.aspx

Category	Title	Description	Date Published
Patient Safety	NAEMT "Patient Safety in EMS" White Paper	Identifies Patient Safety Organizations (PSOs) as key to advancing a just culture for EMS	11/16/2016
Ambulance Safety	NFPA 1917 standard	The Standard presents general requirements for ambulance design and performance, along with standalone chapters for ambulance components, including chassis, patient compartment, low voltage electrical systems and warning devices, and line voltage electrical systems.	8/08/2016
Ambulance	CAAS Ambulance	Ground vehicle standards for ambulances developed by the	3/30/2016



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
 - ▶ <http://www.naemt.org/emshealthsafety/national-ems-safety-council>
- ▶ NAEMT EMS Health & Safety
 - ▶ <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

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Culture of Safety

- ▶ Everyone has a role

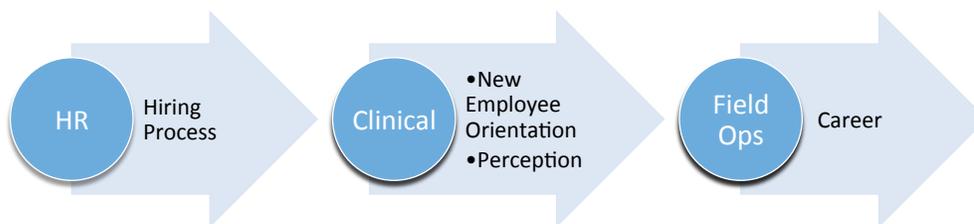


Culture of Safety

▶ Commitment vs. Investment



Starting the Process of Introducing the Culture



Injury Prevention

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- ▶ 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

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



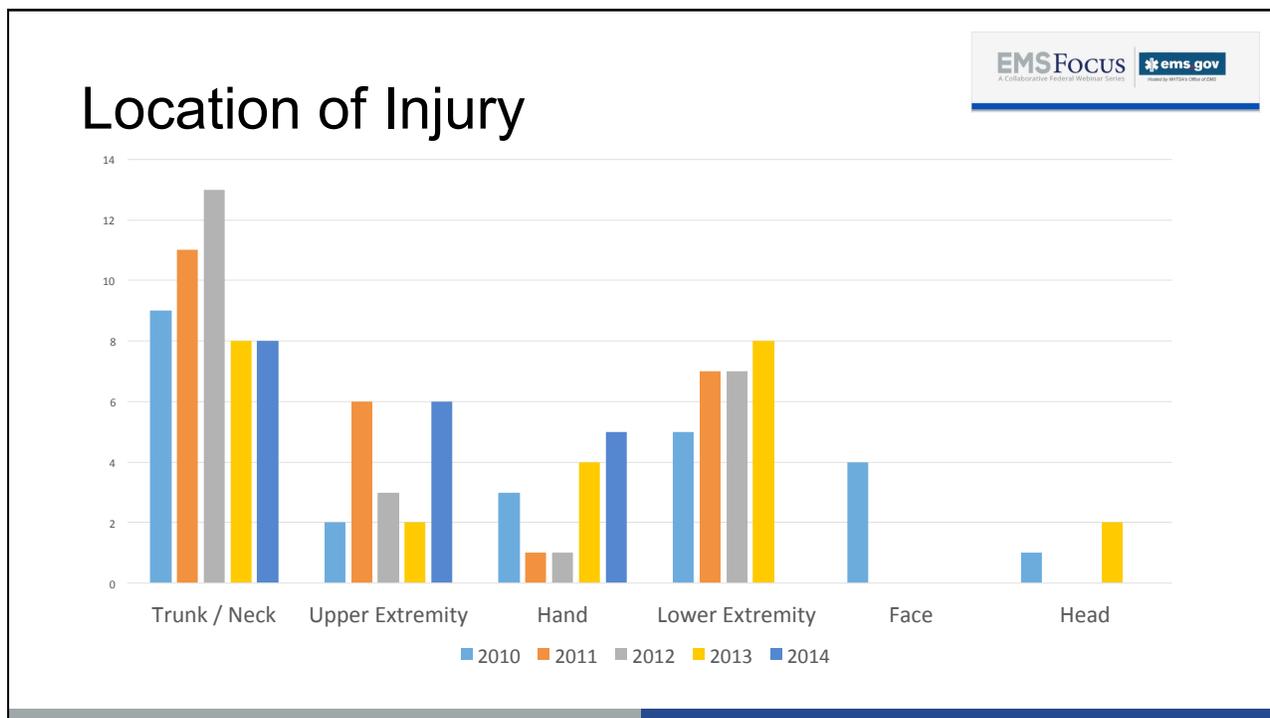
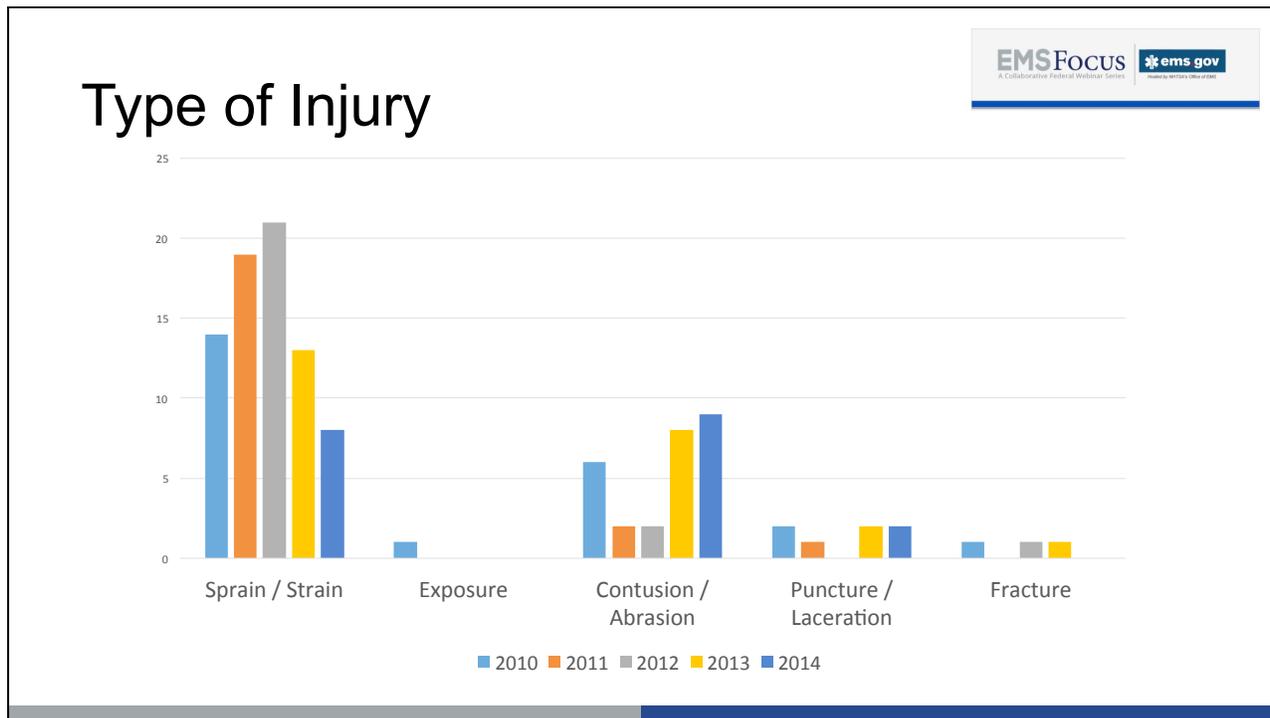
Personal Accountability

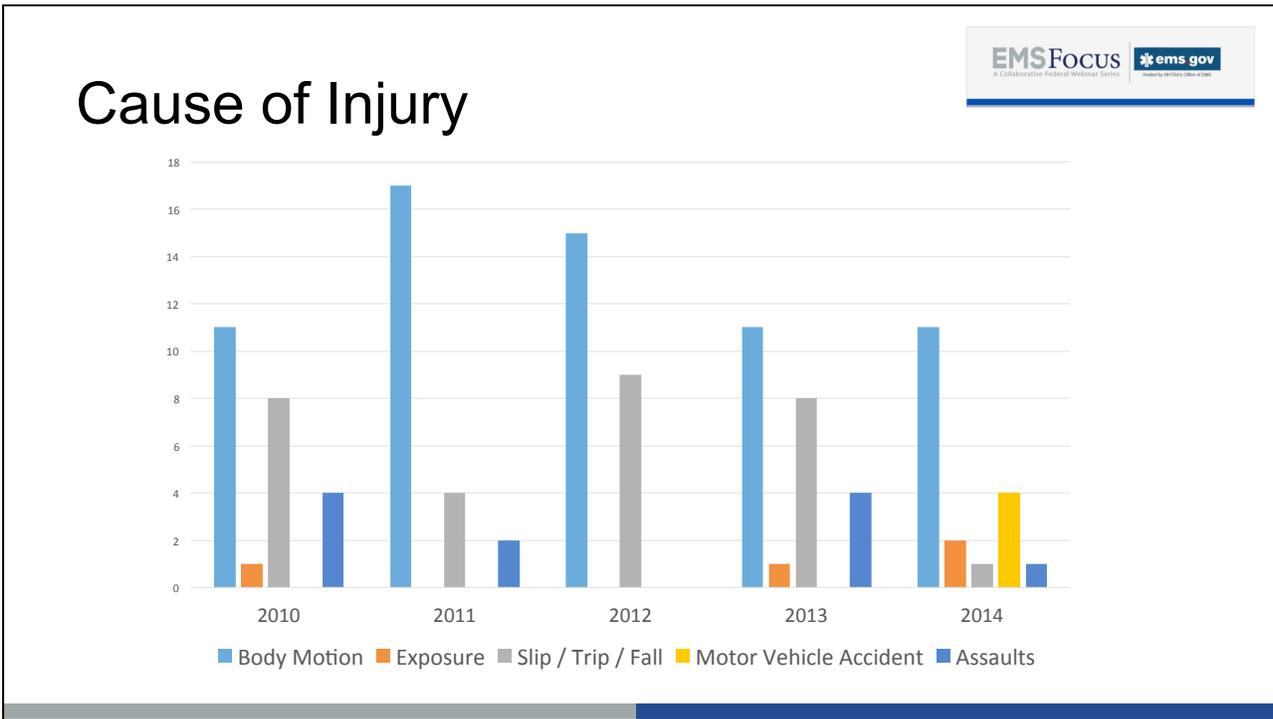
- ▶ Professionalism
- ▶ Self-Worth/Pride and Confidence
- ▶ Attitude
- ▶ Behavior
- ▶ Working with a partner
- ▶ Mental well-being
- ▶ Physical well-being



Process Verification







Year over Year Data

Year	Responses	# of Employees	Injuries Seen by MD
2010	52810	258	24
2011	56437	218	23
2012	58322	241	24
2013	56544	245	24
2014	61168	245	19



Q&A