EMS Subspecialty Certification
Review Course

Occupational Health
2.3.3.1.1 Occupational Health

Version Date: 4/2017

Learning Objectives
Upon the completion of this program participants will be able to:
1. To identify the risk of injury and illness amongst EMS personnel relative to general working public
2. To list the most common types of occupational injuries to EMS workers
3. To list common threats to negative safety outcomes for EMS workers
4. To gain awareness of common safety efforts typically led by local EMS agency administrators
5. To gain awareness of common federal regulations and standards

Risk of injury and illness
• The annual rate of on-the-job mortality for EMS workers is greater than the general working public and comparable to firefighters and police.
Common Occupational Injuries/Exposures

- Most Common:
  - Mortality:
    - Ground ambulance and helicopter crashes are common causes of mortality
  - Injuries:
    - Back injuries
      - Related to moving patients.
    - Sprains and strains.
    - Needle sticks
    - Exposure to blood and other body fluids
      - Exposure to sharp objects.
      - Mucous membrane exposures to eyes or mouth.

Common Threats to Safety

- Poor sleep quality
- Mental and Physical Fatigue
- Extended shift lengths
- Poor physical health (e.g., overweight or obesity)
- Poor mental health (e.g., high work related stress)
- Unknown or uncontrollable settings that exacerbate the risk of injury, illness, or mortality (e.g., a violent patient)

Common Efforts Led Locally

- Emergency Vehicle Operator Course (EVOC)
  - Standard curriculum and training for drivers of emergency vehicles (i.e., ambulances).
  - Promoted by the NHTSA Office of EMS (www.EMS.gov) but typically offered at the local, regional, or state level by an approved educational program.
  - Most EMS organizations require providers to have proof of course completion prior to approval of driving an emergency vehicle.
Common Efforts Led Locally (cont’d)

• Training / education in Bloodborne Pathogens (BBP).
  — Available in online format and provided by a regional or statewide EMS governing body.
• Proof of course/training completion is often required prior to EMS personnel being released to care for patients.

Common Efforts Led Locally (cont’d)

• Hepatitis B vaccination
  — It is common for local EMS organizations to:
    • require new and continuing EMS personnel to receive the Hepatitis B vaccination.
    • offer and provide payment/reimbursement for the Hepatitis B vaccination and to maintain a record of vaccinations.
    • provide access to Tuberculosis (TB) testing and resources to reduce exposure or risk of infection per OSHA 29 CFR 1910.

Common Federal Regulations & Standards

• National Fire Protection Association (NFPA) 1582
  — Requires fire departments designate a department physician to provide medical oversight.
  — Requires fire departments establish a comprehensive medical program to address worker health and safety, and include reimbursement to workers for basic medical evaluations and vaccinations.
Common Federal Regulations & Standards (cont’d)

• Ryan White Act 1990 Extension 2009
  – Part G of the Act provides a framework for Emergency Response Employees to be informed by a receiving facility (e.g., Hospital Emergency Department) that they may have been exposed to infectious disease(s).
  – Employees can be notified:
    • The employee can initiate an inquiry; or
    • The facility may provide routine notification if the patient is diagnosed with an airborne or aerosolized infectious disease.

It Is almost certain that there will be question(s) on Ryan White Act

Each agency must have a designated Infection Control Officer and a system to notify providers

Ability to deal with issues such as post exposure prophylaxis
Each agency must have an infection control officer

System for rapid notification for exposure Originally for Aids

Must notify if:
Pathogen is on a list
Mode of transmission present

Common Federal Regulations & Standards (cont’d)

• Occupational Health and Safety Administration (OSHA)
  Bloodborne pathogen standard 1910
  – All employers of occupations with risk of exposure to blood or other infectious materials must establish written exposure control plan to eliminate or minimize exposure.
  – All employers shall provide, at no cost to employee, personal protective equipment (e.g., face shields, eye protection, gloves).
  – Employers shall provide means for testing of Tuberculosis (TB) and resources for protection against exposure or risk of infection (e.g., face masks).
Common Federal Regulations & Standards (cont’d)

• OSHA Part 1904
  – Requires employers to keep records and report on work-related fatalities, injuries, and illnesses. (5 years)
  – Many EMS organizations may be exempt from OSHA required reporting standards and practices.
    • These organizations may be required to report to local, regional, or state governing bodies using a standard analogous to the OSHA standard.

Occupational Exposures

• Potential exposures:
  – Hepatitis, Meningitis, HIV, TB, Ebola, MERS...
• Be aware of risk and routes of exposure, PPE required, immediate and long term follow up
• Modes of transmission

CDC has guidelines with respect to universal precautions, body fluid isolation and Personal protective equipment (PPE)
OSHA has health and safety standards 29CFR 1910.130 (1991), Needle stick rules 2001 mandating needless systems

Medical director must know immediate and long term follow up

HBIG if responder is a non responder to HB vaccine and exposed to HBsAg positive blood (this may now be dated due to HBIG availability (ed)).

Protection = adequate anti-Hbs titer

Evaluating an exposure
I drove the Fire truck to the scene of a patient with meningitis vs, I intubated the patient w/o PPE
Take-Home Points

- EMS is high risk to patients and providers.
  - Mortality is often linked to ambulance or helicopter crashes.
  - Back sprains or strains are the most common non-fatal injury.
- Most EMS employees are required to meet basic education, training, and personal safety requirements
  - EVOC training, proof of BBP education, and vaccinations against common bloodborne or aerosolized pathogens.
- Most EMS employers must adhere to basic safety standards
  - provision of personal protective equipment and record keeping of injuries or exposures.