Chapter 39
First Responder Procedures with Weapons of Mass Destruction

Chapter Goal
- Utilize assessment findings to formulate field impression & implement treatment for patients involved in incidents involving weapons of mass destruction

Learning Objectives
- Define terrorism
- Identify chemical agents used in terrorism, how they work, signs & symptoms they produce, & ways they are disseminated
- Discuss levels of PPE that should be worn by EMS personnel who respond to scenes where chemical agents have been used
- Discuss prehospital management of patients exposed to various types of chemical agents
Learning Objectives

- Identify biological agents used in terrorism, how they work, signs & symptoms they produce, & ways they are disseminated.
- Define contagious
- Discuss levels of PPE that should be worn by EMS personnel who respond to scenes where biological agents have been used.
- Discuss prehospital management of patients exposed to &/or who are ill from various types of biological agents.

Learning Objectives

- List different ways radiological materials can be used as weapons of terrorism.
- Identify device used to detect radioactivity.
- Describe measures to be taken by EMT-I's responding to suspected incidents involving weapons of mass destruction.

Terrorism

- Understand terrorism.
- 3 classes of terrorists:
  - International groups
  - Domestic terrorists
  - Loners
Agents of Terrorism

- Chemical weapons
  - Nerve agents
    - Organophosphate nerve agents
    - Cholinergic crisis
      - SLUDGE
    - Treatment
      - Atropine
      - Oximes
      - Benzodiazepines
      - Mark I kit
      - Off-gassing
    - PPE
  - Vesicants (blister agents)
    - Inhibitors of DNA
    - Common warfare vesicants
      - Mustard
      - Lewisite
    - Primary priority—intervene in potential airway compromise
  - Chemical asphyxiants
    - Interfere with use & metabolism of O₂
      - Cyanide
      - Carbon monoxide
      - Hydrogen sulfide
    - Hazardous to rescuer
  - Lung irritants—toxic to lung tissue
  - Riot control agents—tear gas
Agents of Terrorism

- Biological weapons
  - Microbes & toxins (aerosolization)
    - Microbes—living microscopic organisms
    - Toxins—chemicals created by microbes
    - Anthrax
    - Ricin
    - T-2 mycotoxin
    - Staphylococcus enterotoxin B
    - Plague
    - Tularemia
    - Brucella spp.
    - Influenza
  - May be contagious; use PPE & respiratory protection

- Neurological conditions
  - Botulism
  - Venezuelan equine encephalitis
  - Venoms

- Hemorrhagic viral diseases
  - Ebola virus infection
  - Congo-Crimean hemorrhagic fever
  - Korean hemorrhagic fever
  - Rift Valley fever

- Gastroenteritis-causing diseases
  - Staphylococcus enterotoxin B
  - Anthrax
  - Ricin
  - T-2 mycotoxin
  - Salmonella spp.
  - Shigella spp.
  - Campylobacter spp.

- Infectious skin diseases
  - Smallpox
  - Anthrax
  - T-2 mycotoxin
Agents of Terrorism

Protective measures:
- Barrier protection
- HEPA filter mask
- Communication
- Decontamination

Agents of Terrorism

Radiological devices
- Simple radiological source
- Stealthy device
- Radiation dispersal device
- Radiation syndrome

Common Management Strategies

- Challenge is significant
- Must protect yourself first
- Decontamination
- Triage & treatment occurs in a series of steps
- New skills & knowledge
Summary

- First responder is key component in detection of & response to domestic acts of terrorism
- Chemical weapons include:
  - Nerve agents
  - Vesicants
  - Chemical asphyxiants
  - Lung irritants
  - Riot control agents

Summary

- Biological weapons include toxins or microbes that spread disease & illness
- Recognizing WMD event may be EMT-I’s most important role
- EMT-I must use appropriate PPE

Questions?