Chapter 3
Injury Prevention

Objectives

- Identify EMS role in injury prevention
- Describe epidemiology of trauma in the U.S.
- Outline aspects of EMS desirable for community health activities
- Describe leadership actions allowing EMS participation in wellness activities

Objectives

- List essential EMS knowledge for injury prevention
- Evaluate a situation to identify injury prevention opportunities
- List injury prevention activities paramedics may be involved in
- Identify resources to conduct a community health assessment
Objectives

- Relate how alterations in the epidemiological triangle can influence injury and disease patterns
- Differentiate among primary, secondary, and tertiary health prevention activities
- Describe strategies to implement a successful injury prevention program

Scenario

An elderly woman has fallen in her bedroom. Luckily she denies injuries, but she needs your assistance to get up off the floor. You notice that the room is dark, with many throw rugs scattered about the polished wooden floors.

Discussion

- Does this situation present any immediate injury prevention opportunities?
- How could the epidemiological triangle of injury be interrupted in this situation?
- How could you determine if there is a need for a fall prevention program in your community?
Illness and Injury Prevention

- Goals
  - Decrease incidence of preventable illness and injury
  - Preserve life and function
  - Prevent the need for costly medical care

Cost of Injury

Unintentional Injuries

- Epidemiology
- Incidence
- Morbidity/mortality
**Terminology**
- Injury
- Injury risk
- Injury surveillance
- Primary injury prevention
- Secondary and tertiary prevention
- "Teachable moment"
- Years of productive life

**EMS and Injury Prevention**

Primary Injury Prevention  
versus  
Tertiary Injury Prevention

**Injury Defined**
- Tissue damage by energy transfer
  - Mechanical, thermal, electrical, chemical, radiation
- Tissue damage due to absence of energy elements
  - Heat, oxygen
Injury Triangle

Host
Agent
Environment

Haddons Matrix

- Preevent
  - Primary prevention

- Event
  - Secondary injury prevention

- Postevent
  - Tertiary prevention

Three E’s of Injury Prevention

- Education
  - Promote behavior change

- Enforcement
  - Force of law

- Engineering
  - Automatic protection
  - Most effective
EMS Providers

- Often reflect composition of community
- May be the most medically educated in a rural setting
- High-profile role models
- Champions of health care consumer

EMS Providers

- Welcomed in homes, schools
- Considered authorities on injury prevention
- Often first to identify high-risk situations
  - Unsanitary conditions
  - Unsafe home environments

Essential Leadership Activities

- Protect EMS providers from injury
- Educate EMS providers
- Promote collection/use of injury data
- Obtain resources for injury prevention
- Empower EMS providers to teach prevention activities
Protecting the EMS Provider

- Safety is primary
  - Policies to ensure safety during response, at the scene, and during patient transport:
    - Traffic safety ordinances
    - Public education
    - Cooperation with public safety agencies

- PPE

- Protection from exposure to
  - Communicable diseases
  - HazMat

Providing Education to EMS Providers

- Primary and continuing education programs should incorporate fundamentals of primary injury prevention

- Establish liaisons with specialty groups to promote specific education and prevention activities

Injury Data

- Communities should promote injury documentation by EMS providers

- Data should be evaluated for feasibility

- Data should be provided to local, state, and national repositories
Personal Injury Prevention

- Wellness
- Exercise
- Stress management
- Safe driving
- Restrstraint use
- Use of PPE
- Appropriate use of audible and visual warning devices

Personal Injury Prevention

- Scene safety precautions
- Availability and use of law enforcement
- Traffic control
- Proper lifting and moving
- Recognition of health hazards and high crime areas
- On-scene survival techniques
- On-scene survival resources

Other Essential Provider Activities

- Review illness and injuries common to:
  - Various age groups
  - Recreational activities
  - Work hazards
  - Day care centers
  - Early release from hospital
  - Discharge from urgent care or other outpatient facilities
  - Signs of emotional stress
  - Medication use
### Implementation/Prevention
- Recognize signs and symptoms of danger
- Recognize need for other assistance
- Document primary care/injury data
- On-scene education

### Recognizing Need for Outside Resources
- Municipal
- Community
- Religious

### Exposure to Danger
- Hazards in home
- Inadequate housing conditions
- Inadequate food and clothing
- Absence of protective devices
- Hazardous materials
- Communicable disease
- Signs of abuse/neglect
Documentation

- Primary care
- Injury data
  - Scene conditions
  - Mechanism of injury
  - Protective devices
  - Risks
  - Other

On-Scene Education

- “Teachable moment”
- Observe scene
- Gather information
- Make assessments

On-Scene Remedies

- Discussion
  - Brief, nonjudgmental
- Demonstration
  - Related to single, specific behavior
- Documentation
  - Observations, actions
Community Health Assessment

- Population demographics
- Morbidity
- Mortality statistics
- Crime and fire information
- Community resource allocation

Community Health Assessment

- Hospital data (e.g., ED visits, length of stay)
- Senior citizen needs
- Education standards
- Recreational facilities
- Environmental conditions
- Other factors
Community Health Assessment

Following the assessment:
- Identify target for community education
- Employ appropriate intervention

Injury Prevention Activities

Primary prevention activities
- Seatbelt education
- Legislation to require helmets while bicycling

Secondary prevention activities
- Blood pressure screenings

Tertiary prevention activities
- Providing EMS services in a community

Community Education Methods

Verbal
- Lectures
- Discussions
- Informal teaching
- Audiocassettes
- Radio programs

Written/Static Visual
- Bulletin boards
- Flyers/posters
- Models
- Photographs

Dynamic Visual
- Videotapes
- Television
- Internet resources
Conclusion

As a member of the community's health care system, the EMS provider can be an important resource in injury prevention programs.

Questions?