


EMC 410

Trauma Management


Chapter 2. Role of EMS in Injury Prevention



Unit Objectives

- **Upon completion of this chapter, you should be able to:**
 - Define injury prevention, injury control, and trauma.
 - Explain why the term “accident” is not used by injury prevention specialists.
 - Briefly summarize the history of injury prevention.
 - Describe the Haddon matrix and its purpose.
 - Describe the Public Health Model.
 - Describe the Pat Barry Four Square and the meaning of the terms: mandatory, voluntary, active, and passive.

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Unit Objectives continued

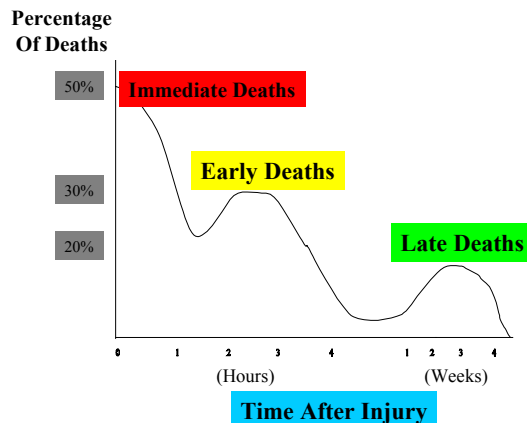
- Describe the six criteria for evaluation of injury control strategies.
- Define and provide examples of the 5 E's of injury prevention: education, enforcement, engineering, economic incentives, and evaluation.
- Design an effective "fear message" as part of an educational program.
- Discuss the role of legislation, litigation, and regulation in injury control.
- Explain the importance of evaluation in injury control programs.
- Describe the role of the individual paramedic in injury prevention.
- Describe the role of EMS in injury prevention.

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Importance of Injury Prevention

- Historically, the only weapon against trauma was medical care.
 - Costly
 - Ineffective in some cases
 - Does not impact "immediate deaths"



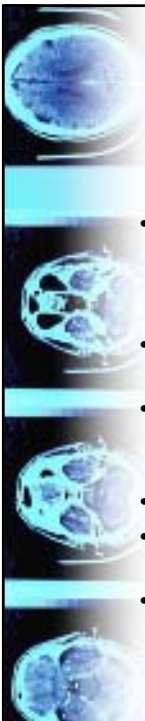
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What is Injury Prevention

- A scientific approach to identifying people at risk for specific injuries or events that lead to injury, and intervening to obviate trauma
- Injury is no “accident”

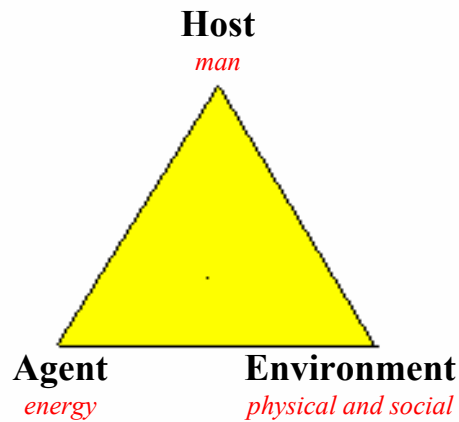


History of Injury Prevention

- DeHaven's work on survival from falls and energy absorbing automobiles
- J.J. Gibson and the 5 forms of energy
- Haddon's pre-event, event, and post-event injury process
- Haddon's matrix
- Barenzi and automobile crumple zones
- Ralph Nader and MVC injuries



The Public Health Model



The Haddon Matrix

- Combines public health model (agent, host and environment) with pre-event, event, and post-event phases of injury
- Each box of the matrix is a prevention strategy

	Host	Agent	Environment
Pre-event	1	2	3
Event	4	5	6
Post-event	7	8	9

The Haddon Matrix continued

	Host Person	Agent Water	Physical Environment Pool, Lake or Beach	Social Environment Community or Home
Pre-event: Before submersion	Pool safety education; swimming lessons; feet first programs	Water depth	Pool cover; 4- sided pool fence; swimming warning signs at beaches	Boating and swimming regulations; adult supervision; lifeguard actions
Event: Submersion	Host's physical condition; wearing a life jacket; alcohol consumption	Water temperature; water currents	Dual pool drains; pool depth; pool alarm	Buddy swimming; lifeguard present
Post-event: Near drowning	Physical condition of the host; alcohol intoxication	Temperature, depth, and clarity of the water	Location of life preservers, boats, ropes, resuscitation equipment, cellular phone	EMS; community CPR; 911 system; cellular services

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Conceptual Models and Interventions

- Criteria for Evaluation of Strategies
 - Effectiveness
 - Efficiency
 - Freedom of choice
 - Equity (horizontal and vertical)
 - Social stigma
 - Consumer and manufacturer preference
 - Feasibility


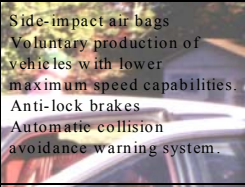

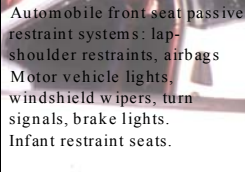
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Conceptual Models and Interventions continued

The Pat Barry Four Square

	Active	Passive
Voluntary	 Educational driving programs Mothers Against Drunk Driving. Keeping one's vehicle in good mechanical condition. Avoiding driving in hazardous weather. Emergency Medical Services	 Side-impact air bags Voluntary production of vehicles with lower maximum speed capabilities. Anti-lock brakes Automatic collision avoidance warning system.
Mandatory	 Driver education programs for specific ages. Eye exams for driver's license renewal. Motor vehicle inspections Obeying driving laws, such as speed limits. Traffic citations.	 Automobile front seat passive restraint systems: lap-shoulder restraints, airbags Motor vehicle lights, windshield wipers, turn signals, brake lights. Infant restraint seats.



Conceptual Models and Interventions continued

- The Five E's
 - Education
 - Enforcement
 - Engineering
 - Economic Incentives
 - Evaluation





EMS in Injury Prevention

- Irving Zola knows EMS
- Individual
- Family
- Community
- Professional
- Organizational

