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Advanced Emergency Trauma Course

Pre-Hospital Trauma
Management



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Lecture Objectives

- To discuss the role of the Emergency Medical system
- Discuss role of pre-hospital management
- Explore the subject of hospital transfers
- History of the practice

Historical Perspective

- It is said that Napoleon's surgeon-in-chief was the first to organize an Emergency Medical System (EMS)
- Prior to him, the surgeons would wait until the battle had ceased before entering the field to tend to the wounded
- He postulated that you could increase survival rates if you could help reach the wounded faster

Historical Perspective

- Putting his theory to the test he positioned Napoleon's transport teams closer to the battle field.
- This concept of rapid delivery of care is paramount not only in the emergency department but even more so in the out of hospital setting

Historical Perspective

- Following several national surveys in the United States, early 1960's, it became apparent the morbidity and mortality associated with highway accidents
- This “neglected” issue then became a congressional initiative to improve the quality of Emergency Medical Services (EMS)

Historical Perspective

- As a result of some field research, and a national conference there came a curriculum for training an Emergency Medical Technician (EMT)
- At this point in time there are several levels of certification in the EMS system

Principals of EMS Systems

- An ideal EMS system would provide effective, rapid initial patient care.
- It would be staffed by well trained personnel with varying levels of expertise
- It would be tailored for that specific community
- It would provide consistent high quality preparation and transportation of patients

Principals of EMS Systems

- A key to an effective EMS system is communications
 - Dedicated number for the designated area i.e 911
 - Clear concise communication between units and hospitals
 - There should also be dissemination of information and educational programs to the general population.

Components of EMS System

- The first responder:
 - As the name would suggest these people are often the first ones to arrive to the scene and activate the emergency medical system
 - They often perform the initial assessment
 - Along with limited lifesaving interventions
 - CPR
 - Basic airway management skills
 - Hemorrhage control
 - Spinal immobilization

Components of EMS System

- There may be several more levels of Emergency Medical Technicians (EMT's) with increasing levels of training and skills.
- In the United States we have ambulance crews that are made up of different levels of trained people
- For example we have a basic ambulance that has two EMT's: aka the BLS crew

Components of EMS System

- There is an advanced ambulance crew that has two paramedics on board
 - Aka. ACLS crew
- There are also specially trained nurses and physicians who are the crew for the air ambulances

Air Ambulance Crews



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Components of EMS System

- The physician role can be varied:
 - As the emergency physician is often the one receiving the patient from the EMS crews it is crucial to be a part of their medical training process
- We are often the BLS and ACLS instructors for the EMT's and Paramedics
- We also have a role in the continuing education and refinement of the EMS system

Components of EMS System

- As the Emergency Physician you may also be asked to act as the EMS medical director:
 - Should have a specialized interest and knowledge of patient care issues unique to the pre-hospital environment.
 - Has oversight over all aspects of operations
 - Is able to implement patient care protocols and to provide discipline

Pre-Hospital Trauma

- Management in this setting by both first responders and more advance professionals should be consistent and reproducible
 - This means what one ambulance does in one area for chest pain is the same thing that is done in other area for the same complaint.

Pre-Hospital Trauma

- Specific medical interventions in emergencies can be carried out on scene
 - IV's can be started
 - Fluids can be given; per protocols
 - Certain medications can be given; per protocol
- As pertaining to traumatic injuries, interventions should be attempted and performed while transporting to hospital.

Pre-Hospital Trauma

- There should be no delay in patient's arrival at definitive care facility.
- Based on mechanism, patient's injury should be immobilized as necessary
- If there are signs of shock then fluid resuscitation should be pursued.
- Patient should be transported to facility best suited to handle the injuries

Transfer to Definitive Care

- How and when should a patient be transferred to another facility?
 - If the patient needs a service that your facility is unable to provide
 - Diagnostics or therapeutics unavailable
 - If the patient and/or family is requesting a transfer of care
 - How a patient is transported will depend on the illness and severity

Transfer to Definitive Care

- In the U.S there was a law passed titled the Emergency Medical Treatment and Active Labor Act
 - These guidelines are intended to ensure that informed consent has been obtained
 - Treatment and stabilization has occurred.
 - Ensures that appropriate transportation has been arranged
 - Appropriate documentation is sent
 - Acceptance from receiving facility

Transfer to Definitive Care

- EMTALA:
 - Is meant to standardize how patients move from one facility to another
 - Discourages patient dumping and allows for clear communication between facilities
- When transferring a patient one must ensure that you have stabilized the patient as much as possible

Pitfalls of Transfer

- Failure to secure an accepting facility
- Inappropriate level of transport for the severity of the issues.
- Patient or family unaware of the transfer.

Questions?



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