The Emergency Medical Services Scope of Practice Project

Improving Emergency Department Patient Flow through Prehospital System Design
A Brief History of Modern EM and EMS

Mid-20th Century – Impact of Trauma

09/16/60 – CPR Described
1966 – NAS Report
1966 – DOT Curricula
1973 – EMS Systems Act
1980 – First ABEM Certifications
1984 – NAEMSP formed

09/22/89 – ABEM primary board status

1996 – EMS Agenda for the Future

Early 2000’s - NEMSIS

09/22/10 – EMS subspecialty
## The Haddon Matrix

<table>
<thead>
<tr>
<th></th>
<th>Human</th>
<th>Vehicle/Equipment</th>
<th>Physical Environment</th>
<th>Social/Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Crash</strong></td>
<td>Poor vision or reaction time, alcohol, speeding, risk taking</td>
<td>Failed brakes, missing lights, lack of warning systems</td>
<td>Narrow shoulders, ill-timed signals</td>
<td>Cultural norms permitting speeding, red light running, DUI</td>
</tr>
<tr>
<td><strong>Crash</strong></td>
<td>Failure to wear seat belt</td>
<td>Malfunctioning seat belts, poorly engineered air bags</td>
<td>Poorly designed guardrails</td>
<td>Lack of vehicle design regulation</td>
</tr>
<tr>
<td><strong>Post-Crash</strong></td>
<td>High susceptibility, alcohol</td>
<td>Poorly designed fuel tanks</td>
<td>Poor emergency communication systems</td>
<td>Lack of support for EMS and trauma systems</td>
</tr>
</tbody>
</table>
Your Invitation
to the
OCEAN CITY MEETING
(Semiannual Meeting)
of the
MEDICAL AND CHIRURGICAL FACULTY
FRIDAY, SEPTEMBER 16, 1960—OCEAN CITY, MARYLAND

A program of interest and educational value has been planned by the Committee on Scientific Work and Arrangements, William E. Grose, M.D., Chairman.

HEADQUARTERS — COMMANDER HOTEL

SCIENTIFIC SESSION—12:30 P.M., Friday, September 16.

RECENT ADVANCES IN EMERGENCY RESUSCITATION

A symposium to be conducted by Donald W. Benson, M.D., Professor of Anesthesiology, The Johns Hopkins University School of Medicine.

1. EXTERNAL CARDIAC MASSAGE AND DEFBRILLATION.
   James R. Jude, M.D., Resident Surgeon, The Johns Hopkins Hospital.

2. MODERN METHODS OF ARTIFICIAL RESPIRATION.
   Paul R. Hackett, M.D., Associate Professor of Anesthesiology, University of Maryland School of Medicine.
   Peter Safar, M.D., Chief of Anesthesiology, Baltimore City Hospitals, and Associate Professor of Anesthesiology, University of Maryland School of Medicine.
<table>
<thead>
<tr>
<th>American Board of Emergency Medicine</th>
<th>Dermatopathology</th>
<th>Pediatric Dermatology</th>
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<tbody>
<tr>
<td>Emergency Medicine</td>
<td>Hospice and Palliative Medicine</td>
<td>Medical Toxicology</td>
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<td></td>
<td>Medical Toxicology</td>
<td>Pediatric Emergency Medicine</td>
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<tr>
<td></td>
<td>Sports Medicine</td>
<td>Undersea and Hyperbaric Medicine</td>
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<tr>
<td>American Board of Emergency Medicine</td>
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<tr>
<td>--------------------------------------</td>
<td></td>
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<tr>
<td>[List of specialties]</td>
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</tbody>
</table>

- Emergency Medicine
- Hospice and Palliative Medicine
- Medical Toxicology
- Pediatric Emergency Medicine
- Sports Medicine
- Undersea and Hyperbaric Medicine
NATIONAL EMS SCOPE OF PRACTICE MODEL
The National EMS Scope of Practice Model is a continuation of the commitment of the National Highway Traffic Safety Administration and the Health Resources and Services Administration to the implementation of the EMS Agenda for the Future
The National EMS Scope of Practice Model defines and describes four levels of EMS licensure:

• Emergency Medical Responder (EMR)
• Emergency Medical Technician (EMT)
  • Advanced EMT (AEMT)
  • Paramedic
Essentially, with a thousand hours of training, we produce a prehospital CRITICAL CARE TECHNICIAN who is expected to be able to evaluate and manage every medical emergency known to humans.
“Emergency Medical Services (EMS) of the future will be community-based health management that is fully integrated with the overall health care system.

It will have the ability to identify and modify illness and injury risks, provide acute illness and injury care and follow-up, and contribute to treatment of chronic conditions and community health monitoring.”
“This new entity will be developed from redistribution of existing health care resources and it will be integrated with other health care providers and public health and safety agencies. It will improve community health and result in a more appropriate use of acute health care resources. EMS will remain the public’s emergency medical safety net.”
An individual may perform only those procedures for which they are educated, certified, licensed, AND credentialed.
Opportunities for Improving ED Patient Management through Innovative EMS Best Practices:

• Treatment of Emergency Conditions
• Alternative Patient Destinations
• The Impact of NEMSIS 3.0
Treatment of Emergency Conditions:

- Continuous Positive Airway Pressure
  - Cheap
  - Effective
  - May Prevent Intubation
  - Reduce Morbidity/Mortality
Treatment of Emergency Conditions:

• Continuous Positive Airway Pressure

  ➢ DFR recurring cost for 1,200 annual uses is approximately $60,000
  ➢ If this prevents 200 people from being intubated: >$20 million in savings?
  ➢ Not to mention reducing morbidity and mortality….and returning taxpayers home
Treatment of Emergency Conditions:

- Cardiac Arrest Management Systems
  - Early Citizen CPR
  - Excellence in provider CPR
  - Resuscitation Centers and Therapeutic Hypothermia
Treatment of Emergency Conditions:

- Cardiac Arrest Management Systems

“I think we should give $50 to everyone who performs Citizen CPR or uses an automated external defibrillator.”

A.J. Heightman, Editor
Journal of Emergency Medical Services
Gathering of Eagles, 2010
Treatment of Emergency Conditions:

- STEMI Networks
  - “Trauma System” approach to STEMI
  - “SOAR” Concept
  - Providing “top to bottom” CQI and benchmarking throughout the system
Alternative Destinations:

• “Get the right patient to the right place”

➢ Severely over-burdened EM resources
➢ Vast study resource regarding patient outcomes vs. field assessment
➢ “No Apparent Life-Threatening Event” Policy (NALTE)
➢ Clinics, Physician Offices
➢ Alternate Transport Methods?
The Impact of NEMSIS 3.0:

- National EMS Information System
  - Standardized federal dataset
  - "NEMSIS Compliance" means that the dataset is followed AND that the data is exportable in "XML Format"

CARDIAC ARREST

Data [combo] single-choice

Definition
Indication of the presence of a cardiac arrest at any time associated with the EMS event.

XSD Data Type: xs:integer
XSD Domain (Simple Type): CardiacArrest
Multiple Entry Configuration: No
Accepts Null Values: Yes
Required in XSD: Yes

Field Values
-25 Not Applicable
-15 Not Reporting
-5 Not Available
2240 Yes, Prior to EMS Arrival
2245 Yes, After EMS Arrival

Additional Information
- If answered YES, all other data points in the Situation/CPR should be addressed

Uses
- A component of the EMS Medical Record: Patient Care Report
- Allows data to be sorted based on the occurrence of a cardiac arrest
- Allows data to describe the number of cardiac arrests within the EMS patient population

Data Collector
- EMS personnel

Other Associated Elements
- E00 Common Null Values
- E01_01 Patient Care Report Number

References to Other Databases
- NFIRS 5.0 EMS Module; Title: Cardiac Arrest; Pick-List: Pre-Arrival Arrest = 1, Post-Arrival Arrest = 2
- UTSTEIN Title: Confirmed Cardiac Arrests Considered for Resuscitation
The Impact of NEMSIS 3.0:

• Comprehensive Data Management
  - Will allow docking of ePCR at hospital
  - EMS Data enters the hospital medical record
  - Download field ECG monitor into the hospital record

### CPR QUIK-VIEW

<table>
<thead>
<tr>
<th>Time</th>
<th>Interval Statistics</th>
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<tbody>
<tr>
<td></td>
<td>CPR Ratio. %</td>
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<tr>
<td>0 min</td>
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The Impact of NEMSIS 3.0:

• Comprehensive Data Management
  ➢ Remember the shortest book ever written: “Promises Kept by Software Vendors”
  ➢ Much work remains to be done
Summary Ruminations
Summary Thoughts:

• Retooling Emergency Services
  ➢ A comprehensive system management strategy
  ➢ Targeted toward best practices
  ➢ Considering alternative destinations
  ➢ Complete data tracking through uniform datasets and electronic linking