EMS as a Medical Subspecialty

A Window into the Future
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Associate Professor of Emergency Medical Education
and
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Dallas, Texas
----------------------------------------
Chief of Operations
The Dallas Metropolitan BioTel System
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Past-President
National Association of EMS Physicians
The Path of this Talk:

1. History (Structure)
2. Current Efforts (Process)
3. The Future (Outcome)
History

- The Experience from war

SPECIAL CONTRIBUTIONS

HISTORICAL BACKGROUND TO ACCIDENTAL DEATH AND DISABILITY: THE NEGLECTED DISEASE OF MODERN SOCIETY
John M. Howard, MD
History

- Evolving strategies for severe trauma
History

- National Academy of Sciences Study

- Publication in 1966 of
  “Accidental Death and Disability: The Neglected Disease of Modern Society”
The National Perspective

*Our EMS History*

- 1966  First DOT EMS Curricula
- 1973  EMS Systems Act
- 1990’s  Block Grant Funding
- 1996  EMS Agenda for the Future
- 2000’s  Scope of Practice Project
- 2007 – Ad infinitum –

- **Subspecialty Efforts**
History

- First Department of Transportation Curriculum for Training EMS Personnel in 1966
- EMS Systems Act of 1973
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.

“We must stop responding to calls that we can prevent”

-M. Zavadsky
A Venn diagram illustrating the interplay between trained to do, certified as competent, credentialed by medical director, and state licensed to practice.
Bringing us to...
A Moment’s Pause to say THANKS!
On the Road to Subspecialization in Prehospital Emergency Care
ABMS Member Boards certify physicians in more than 145 specialties and subspecialties.
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<thead>
<tr>
<th>American Board of Pathology</th>
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<tbody>
<tr>
<td><strong>Anatomic Pathology and Clinical Pathology</strong></td>
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<td><strong>American Board of Surgery</strong></td>
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<td>Vascular Surgery</td>
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<td><strong>American Board of Thoracic Surgery</strong></td>
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<td>Congenital Cardiac Surgery</td>
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<td><strong>American Board of Urology</strong></td>
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<td><strong>American Board of Radiology</strong></td>
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<td><strong>Diagnostic Radiology</strong></td>
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Subspecialty Update

• *PEC* editorial July 2005
• Committee in place since at least 2001
• Draft submitted to ABEM in October
• Meeting with ABEM here
Subspecialty Eligibility

_DRAFT IDEAS_

Practice Pathway Options –
- Will “sunset” 5 to 7 years after approval

What will “EMS practice” be?
- Who will decide if you qualify?

Training Pathway
- The only option after practice options sunset
- Completion of an ACGME-accredited fellowship in EMS
Other Subspecialty Issues

- Approaching Accreditation Council for Graduate Medical Education (ACGME) regarding credentialing of fellowship programs
- Writing a credible, defensible test
- Funding the test-writing effort
- Maintenance of certification
- ...and many others
Final Exam!

A sneak peek at some of the questions being formulated for the ABEM exam…
Question 73: Operations

How many D batteries fit in a full-size Mag-Lite®?
Question 145: History of EMS

Describe, in twenty words or less, the contributions of each of these EMS giants:
- Ronald D. Stewart
- R Adams Cowley
- Sandy Kuehl
The Path to Success as a Sub-Specialty

- Develop measures to build the value-added interdependency
- Manage activities, time and quality to strengthen this interdependency
- Analyze performance to determine the effectiveness of those measures and management
To overcome barriers, organizations need measures for three purposes:

1. Strategic - to drive strategies into action and change the organizational culture
2. Diagnostic - to evaluate the effectiveness of these actions and the extent of change
3. Operational - to improve continuously

Castaneda-Mendez
1. Are strategies operationally defined?
2. Are the causal relationships among the strategies clear?
3. Will all constituents receive strategic value?
4. Does everyone know what the strategic direction is and remain committed to it?
5. Does each person know how he or she can contribute to the organization's success?

Castaneda-Mendez
Without an integration of clinical and financial measures, the same organizations will find it nearly impossible to effectively operate the processes they are so keen on improving.
• Donabedian believed strongly in the importance of health-care structure, seeing it as a driving force for later care processes and ultimately for health outcomes.

• Donabedian's commentary on structure focused on physical structure, facilities, and provider qualifications.

Glickman et al
Int J Qual Health Care
2007;19(6):341-348
Effective organizational capabilities, such as leadership, human capital, information management systems and group dynamics (such as culture and incentive systems), are essential structural elements of quality improvement in a health-care organization and serve as the primary catalysts for process change.

Glickman et al
Int J Qual Health Care
2007;19(6):341-348
Organizational Attributes ("Structure")

- Physical characteristics
- Management
  - Executive leadership
  - Board responsibilities
- Culture
- Organizational design
- Information management
- Incentives

Process
- Diagnosis
- Treatment

Outcomes
- Morbidity
- Mortality
- Service quality

Thoughts from Thought Leaders
What makes EMS DIFFERENT if we are a medical subspecialty?
Where We Need to Be

- EMS is one piece of a health care puzzle
“EMS Medical Direction is a part-time job for so many EMS docs, who also do it for free. The overwhelming majority of people who come to this meeting don’t have EMS as the primary part of their practice.”

Jeff Goodloe
“The external validation of a subspecialty status gives EMS the proper focus.”

Jeff Goodloe
“ABMS recognition of EMS as a subspecialty will unlock resources to improve EMS at every level, benefiting EMS providers, researchers, and most of all…patients.”

Bob Suter
“EMS delivery requires collaborative efforts of many health care providers. The promotion of science in an environment that requires collaboration is necessary to apply the art of medicine.”

Bill Brown
“How much capacity do you have? One doctor has enormous capacity to affect underserved markets.”

Kelly Curry
“It’s much more efficient for SOMEBODY to be an expert on something.”

A.J Heightman
BLS IS ALS
Basic Life Support

- AED
- CPAP?
- 12 Lead transmission
  - MAD Narcan?
  - Albuterol?
- ASA
- NTG
- King Airways?
Or maybe...

ALS IS IS BLS
“Now that we’re pushing all of these skills to Basic providers, EMS Medical Direction of BLS Systems is more important than ever.”

A.J Heightman
Advancing public health opportunities will require EMS providers to be prepared as never before.

House Call
Manpower Redeployment and Maximization
“What Brent Myers is demonstrating is the future of prehospital medicine, adding to the career rung for so many providers”
“It’s my dream every cab would have an AED AND give a $100 bonus to the first person on the chest in a cardiac arrest.”

A.J Heightman
11/10/81 Cancellation

- What allergies do you have?
- Do you have any history of allergies?
- What medication are you taking?
- Have you been treated for allergies before?

- No significant allergies.
- No history of allergies.
- Taking regular medications, including:
  - Aspirin 100 mg twice daily
  - Ibuprofen 200 mg as needed

- Any recent travel or exposure to allergens?
- Any known triggers of allergy symptoms?

- No recent travel or exposure to allergens.
- No known triggers of allergy symptoms.

- Any reactions to previous treatments?

- No reactions to previous treatments.

- What symptoms are you experiencing?
- What changes in symptoms are you noticing?

- No significant changes in symptoms.
- No new symptoms.

- Is there anything you would like to discuss further?

- No further concerns.

- Any questions or concerns you have?

- No specific questions or concerns.

- Would you like to set up another appointment?

- Yes, please set up another appointment.

- When would you like to come in?

- Next week at 10 am.

- Any other comments or requests?

- None, everything is fine.

- Thank you for your time.

- You’re welcome! Have a great day!
Scene Survey/Mechanism/# pts.

LOC/Airway/Cspine

Respiratory Rate and Labor

Pulses R & Q, N & W
Skin CMT/CRT/External Bleeding

Neck appearance, JVD, Trachea

Chest appearance, BS, HT

Quick survey of abdomen, pelvis, extremities, and back
Central Cyanosis
Paint Gun
Capnography and EMS
Capnography is the window into preventing overventilation.
“We must re-visit the criteria for flying patients, an effort already in process.”

A.J Heightman
Trauma
STEMI
Pediatric
Burns
Stroke
Sepsis?
“This systematic review demonstrates that over the past 30 years, there has been constant growth in articles published identifying the role of the physician in the development of EMS.”
Multivariate Predictors of Failed Prehospital Endotracheal Intubation

Henry E. Wang, MD, Douglas F. Kupas, MD, Paul M. Paris, MD, Robyn R. Bates, MS, Joseph P. Costantino, DrPH and Donald M. Yealy, MD

From the Department of Emergency Medicine, University of Pittsburgh School of Medicine (HEW, PMP, RRB, DMY), Pittsburgh, PA; the Department of Emergency Medicine, Geisinger Health System (DFK), Danville, PA; and the Department of Biostatistics, Graduate School of Public Health, University of Pittsburgh (JPC), Pittsburgh, PA.
Of 61 factors potentially related to ETI failure, multivariate logistic regression revealed the following significant covariates associated with ETI failure (odds ratio; 95% confidence interval; likelihood ratio p-value):

- **Presence of clenched jaw/trismus**
  (9.718; 95% CI = 4.594 to 20.558; p < 0.0001);

- **Inability to pass the endotracheal tube through the vocal cords**
  (7.653; 95% CI = 3.561 to 16.447; p < 0.0001);

- **Inability to visualize the vocal cords**
  (7.638; 95% CI = 3.966 to 14.707; p < 0.0001);

- **Intact gag reflex**
  (7.060; 95% CI = 3.552 to 14.033; p < 0.0001);

- **Intravenous access established prior to ETI attempt**
  (3.180; 95% CI = 1.640 to 6.164; p = 0.0005);

- **Increased weight (ordinal scale)**
  (1.555; 95% CI = 1.242 to 1.947; p = 0.0001);

- **Electrocardiographic monitoring established prior to ETI attempt**
  (0.199; 95% CI = 0.084 to 0.469; p = 0.0003).
Airway

The King LTS-D
“EMS providers in this study were able to place the King LTS-D as a primary airway in RSI patients with a high degree of success.”

(Recommends larger, multicenter randomized trial)
“...we suggest that implementation of a physician medical direction is associated with improved clinical indicators and overall quality of care of an established EMS system.”
The End of the Beginning

- Innocence is over
- We are COMPLETELY accountable for what they do
- Becoming a subspecialty requires us to maintain a rigorous standard
- EMS is ONLY and ALWAYS about patient care
5 Year Future Plans for MedStar Interviewees
(N = 189)
We have to face the fact that medics in many cases, perhaps most cases, will be “passing through” the field enroute to other careers, or parallel careers.
Emergency Medical Services (EMS) companies throughout Pennsylvania are severely understaffed, some dangerously close to not being able to quickly respond to 9-1-1 calls!!!
The Minnesota Study

http://www.health.state.mn.us/divs/chs/rhpc/cah/rasstudy.htm
Recruitment and Retention of Personnel:  
State of Minnesota, 2001 to present

Barriers to Recruitment and Retention

* Nature of the work
* Changing demographics
* Selective volunteerism
* “Invisibility” (the effects of HIPAA)
* Time and training demands (Initial and CE)
* Ongoing training (“too much”)
* High stress and menial tasks
* Fear of errors
* The need for high quality Medical Direction
* Employment concerns
* Compensation (no pay to $20/run to $12/hour)
* Retirement
Choosing EMS as a Profession
Is this career right for YOU?

- Do you enjoy a dynamic and fast-paced work environment?
- Have you ever thought that you might want to help people in crisis?
- Are you looking for a challenging career?
- Are you willing to continue your education even after receiving your initial license?
- Are you emotionally stable?
- Do you have good physical agility and coordination?
- Are you able to lift and carry heavy loads?
- Do you have a good driving record?
- Do you have a clean background?
- Do you work well with others and in teams?
- Are you able to inspire trust in others?
- Are you a reliable and dependable employee?
- Are you willing to work long hours?

If so, EMS may be the career for you!! EMS allows you the opportunity to contribute to your community in a vital and productive way. For more information about how to become an EMT or paramedic, contact your local emergency services agency, your regional EMS office, or visit one of the websites listed for more information about EMS as a career, educational programs in your area, and job opportunities.

Websites for Additional Information
On EMS Education and Careers

http://health.state.ga.us/programs/ems/index.asp
http://www.ga-ems.com
http://www.naemt.org
http://www.nremt.org
http://www.tcsge.edu

GEORGIA OFFICE OF EMS AND TRAUMA
State Office of EMS - Atlanta:
404.679.0547

North Georgia Region 1 - Rome
Northeast Georgia Region 2 - Gainesville
Metro Atlanta Region 3 - Atlanta
West Georgia Region 4 - LaGrange
Central Georgia Region 5 - Eatonton
East Central Georgia Region 6 - Augusta
West Central Georgia Region 7 - Columbus
Southwest Georgia Region 8 - Moultrie
Southeast Georgia Region 9 - Brunswick
Northeast Georgia Region 10 - Athens

Your Service Info Here:
Job Description

Nature of Work
Emergency Medical Services (EMS) can be an exciting and rewarding career. EMS personnel are responsible for providing emergency care in the pre-hospital environment to individuals experiencing acute illness or injury.

Work Environment
EMS personnel predominantly work outdoors, in all types of weather. There is a considerable amount of strenuous work including lifting, kneeling, and bending. There is risk of exposure to some infectious diseases, loud noises, hazardous materials, violence, and mentally ill patients. While the work can be exciting, it is often stressful both physically and emotionally from dealing with critically ill patients and life and death situations. EMS personnel often work in excess of 40 hours per week on up to 24 hour shifts.

Employment
EMS professionals may be employed by a variety of agencies: fire-department based, hospital-based services, private EMS agencies, or government entities. In Georgia, EMS professionals are sometimes employed in hospital emergency departments.

Job Outlook
According to the National Bureau of Labor’s Occupational Outlook, there is expected to be a growth of 19% between 2006 and 2016. There is an anticipated increase in demand for EMTs and paramedics as our population ages and there is an increase in medical emergencies.

Salary Expectations
Salaries vary by areas of the state and type of employing agency, as well as by level of provider. Annual EMT average pay ranges from $29,000 - $39,000 and annual EMT-Paramedic average pay ranges from $35,000 - $45,000 depending on the region in Georgia.

Training and Education
There are three licensed levels of EMS provider in Georgia: EMT-Basic, EMT-Intermediate, and Paramedic. The minimum number of hours to complete an EMT-Basic course is 132. The minimum number of hours to complete an EMT-Intermediate course is 200. The minimum number of hours to complete a paramedic course is 824 hours. Some programs, depending on the sponsoring agency may be longer. At each level, upon successful completion of an approved course, students must challenge and successfully pass the state approved exam (currently the National Registry of EMTs ) for the appropriate level. Upon receiving notification of passing both the written and skills components of the exam, the individual may apply to the Georgia Office of EMS, to obtain a license to practice. This is required for all levels for employment in Georgia. Initial education programs may be offered through private schools, hospital-based courses, fire department based courses, and the Georgia Department of Technical and Adult Education Technical College system.
Where will we find them?
High Schools
Churches
Volunteer groups
Colleges
Vocational Technical Schools
Public call to service
Fire agencies
Other municipal firms
“I think we should create a whole career track where after five years, the paramedic is guaranteed a slot in medical school, followed by a residency program in emergency medicine. It's career progression.”

Bruce Dubin, DO, JD  
Associate Dean for Academic Affairs  
University of North Texas  
Health Science Center
What do I Think
is Our Future?

Standards for Credentialing
National Registry Certification
NEMSIS Data Tracking
Progressive State Standards
Closer Communication for Progress
Certification for EMS Physicians
A Model of Hiring Excellence
MedStar Ambulance Service
Fort Worth, TX
Staffing:

• Basic EMT
• EMT-I
• Secondary Medic
• Lead Secondary Medic
• Primary Medic
Credentialing is the Key to Success
The National EMS Information System

A Standardized Dataset of over 400 data elements
Dataset Dictionaries

NHTSA Version 2.2.1 Data Dictionary

The NEMSIS NHTSA Version 2.2.1 DataDictionary provides over 400 definitions that can be implemented by an EMS system.

National data elements are defined that should be collected for the National EMS Database, but additional data elements should be considered for use at the state and local levels depending on each state or local EMS system's need.
The future is dimly lit
“In 1965, Medicare was predicted to cost $26 billion in 2003; the actual cost that year was $245 billion. Medicare’s unfunded liability currently hovers around $40 trillion.”
My thoughts for progress...

We must take an oath, of commitment, as a group, on our honor.
This is our time
Thank you for your Kind Attention!