

International Emergency Medical Services and Disaster Medicine Fellowship



Department of Emergency Medicine
Section of Emergency Medical Services & Disaster Medicine

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Program Co-Director: Ronald Pirrallo, MD, MHSA

INTRODUCTION

The Emergency Medical Services (EMS) and disaster medicine fellowship program at the Medical College of Wisconsin (MCW) Department of Emergency Medicine is dedicated to training international physicians in the science of EMS Medicine. For 15 years, MCW's EMS training program has been preparing physicians to serve as medical directors of EMS systems. This training program condenses the education and experiences meant to provide the fundamentals in the safe and efficient delivery of medical care in the prehospital setting.

The EMS training program is designed to be a 12 – 18 month educational experience.

During the intensive training program, the participant will be provided with diverse experiences in the practice and administrative components of EMS systems to gain a detailed understanding of the field of EMS medicine. These experiences will provide a basis to determine functioning, designs, and processes necessary to ensure quality of patient care in the prehospital setting.

The program does not hold any international certification but does include subject matter and experiences consistent with the American Board of Emergency Medicine Core Content of EMS Medicine.

PARTICIPANT REQUIREMENTS

Fellows are required to be licensed physicians in their home country and have completed the equivalent of an emergency medicine residency program.

RESOURCES

The program and activities of the fellow will be overseen by the following faculty, who will have supervisory responsibilities as described:

M. Riccardo Colella, DO, MPH – Associate Professor, Department of Emergency Medicine
Medical Director, Milwaukee County EMS
Medical Director, Flight for Life EMS Air-Medical Transport
Associate Program Director

Ronald Pirrallo, MD, MHSA – Professor and Associate Chair, Department of Emergency Medicine, and
Medical Director Emeritus, Milwaukee County EMS
Program Director

Charles Cady, MD – Associate Professor, Department of Emergency Medicine
Medical Director, Kenosha Fire Department

Jason Liu, MD, MPH – Associate Professor, Department of Emergency Medicine
Associate Medical Director, Milwaukee County EMS

Medical Director, City of Milwaukee Fire/Police Department Tactical EMS Program

Jonathan Rubin, MD – Professor, Department of Emergency Medicine and Associate Clinical Director,
Emergency Medicine:
Medical Informatics and Quality Assurance

Lorin Browne, MD – Assistant Professor, Department of Pediatrics - Emergency Medicine and Pediatric
Medical Director, Milwaukee County EMS:
Pediatric EMS and Emergency Medicine

E. Brooke Lerner, PhD – Professor, Department of Emergency Medicine and Director of Research:
EMS Research

The activities of the training program will occur in a variety of facilities and locations. Patient care observations will occur in the Emergency Departments of Froedtert Hospital and the Children’s Hospital of Wisconsin, as well as in the out-of-hospital setting with Milwaukee County Emergency Medical Services (EMS) providers. In addition, the fellow will participate in the administrative and training activities related to the medical direction of the Milwaukee County EMS, Kenosha County EMS, State of Wisconsin EMS, City of Milwaukee Fire Department, and the Flight for Life (FFL) programs. Activities will occur both on-campus and at various locations in Milwaukee, Milwaukee County, Kenosha, Fond-du-Lac, and Madison, Wisconsin.

FELLOW TRAINING PROGRAM COMPONENTS

Didactic and Self-Directed Curriculum: 24 Contact hours/Month

The EMS fellow will gain a detailed understanding of the field of out-of-hospital medicine through participating in various lectures, meetings and activities. Topics include:

1. History of EMS

The Program Director will provide the fellow with an overview of the history of EMS and will supply selected readings chosen from different eras.

2. Legislation/Legal Issues

The fellow will attend and participate in meetings at the State of Wisconsin Emergency Physicians Advisory Committee and Emergency Medical Services (EMS) Board and the Milwaukee County Council on Emergency Medical Services. The fellow will become versed in all pertinent state and federal rules and regulations. Seminars will be arranged with the State of Wisconsin EMS Medical Director, Chief of the Bureau of EMS and Injury Prevention, and the Chair of the Milwaukee County Council on Emergency Medical Services.

1. EMS System Design

The fellow will become knowledgeable, through selected readings and seminars, about the essential components of an EMS system. In each of these different types of systems, the fellow will learn about the differences in operations, political atmosphere and administration. The fellow will attend meetings of the State Trauma Advisory Council (STAC) and Southeast Wisconsin Regional Trauma Advisory Council (SERTAC).

2. Air Medical Transport

The fellow will learn about air medical issues from the Flight-for-Life (FFL) Medical Director and will attend monthly FFL meetings and educational conferences.

3. Personnel/Human Resources

The fellow will regularly discuss human resources issues and personnel management with the Milwaukee County EMS Program Director as well as with area fire department chief. The fellow will attend the Milwaukee County Fire Chiefs Association meetings.

4. Finance

The fellow will attend the NAEMSP Medical Directors Course to learn about funding issues. Also, the fellow will be provided reading materials and will meet regularly with the administrators of FFL and Milwaukee County EMS to learn more about budget and finance topics.

5. EMS Equipment

The fellow will learn the federal and state criteria for ambulance design and equipment maintenance. The fellow will study the equipment lists for basic and advanced life support (BLS and ALS) ambulances. The fellow will become familiar with EMS-related rescue and extrication equipment carried on ambulances and fire/rescue trucks (extrication equipment, etc.). The fellow will participate in the regularly scheduled meetings for drug and protocol approval for the EMS system. The fellow will participate in the Milwaukee Fire Department Bureau of Instruction and Training EMS field experience.

6. Education/Training

The fellow will become versed in the curriculum used in the Milwaukee County EMS Education Center Paramedic, Intermediate and Basic initial training courses. The fellow will also become familiar with the curriculum for ACLS/ATLS/PALS/BTLS provider and instructor courses. The fellow will also have the opportunity to attend the SAEM Faculty Development Series and will also attend clinical teaching seminars regularly held at MCW.

7. Operations Management

The fellow will gain understanding of operational issues by meeting with the Milwaukee Fire Department Deputy Chief for EMS and the FFL Operations Director. The fellow will also attend regular meetings with the system's private ambulance providers and the Operations Committee of the Milwaukee County Council on EMS. The fellow will attend the NAEMSP Medical Directors Course to learn about international operational models.

8. Community Education

The fellow will learn about community education by attending meetings of the Public Information Committee of the Milwaukee County Council on EMS and by meetings with the Froedtert Hospital Community Liaison.

9. Communications

The fellow will learn about the various types of dispatch systems, computer-aided dispatch, and will witness how it is utilized in real-time. The fellow will assist in managing the region's Internet-based regional hospital diversion and disaster notification network. The fellow will learn about and use radio systems, phone patching equipment, tower selection and twenty-four hour multichannel recording devices.

10. Disaster Management

The fellow will become familiar with the essential components of a disaster plan. Experienced personnel at Milwaukee County Emergency Management will provide the fellow with extensive information and insight about community disaster planning and integration with non-EMS services and other levels of government. The fellow will also assist the Milwaukee County EMS Medical Director (also the Medical Director for Annex H, the Milwaukee County Disaster Plan) in reviewing the County emergency Plan. The fellow will also attend Hazardous Materials responder training classes at the Milwaukee Fire Department. The fellow will participate in the monthly Region 7 Southeast Wisconsin Bioterrorism Preparedness Group meetings. The fellow will complete the Core and Basic National Disaster Life Support course work.

11. Prevention

The fellow will learn about prevention issues through meetings with Steven Hargarten, MD, MPH, Director of the Injury Research Center (IRC) and with IRC staff and faculty.

12. Medical Direction

Direct

The fellow will become familiar with the local ALS protocols. The fellow will successfully complete the Base Station Orientation Course and will observe base physicians providing direct medical control.

Indirect

The fellow will participate in all ALS protocol revision activities. The fellow will be provided with selected readings from *Prehospital Systems and Medical Oversight* (NAEMSP) and *Principles of EMS Systems* (ACEP).

13. EMS Research

The fellow will meet with the MCW Department of Emergency Medicine Research Director to learn about the current research activities of the department and will also attend regularly scheduled MCW seminars on research topics/methods.

With the assistance of MCW faculty, the fellow will design a research project related to emergency medical services and/or emergency medicine applicable to their home country. The fellow will also complete the usual human subjects research training required of all MCW Faculty participating in studies. The Fellow will present their idea and proposal to the EMS Program Faculty and at the MCW Emergency Medicine Grand Rounds Conference.

Didactic Core Reading List

Quality Management and Prehospital Care (2nd Edition, Editor: Swor)

Prehospital Systems and Medical Oversight (4th Edition, Editor: Cone/O'Connor/Fowler)

EMS Agenda for the Future (National Highway Traffic Safety Administration)

EMS Agenda for the Future Implementation Guide (National Highway Traffic Safety Administration)

Medical Direction of Emergency Medical Services (ACEP)

Toxico-terrorism (Editors: McFee/Leikin)

Prehospital Emergency Care (peer reviewed journal from NAEMSP)

Emergency Care for Children (Institute of Medicine)

Miscellaneous articles – Resuscitation Outcomes Consortium, Ontario Prehospital Advanced Life Support

Experiential Curriculum

The EMS fellow will also observe in real-time various EMS managers and providers while they administer the EMS system and deliver medical care to patients. These experiences will allow the fellow to gain in-depth knowledge of the delivery of emergency medical services.

Such experiences will include incidental patient contact, where the fellow will be present with licensed providers when they conduct patient care. The fellow will observe the delivery of care and may have the ability to conduct limited patient histories and exams under the direct supervision of a licensed provider. The fellow will also discuss assessment and treatment modalities with licensed providers. However, the fellow will **not** have the authority to determine clinical management, perform procedures, nor have contact with a patient independently or without the direct supervision of a licensed provider.

Emergency Department Mentorship: 16 Contact hours/Month

Fellows will shadow an MCW EMS Faculty during their scheduled Emergency Department shift at Froedtert Hospital and Children's Hospital of Wisconsin. Froedtert and Children's are Level 1 Trauma Centers. The fellow will interact with nursing, staff and other health care providers while they are administering emergency care. This experience will allow the fellow to compare and contrast EM medicine and EMS medicine.

EMS Hands-on experience will include: Total 108 Contact hours/Month

1. *Participation with EMS field providers: 48 Contact hours/Month*

Shifts with Milwaukee County paramedics will be regularly scheduled to allow the fellow to evaluate paramedic performance in real-time, educate paramedics in the clinical setting and observe hands-on skills. The fellow will have the opportunity to interact with EMS providers and emergency physicians while observing shifts in the Froedtert Hospital and Children's Hospital of Wisconsin Emergency Departments.

2. *Participation as an EMS educator: 2 Contact hours/Month*

The fellow may educate EMS providers at the Milwaukee County EMS Education Center during initial and continuing education programs. The fellow may also present EMS topics at the Department of Emergency Medicine Grand Rounds.

3. *Participation in quality improvement activities: 2 Contact hours/Month*

The fellow will meet the Quality Coordinator at the Milwaukee County EMS to review cases and understand data trends. The fellow will also review Medical Command Forms to understand base station activities.

4. *Emergency vehicle operations: occurs during item 1*

The fellow will gain experience with emergency vehicle operations (EVOC) through ambulance ride-alongs and the NHTSA EVOS Course materials.

5. *Vehicle and technical rescue: occurs during item 1*

Rescue/extrication exercises are ongoing throughout the year in the Milwaukee area. Airport rescue demonstration will be conducted by the Milwaukee County Airport Fire Department. The fellow will participate in the Milwaukee Fire Department Bureau of Instruction and Training EMS Field Day.

6. *Participation in disaster drill: 2 Contact hours/Month*

The fellow will participate in the planning and execution of disaster drills for Froedtert Hospital, the National Disaster Medical System, and other activities coordinated by Milwaukee County Emergency Management and the Region 7 Southeast Wisconsin Hospital Emergency Preparedness Group if they occur during the training period.

7. *EMS coverage for mass gatherings: 2 Contact hours/Month*

Mass gathering experience will be acquired through involvement with the medical care systems in place at the Bradley Center, Milwaukee Mile, and Summerfest grounds if they occur during the training period.

8. *EMS base station (radio) operations: 4 Contact hours/Month*

The fellow will successfully complete the MCW Base Station Physician Orientation Course and will present selected radio calls for discussion at Grand Rounds on a quarterly basis. The fellow will review

Base Physician Medical Command Forms and will also be able to monitor radio calls in real-time. One-on-one teaching with base physicians will also be conducted when issues are identified during call review.

9. Participation in local, state, and national EMS organizations: 4 Contact hours/Month

Local

The EMS fellow will attend the monthly meetings of the medical Society of Milwaukee County EMS Committee and the Milwaukee County Council on EMS. The fellow will also attend the Southeast Wisconsin Trauma Council meetings if they occur during the training period.

State

The EMS fellow will attend all meetings of the State EMS Board and EMS Physicians Advisory Committee, as well as the STAC and hospital preparedness program meetings if they occur during the training period.

National

The fellow will attend the Annual Meetings of both the Society for Academic Emergency Medicine and National Association of EMS Physicians and will be encouraged to become active members of these organizations. The fellow will also have the opportunity to attend meetings of the American Academy of Emergency Medicine and the American College of Emergency Physicians if they occur during the training period.

10. Air medical services: 4 Contact hours/Month

The fellow may undergo FFL training required of any provider to serve as a flight medical crew member and will have the option of participating in flights as an observer. The fellow will attend flight review meetings, regular crew meetings, safety committee meetings and debriefing activities.

11. Participation in variance investigation: occurs during item 12

The EMS fellow will assist the quality assurance coordinator in investigating EMS incidents. The EMS fellow will also attend the quarterly Audit and Review meetings. The fellow will attend any EMS provider remediation or disciplinary meeting with the EMS Medical Director.

12. Ongoing interaction with the EMS Medical Director: 20 Contact hours/Month

The fellow will meet with Drs. Pirrallo or Colella on a daily basis to discuss operational issues, didactic topics and other subjects. Dr. Cady will meet with the fellow to review radio calls and discuss issues pertaining to direct medical control. The fellow will discuss quality improvement activities on a monthly basis with Dr. Rubin. Drs. Colella and Browne will also meet with the fellow each month to go over air medical and pediatric EMS topics and issues respectively. Dr. Liu will meet with the fellow monthly to discuss ongoing emergency preparedness issues and disaster management topics.

13. Public Service Answering Point 911 Communication Center: 4 Contact hours/Month

The fellow will observe in the City of Milwaukee 911 Communication Center that processes over 100,000 requests for service annually. This is the universal access point for requesting police, fire or EMS emergency services.

CERTIFICATE OF COMPLETION

Fellows will receive a certificate of completion from the Medical College of Wisconsin upon successful completion.