

6. PEM Fellow Rotation in Emergency Medical Services (EMS)/Prehospital Care

Experience: The experience for the PEM fellows during the pre-hospital/emergency medical rotation includes the observation and care of adult and pediatric trauma/surgical and emergency medical conditions in the field. The subspecialty resident may also accompany the Critical Care Transport Team on transports from outlying hospitals to centers for a higher level of care.

Goals:

1. Learn the general principles of field and transport medical management of adult and pediatric patients
2. Learn the general principles of accident/illness scene management

Objectives:

After completing this rotation, the fellow will demonstrate the ability to:

Patient Care

1. Explain the general principles of field and transport medical management of adult and pediatric patients.
 - a. Management of the airway and breathing (RSI, BMV ventilation)
 - b. Circulation (obtaining central venous access)
 - c. Primary and secondary survey
 - d. Spinal immobilization
2. Insert appropriate intravascular lines for both monitoring and access to include intraosseous lines as appropriate.
3. Identify and monitor patients for the presence or development of cardio-respiratory distress on arrival to the scene and during transport.
4. Recognize the patients with difficult-to-manage airways or respiratory problem, and become familiar with alternative management options for these patients appropriate for the field (laryngeal mask).
5. Identify what interventions need to be performed in the field or referral hospital and which interventions should be appropriately delayed until arrival at the receiving hospital.
6. Integrate clinical assessment and laboratory data to formulate management and therapeutic plans for critically ill patients during transportation.
7. Provide ventilatory support for all types of critical care patients to include medical and surgical patients.
8. Evaluate blood gases (arterial, venous, capillary, and end-tidal carbon dioxide) and appropriately adjust mechanical ventilation on patients.
9. Develop competency in prioritizing and managing the emergency care of multiple patients.
10. Explain the limitations that aircraft impose on the delivery of medical care.

Medical Knowledge

1. Explain the pathophysiology, assessment and treatment of isolated and multi-system injured patients.
2. Discuss the indication for different modes and types of mechanical and non-invasive ventilation.
3. Explain the indications for cardioversion and defibrillation in patients with dysrhythmias.
4. List and discuss indications and risks of agents used for intravenous sedation, paralysis and procedural sedation and analgesia.

5. List and discuss the indications for vasoactive medications, such as dopamine, epinephrine, norepinephrine, milrinone, and vasopressin and implement their use when necessary.
6. List and discuss the variables involved in determining the optimal method of transfer (ground versus air) such as mobilization and response time, team configuration, availability of landing site, severity of illness and expertise of staff at the referral hospital.

Practice-based Learning and Improvement

1. Effectively search the medical literature, analyze the literature and determine its relevance for specific patients.
2. Effectively use online medical resources.
3. Effectively study book chapters.
4. Facilitate professional learning with peers.
5. Review challenging cases to identify better patient care management strategies.

Interpersonal Skills and Communication

1. Demonstrate active listening skills including appropriate non-verbal behavior.
2. Demonstrate respect for individual patient concerns and perceptions.
3. Effectively communicate and collaborate with the EMS/prehospital team including paramedics, physicians, nurses, respiratory therapists, and other health care providers and specialists.
4. Effectively communicate with police and fire departments at the scene.
5. Effectively communicate with referral and receiving hospitals and their respective health care providers.

Professionalism

1. Maintain confidentiality of patient information according to hospital and HIPAA regulations.
2. Demonstrate sensitivity and compassion to a variety of patient populations.
3. Demonstrate respect diversity of opinion, age, gender and ethnicity.
4. Be punctual and respectful of others' time.
5. Demonstrate sensitivity towards referral hospitals and any limitations in their ability to provide care.
6. Describe the general principles of accident/illness scene management including but not limited to:
 - a. Management of potentially dangerous scene incidents (i.e. crowd control, motor vehicle accidents)

Systems-based Practice

1. Collaborate with other health care providers to facilitate safe, orderly and effective transportation from the field to the receiving hospital and from the referral hospital to the hospital providing definitive care.
2. Coordinate and execute pre-transportation recommendations from consultants.
3. List and discuss the major factors associated with EMS helicopter crashes including human error, weather, mechanical failure and obstacle strikes.
4. List and discuss the approach taken by critical care flight teams in their analysis of adverse events or close calls including emphasis on systems versus people, emphasis on multifactorial nature of errors, assumption that errors will occur in a system, emphasis on crew interactions and analysis of latent versus active errors.

Policies on Duty Hours, Supervision and Expectations during EMS/Prehospital Rotation

Duty Hours: PEM subspecialty residents accompany the pre-hospital providers for one week, and spend 8 hours or 10 hours/day for a 50 hour work week. There is no in-house or home call.

Supervision: All cases and procedures are supervised by either the AFD/BCFD/AAS paramedics or the Lifeguard/PHI transport RNs and paramedics. Distribution of time during this week is 100% clinical.

Evaluation: The PD will be responsible for gathering feedback from the appropriate services and medical directors. A written evaluation of the fellow's rotation using a global evaluation form and informing the resident and program director of any problems or issues which may arise during the month. Acceptable performance will be dependent on attendance and acceptable performance for level on all six ACGME clinical competency areas.

Expectations: PEM subspecialty residents will spend the assigned duty hours with either the paramedics or transport team. They will observe and assist in the history taking, examination and procedures involved in the care of the patient. These procedures will be supervised by the senior member of the team. Procedures must be documented in the procedure log. PEM fellows are to read assigned chapters from textbooks, "Principles and Direction of Air Medical Transport" and "Guidelines for Air and Ground Transport of Neonatal and Pediatric Patient".