University at Buffalo Pediatric Emergency Medicine Fellowship

Adult Emergency Medicine and Trauma Rotation – ECMC – PGY-5 PEM fellows are required to complete training on the emergency care of Adults. Fellows will complete 1 one month rotation occurring at the ECMC (Erie County Medical Center Emergency Department). PEM Fellows are expected to participate as an integrated member of the ED clinical staff as well as trauma team.

Schedule - Each PGY-5 PEM fellow rotates for 4 weeks as a member of the ECMC ED team. The fellows work under the supervision of the ED Attending, and alongside Surgical attending staff and senior ED and surgical residents. The PEM fellow is scheduled to work Fifteen 12 hour shifts during each month (7AM -7PM or 7PM – 7AM). There is no "on-call" duty. Relevant duty hour rules are followed.

The daily schedules are prepared by the Emergency Medicine Chief Residents. Any schedule requests must be submitted 2 months in advance of the scheduled rotation. The fellows will be scheduled off on Thursday mornings to attend Pediatric Emergency Medicine Division conference and whenever there is a PEM|CoR presentation.

The PEM fellow is required to forward a copy of their Adult Rotation schedule to the PEM Division manager prior to the beginning of the month.

If significant emergencies occur which require them to miss a scheduled shift, the fellow is required to contact the EM Chief Resident and the PEM Division Office Manager (Sharon Chodora 878-7188). All missed shifts must be made up; this will be coordinated by the EM Chief Resident.

Fellows are expected to attend EM Grand Rounds on Wednesday mornings during their Adult rotations.

Contacts / Mentors at each site:

Erie County Medical Center:	EM Chief Residents	ubemchiefs@gmail.com
	Dr Jeffery Thompson	jeffrey_thompson@hotmail.com
	Administrator	Dee McCarthy dmccarthy@kaleidahealth.org

Goals:

The Pediatric Emergency Medicine Fellow will recognize common Life and Limb threatening emergencies in the adult population, will learn to stabilize and begin appropriate treatment of these emergencies, and will coordinate appropriate triage and transfer of the adult patient to an appropriate facility and medical team for further management.

Objectives:

Trauma care. (MK, PC, SP, CIS, P)

- General principles
    - Recognize common patterns of injury with major trauma
    - Know the importance of mechanisms of injury in the evaluation of major trauma
    - Understand priorities in the management of major trauma
    - Know triage principles in the management of victims of major trauma
    - Understand the principles of primary versus secondary survey
    - Understand the importance of appropriate fluid resuscitation in major trauma
    - Understand the importance of appropriate airway management in major trauma
- Evaluation and stabilization
    - Primary survey
        - Recognize airway obstruction with major trauma
        - Anticipate the risk of cervical spine injury associated with major trauma
        - Know causes of acute cardiopulmonary collapse after major trauma
        - Distinguish causes of shock in the trauma patient
        - Know methods of rapid assessment of the central nervous system
        - Know causes of delayed acute cardiopulmonary collapse after major trauma
    - Trauma resuscitation
        - Plan the management an obstructed airway in the setting of major trauma
        - Know options for vascular access with major trauma
        - Understand blood product administration in the management of traumatic shock
        - Define appropriate fluids and rates for patients in traumatic shock
        - Understand the importance of control of external hemorrhage major trauma
        - Know the indications for thoracotomy in the emergency department
        - Know the indications and contraindications for bladder catheterization
        - Understand indications and contraindications for nasogastric intubation

- Secondary survey
    - Recognize signs and symptoms of head injury, neck injury, eye injury, spinal injury, chest injury, cardiac injury, abdominal injury, pelvic injury or neurovascular injury with major trauma
- Ancillary studies
    - Utilize the proper laboratory and radiologic studies in trauma patients
    - Recognize the importance of x-ray study of the chest in the early evaluation of a major trauma victim
    - Understand imaging options for patients with cervical spine injuries
    - Understand the role of ultrasound in the management of a major trauma victim
    - Understand the role of end-tidal CO2 analysis in the management of trauma
- Accurately communicate the pertinent findings and the patient's condition to the Trauma team
- Know indications and procedures for transport to a higher-level facility

Neurologic/spinal trauma (Mk, CS)

Understand the etiology, pathophysiology and management for blunt head trauma, penetrating head trauma and spinal trauma

- Understand the mechanisms leading to increased intracranial pressure following blunt head trauma
- Plan the evaluation and management of basilar skull fractures
- Recognize the signs and symptoms of intracranial hemorrhage following blunt trauma
- Recognize the signs and symptoms of increased intracranial pressure and cerebral herniation following blunt head trauma
- Recognize respiratory insufficiency in patients with head trauma
- Recognize and interpret computed tomography of the head in a patient with blunt head trauma
- Plan airway management in head injuries due to blunt trauma
- Know the management of increased intracranial pressure following blunt trauma
- Understand the most common etiologies of cervical spine injuries
- Know mechanisms and patterns of injury associated with cervical spine injuries
- Differentiate between neurologically stable and unstable cervical spine injuries
- Recognize signs and symptoms of spinal cord injury syndromes (anterior, central, complete, posterior, Brown-Sequard)

Chest trauma (MS, CS, PB**)**

Understand the etiology, pathophysiology and management for blunt and penetrating thorax trauma

- Know the types of intrathoracic injuries due to blunt and penetrating chest trauma

- Understand the pathophysiology of blunt trauma and differentiate it between adults and children
- Recognize the signs and symptoms of pulmonary contusion following blunt chest trauma
- Recognize the signs and symptoms of cardiac trauma following blunt and penetrating chest trauma
- Recognize the signs and symptoms of rib fractures (isolated and flail chest) following blunt chest trauma Recognize the signs and symptoms of hemothorax following blunt chest trauma
- Differentiate between simple and tension pneumothorax following blunt chest trauma
- Recognize the signs and symptoms of great vessel trauma following blunt and penetrating chest trauma
- Recognize the signs and symptoms of pericardial tamponade following blunt and penetrating chest trauma
- Differentiate simple pneumothorax from tension pneumothorax
- Plan the management of rib fractures (isolated and flail chest) following blunt chest trauma
  Management of pulmonary contusion following blunt chest trauma
- Management of simple and tension pneumothorax following blunt chest trauma
- Management of a hemothorax following blunt and penetrating chest trauma
- Management of sucking chest wounds following blunt and penetrating chest trauma
- Management of cardiac trauma following blunt and penetrating chest trauma
- Management of cardiac tamponade following blunt and penetrating chest trauma
- Know the indications for and interpret the findings of plain x-ray, angio, ultrasound and ECHO studies following blunt and penetrating chest trauma
- Know the indications for emergent open thoracotomy in the emergency department

Abdominal Trauma (MK, PC, PS)

Understand the etiology, pathophysiology and management for blunt and penetrating abdominal trauma

- Understand the hemodynamic consequences of abdominal injuries due to blunt and penetrating trauma
- Understand the indications for urgent laparotomy with abdominal injury due to blunt and penetrating trauma
- Recognize limits of physical examination and radiologic assessment of abdominal and retroperitoneal trauma, especially bowel, pancreatic, and mesenteric injuries
- Plan volume resuscitation in abdominal injury due to blunt and penetrating trauma
- Plan the management with spleen, hepatic, renal, pancreatic, bowel, and bladder injuries due to blunt and penetrating trauma
- Know indications for, limitations of, and interpret findings of computed tomograph, plain xray, ultrasound in blunt and penetrating abdominal trauma

Genitourinary System (MK, PC PS)
Understand the etiology, pathophysiology and management for and penetrating GU trauma

- Recognize the signs and symptoms of urethral trauma, GU trauma, bladder trauma
- Recognize common patterns and mechanisms of pelvic injury
- Plan the diagnostic evaluation and the management of a patient with genitourinary trauma and bladder trauma

Burns (MK, PC, CIS)

- Plan the appropriate evaluation and management of thermal burns
- Know which specific burn injuries should be transferred to a burn center for definitive management
- Differentiate between depth and degree of thermal burns
- Know the importance of and methods for calculating total body surface area burned
- Know how to calculate fluid resuscitation and plan emergency management for a patient with significant thermal burns
- Know the evaluation and management of inhalational burn injuries

Procedural skills (MK, PC)
Describe the indications and appropriate techniques and recognize complications for following procedures:

- Cervical Spine Immobilization
- Airway Management
    - Endotracheal Intubation
    - Cricothyrotomy
    - Bag-Valve-Mask-Ventilation
    - Rapid Sequence Induction
- Control of Exsanguinating External Hemorrhage
- Cardio-Pulmonary
        - Thoracostomy Tube Placement
        - Needle Decompression of the Chest
        - Intraosseous Access and Fluid Administration
        - Pericardiocentesis
        - Central Venous Catherization (including U/S guided techniques)
- Autotransfusion
- Emergency Thoracotomy
- Retrograde Urethrography
- Burn management

TEACHING METHODS:
Case-based / Clinical teaching (one on one) during scheduled Adult ED shift – precepted by ED attending

Didactic presentations by ED faculty and residents at weekly ED Grand Rounds

Evaluation:
Observation of the individual Fellow's work by the supervising ED attending during clinical case management with on-site feed\back

Concern and Compliment cards regarding a Fellow's performance – submitted to MedHub by a supervising attending. These cards are reviewed by Program Director and fellow.

End-of-Rotation Evaluation submitted to MedHub by the faculty mentor after consultation with all faculty involved with the fellow during the rotation month. This evaluation is reviewed and discussed by the Program Director and the fellow.

Fellow evaluation of the completed Adult rotation – to be reviewed by the Program Director - any concerns to be discussed with the fellow

Our PEM Curriculum is extrapolated from the American Board of Pediatrics Content Outline for Pediatric Emergency Medicine:
https://www.abp.org/abpwebsite/takeexam/subspecialtycertifyingexam/contentpdfs/emer2011.pdf
It is a competency-based curriculum.

THE COMPETENCIES (ACGME Bulletin)

Patient Care (PC) - "Resident must be able to provide patient care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health."

Medical Knowledge (MK) - Residents must demonstrate knowledge about established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, and the application of this knowledge to patient care.

Professionalism (P) – "Residents must demonstrate a commitment to carry out professional responsibilities, adherence to ethical principles and sensitivity to a diverse patient population."

Communication and Interpersonal Skills (CIS) – "Resident must demonstrate effective information exchange and teaming with patients, their families and other health care professionals."

Practice-Based Learning and Improvement (PBL) – "Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence and improve their patient care practices."

Systems-Based Practice (SP) – "Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, and the ability to effectively call on system resources to provide care that is of optimal value."