PEDIATRIC EMERGENCY MEDICINE FELLOWSHIP PROGRAM AT BAYLOR COLLEGE OF MEDICINE & TEXAS CHILDREN’S HOSPITAL CURRICULUM

Curriculum Goals

The Pediatric Emergency Medicine (PEM) Fellowship will train fellows

1) To develop proficiency in the clinical practice of pediatric emergency medicine.

2) To develop competency in the education of other health care providers about the discipline of pediatric emergency medicine.

3) To gain knowledge in and apply principles of biostatistics and epidemiology in research.

4) To develop familiarity with administrative issues pertinent to the practice of pediatric emergency medicine.

The fellowship will prepare fellows for a career in academic pediatric emergency medicine and/or community based pediatric emergency medicine.

The fellowship curriculum is divided into five sections: A) clinical practice B) teaching and consulting C) administrative training D) research and E) career development

A. Clinical Practice Goals (Addressed Core Competencies: Patient care, Medical knowledge, Interpersonal and communication skills, and Professionalism)

PEM Fellows will

1) Attain skills necessary for the care of acutely ill or injured pediatric patients of all ages in the setting of an emergency department (ED).

2) Perform procedural skills necessary for the practice of pediatric emergency medicine.

3) Review concepts of patient triage and patient flow in the ED.

4) Attain appropriate interpersonal and communication skills to interact with others on the health care team and with patients and their families.

5) Act in a professional manner.

6) Gain knowledge in and integrate into their clinical practice the basic principles of Evidence Based Medicine.

B. Teaching and Consulting Goals (Addressed Core Competencies: Medical knowledge, Practice-based learning and improvement, Interpersonal and communication skills, and Professionalism)

PEM Fellows will
1) Teach in one-on-one settings to pediatric/emergency medicine/family medicine residents, medical students, other members of the health care team (EMT, paramedics, nurses), parents, and families.
2) Lead small group discussions.
3) Prepare and present effective lectures on subjects pertinent to pediatric emergency medicine.
4) Teach resuscitation skills.
5) Teach procedural skills.
6) Act as effective consultants and/or representatives of the ED.
7) Attain appropriate interpersonal and communication skills to interact with superiors and subordinates.
8) Act in a professional manner.

C. Administrative Training Goals (Addressed Core Competencies: Practice-based learning and improvement, and Systems-based practice)

PEM Fellows will
1) Display leadership in the Emergency Department.
   a) Develop expertise in Emergency Department supervision.
   b) Gain experience and confidence with personnel management and staff.
2) Gain familiarity with risk management.
   a) Conduct Continuous Quality Improvement (CQI) projects.
   b) Understand the importance of thorough documentation.
3) Demonstrate knowledge in billing and reimbursement procedures.
4) Gain exposure to marketing and financial management in health care.

D. Research Curriculum Goals (Addressed Core Competencies: Patient care, Medical knowledge, and Practice-based learning and improvement)

PEM Fellows will
1) Critically assess the scientific merit of research protocols and published research reports.
2) Demonstrate knowledge in basic clinical epidemiological principles and biostatistics.
3) Design and conduct scholarly projects that are hypothesis driven.
4) Analyze and interpret data from their own individual projects and that of others.
5) Acquire knowledge in the construct of several grant funding mechanisms.

E. Career Development Goals (Addressed Core Competencies: Interpersonal and communication skills, Professionalism, and Systems-based practice)

PEM Fellows will
1) Review principles of academic advancement.
2) Build a Curriculum Vita (CV).
3) Gain awareness of current job market demands.
4) Prepare for job interviews.
5) Receive and provide mentorship.
6) Create a 5 year plan that addresses critical domains of academic medicine.
The PEM fellowship program will develop well-rounded fellows who are ready to assume academic positions or community-based practice positions at the culmination of their fellowship.

**Curriculum Objectives**

**A. Clinical Practice Objectives**

1) All fellows will attain skills necessary for the care of acutely ill or injured pediatric patients of all ages in the setting of an emergency department (ED): Such skills include but are not limited to, the recognition and management of the critically ill or injured child, appropriate use and interpretation of ancillary tests, use of appropriate medications and therapeutic measures, and determination of appropriate dispositions for patients in the ED.

2) All fellows will attain procedural skills necessary for the practice of pediatric emergency medicine: Such procedural skills include but are not limited to, cardiopulmonary resuscitation, bag valve mask ventilation, endotracheal intubation, other advanced airway maneuvers, decompression of tension pneumothorax, advanced vascular access procedures, laceration repairs, reduction of limb-threatening fractures and dislocations, splint placement, lumbar puncture, and performance of procedural sedation.

3) All fellows will review concepts of patient triage and patient flow in the ED: Residents will triage patients appropriately based on acuity of the patient’s illness or injury. Residents will recognize impeding factors to patient flow and create appropriate solutions.

4) All fellows will attain appropriate interpersonal and communication skills to interact with others on the health care team and with patients and their families.

5) All fellows will incorporate professional behavior into their clinical practice.

6) Fellows will gain knowledge in the basic principles of Evidence Based Medicine. This will include but not be limited to tools for efficiently identifying the value of diagnostic tests, the utility of treatment protocols and the best evidence that supports their utility. The fellow should be adept at integrating and teaching these principles for use in everyday clinical practice.

7) With the successful completion of our fellowship, all fellows will be competent clinicians, capable of practicing the art of pediatric emergency medicine.

**B. Teaching and Consulting Objectives**

1) All fellows will provide one-on-one teaching to pediatric residents, medical students, other members of the health care team (EMT, paramedics, nurses, consultants), parents, and families.

2) All fellows will lead small group discussions throughout the course of their fellowship: Fellows are assigned specific topics from which to prepare discussions or presentations. Their performance is reviewed and critiqued by faculty, with emphasis
placed on the resident’s skills in effective questioning, moderating, facilitating, and listening. Copies of their presentations and written reviews are placed in their portfolios. Examples of small group discussions include presentations at journal club, morbidity & mortality conference, simulated resuscitations, and case presentations.

3) All fellows will prepare and present effective lectures: During the course of their fellowship, each fellow completes five lectures of 50 minutes duration. These lectures are presented to medical students, residents, section members within pediatric emergency medicine, and/or larger audiences. Faculty members present at their lecture evaluate fellows on the content, handouts, electronic slides, and delivery of their presentation. The fellow’s faculty mentor is responsible for collecting evaluations from other faculty members and for providing face-to-face evaluation of the lecture. A copy of the lecture and the evaluations are placed in the resident’s portfolio. In addition to faculty evaluations, audience evaluations are also reviewed and placed in each resident’s portfolio.

4) All fellows will teach resuscitation skills: Fellows are certified as Pediatric Advanced Life Support (PALS) providers and instructors during the first year (not later than their second year) of their subspecialty training. Per PALS protocol at Texas Children’s Hospital, established instructors directly observe the first two sessions taught by new instructors and evaluations are completed regarding the new instructor’s teaching style. New instructors are not allowed to teach PALS courses independently until successful completion of observed sessions. Other resuscitation skills teaching opportunities for fellows include the running of mock resuscitations for medical students, residents, and other members of the health care team. Finally, once fellows are adept at performing resuscitation, they teach resuscitation skills to medical students and residents during actual resuscitations in the ED and other settings. Evaluations from observer PALS instructors and medical students/residents learning these skills from the fellow are collected and placed in the fellow’s portfolio.

5) All fellows will teach procedural skills: Fellows are observed in both performance and teaching of various procedures. They receive feedback via workshops and via bedside teaching. Fellows start with teaching minor procedures such as suturing, splinting, lumbar punctures, and intravenous lines. By the end of their second year of their subspecialty training when they have mastered advanced procedural skills, they are expected to teach advanced procedures such as endotracheal intubations and chest tube insertion.

6) All fellows will become effective consultants and/or representatives for the ED: Fellows must become proficient in the management of patient transfers, referrals and consultations from the community emergency departments, EMS, or transport systems at Texas Children’s. This is done through the communication of relevant PEM knowledge: Fellow obtain skills in listening and gathering information, displaying telephone courtesy while acting as a liaison for the ED, and being understandable and organized in forwarding medical information to other physicians, lay persons, or administrative personnel. They become familiar with regulatory issues, which impact the practice of PEM including Emergency Medical Treatment and Active Labor Act (EMTALA) regulations in transfer. Also, they are exposed to the principles of legal testimony, particularly in reference to cases of child abuse. Fellows learn to understand issues of childhood advocacy, especially regarding the legislative process. They also learn to act professionally and understand how they
should present themselves in each setting. This is a step-wide learning process throughout the course of the fellowship. By the last year of fellowship, they are proficient in taking referrals, being consultants, and performing comfortably in the arena of legal testimony.

7) With the successful completion of our fellowship, all fellows will have a sufficient knowledge base and the required skills necessary to teach the discipline of pediatric emergency medicine.

C. Administrative Training Objectives

1) All fellows will display Leadership in the Emergency Department; whether as a leader in the community or in the ED, fellows will develop good communication skills within the department, develop good interactive skills with the community and referring physicians, and participate in or create effective community outreach programs. Fellows will be directly observed for leadership qualities within the ED and in section meetings by faculty.
   a) All fellows will develop expertise in Emergency Department supervision: Fellows learn to delegate work, become a supervisor, deal with trainees, recognize acuity, understand how to deal with high patient volumes in the ED, and work effectively with consultants and non-physician staff. These skills are to be acquired in a stepwise manner over two to three years of fellowship. The expectation by the last year of fellowship is that the fellow will demonstrate: (a) responsibility for smooth patient flow of the ED, (b) effective problem solving skills, and (c) having and inspiring confidence in the nurses they work with and the residents they train.
   b) All fellows will gain experience and confidence with personnel management and staffing: They will learn to work collaboratively with residents, students, nurses, and other staff involved in care of patients in the ED. Each fellow may do an elective month of administrative work with a designated mentor deemed qualified for administrative guidance by the director and associate director of the subspecialty training program. They learn to understand administration as it pertains to issues of conflict resolution--looking at guidelines and why certain guidelines should be adhered to, learning to monitor personal behavior and understanding what is involved in the administration of an efficient ED. As they gain seniority, fellows will themselves become mentors to PEM fellows in earlier stages of their training.

2) All fellows will develop familiarity with risk management: Fellows will learn effective handling and tracking of patient complaints and gain an understanding of COBRA (Consolidated Omnibus Budget Reconciliation Act) regulations. Fellows will learn to handle specific patient or physician complaints. They will become familiar with issues of liability as they pertain to PEM subspecialists.
   a) All fellows will understand processes involved in Continuous Quality Improvement (CQI) and learn to conduct projects in CQI: CQI issues involving the ED, PEM section, and hospital are reviewed monthly in section meetings. Fellows will learn how to handle CQI issues
effectively through participation on CQI committees. They will learn to critique medical charts and perform case reviews effectively. They will become familiar with the application of practice guidelines.

b) All fellows will understand the importance of thorough medical documentation: Fellows will be exposed to methods of appropriate medical documentation in both the clinical arena and in didactic lectures.

3) All fellows will review issues related to billing: Fellows will gain more understanding of issues surrounding the complex nature of billing and collections for an ED.

4) All fellows will review issues relating to marketing and financial management: fellows will understand budgeting issues for an ED, and will be educated on the impact of managed care in the practice of emergency medicine.

D. Research Curriculum Objectives

1) All fellows will critically assess the scientific merit of research protocols and published research reports: Fellows present 2 to 3 journal clubs during the course of their fellowship and are expected to participate in monthly journal clubs.

2) All fellows will understand basic clinical epidemiological principles and biostatistics: Fellows will be introduced to these principles via didactic sessions within the section and in courses offered by Baylor College of Medicine.

3) All pediatric trained fellows will design and conduct a hypothesis driven scholarly project.

4) All fellows will analyze and interpret data from their own project and that of others. Goals during subspecialty training: One scholarly project approved by the fellowship directors and the fellow’s Scholarship Oversight Committee. During the first year of training, the fellow will formulate his/her idea for a project. By the end of the first year, each fellow will have designed and written his/her protocol and submitted it to the Institutional Review Board (IRB) if appropriate. Data collection for the project should occur during the second year of fellowship. During the third year, each fellow will submit an abstract for presentation at a national meeting and a manuscript written prior to the completion of the fellowship. In addition, the fellow is required to conduct medical writings: a case report during their fellowship or two submissions to a nationally recognized fellowship case review competition.

5) Fellows will gain knowledge in the construct and administration of several grant-funding mechanisms. This will include mechanisms available through the National Institutes of Health, foundation grants and more regional organizations/institutions.

E. Career Development Objectives

1) All fellows will gain an understanding of the principles of academic advancement within an academic institution: fellows will be educated on the differences between the levels of Assistant Professor, Associate Professor, and Full Professor, and the expectations associated with appointment to each level in an academic setting. The promotion and tenure process will be described for the fellows.
2) All fellows will be instructed on writing a Curriculum Vitae (CV): They will be taught the essential components to include on the CV and how to tailor the CV to the type of job they are seeking after fellowship.

3) All fellows will gain awareness of current job market demands: during the course of their fellowship, the fellows will have access to available positions and job descriptions from within our institution and other institutions. They will be encouraged to network at national meetings and gain an understanding of the different types of career goals that may be attained at different institutions.

4) All fellows will be prepared to conduct job interviews during the final year of their fellowship: fellows will be exposed to necessary interviewing skills and will learn to develop skills as an effective communicator. They will be educated on what to ask in interviews and mock interviews may be set up with our faculty so that the residents are well prepared when they interview for an actual job.

5) All fellows will be provided with mentorship/leadership and advocacy via ongoing relationships with faculty mentors, chosen by the individual fellows and assigned at the beginning of their subspecialty training, fellowship directors, and each fellow’s three person Scholarship Oversight Committee.

6) All fellows will be ready to assume a faculty position or a community based practice position with the successful completion of our fellowship program. If the fellow assumes an academic position, he/she should develop skills that help him/her balance clinical and academic responsibilities, review his/her goals appropriately with a mentor, and achieve academic advancement in a timely fashion. Residents assuming either an academic position or community based practice should prioritize projects, use time efficiently and effectively, and set appropriate goals and deadlines for themselves.

Clinical Curriculum

PEM Fellows (Pediatric Residency Graduates)

First Year Curriculum
7 Months Pediatric Emergency Medicine*
1 Month Pedi Anesthesia/PEM
1 Month Adult Anesthesia/PEM
1 Month Adult Emergency Medicine (Medicine section) (no TCH ED)
1 Month PICU (no ED)
1 Month Toxicology (no ED)

*Total ED Time at Texas Children’s Hospital and St. Luke’s Community Hospital The Woodlands = 1048 Hours [664 hrs (mix of 8 and 12 hr shifts) weekdays; 384 hrs (32 12hr shifts) weekends] (approx 30 clinical hrs/week on PEM rotations)

Second Year Curriculum
10 Months Pediatric Emergency Medicine*
1 Month Orthopedics
1 Month Adult Emergency Medicine (Trauma section) (no TCH ED)

*Total ED Time at Texas Children’s Hospital and St. Luke’s Community Hospital The Woodlands = 1088 Hours [680 hrs (mix of 8hr-12 hr shifts) weekdays; 408 hrs (34 12hr shifts) weekends] (approx 26 clinical hrs/week on PEM rotations)

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**Third Year Curriculum**

8 Months Pediatric Emergency Medicine (Extra Hours Experience)*
1 Months Elective (includes one 12 hour overnight shift in BTGH labor & delivery)
1 Month Radiology and Child Abuse
1 Month Adult Emergency Medicine (Trauma section) (no TCH ED)
1 Month EMS (no ED)

No required ED shifts; Extra Hours Experience elective available to maintain clinical skills (approx clinical 12 hrs/week on PEM rotations).

**PEM Fellows (Emergency Medicine Residency Graduates)**

**First Year Curriculum**

8 Months Pediatric Emergency Medicine*
1 Month Pedi Anesthesia/Developmental or Child Life
1 Month Pediatric Cardiology (no ED)
1 Month Neonatology (no ED)
1 Month PICU (no ED)

*Total ED Time at Texas Children’s Hospital and St. Luke’s Community Hospital The Woodlands = 1048 [664 hrs (mix of 8 and 12 hr shifts) weekdays; 384 hrs (32 12hr shifts) weekends] (approx 30 clinical hrs/week on PEM rotations)

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**Second Year Curriculum**

9 Months Pediatric Emergency Medicine*
1 Month Child Abuse/Elective
1 Month Pediatric Infectious Disease (no ED)
1 Month Pediatric Subspecialty Elective (no ED)

*Total ED Time at Texas Children’s Hospital and St. Luke’s Community Hospital The Woodlands = 1088 Hours [680 hrs (mix of 8hr-12 hr shifts) weekdays; 408 hrs (34 12hr shifts) weekends] (approx 26 clinical hrs/week on PEM rotations)
*Pediatric Emergency Medicine (PEM) months are combined clinical and research time for fellows. Based on a 50 hour work week, PEM months for pediatric trained fellows, first year fellows’ months are 60% clinical and 40% research; second year fellows’ months are 50% clinical and 50% research; third year fellows’ months are 25% clinical and 75% research if they choose to take the Extra Hours Experience; 100% research if they choose not to take the Extra Hours Experience. For emergency medicine trained fellows, PEM months throughout the entirety of the fellowship are 60% clinical and 40% research. Given the time constraints for fellows in the two-year track, modifications to the requirement of scholarly activity during fellowship are made based on individual fellows’ needs and interests.

Suggested Electives

Elective rotations are scheduled with the approval of the Associate Fellowship Director or the Fellowship Director. Pediatric trained fellows must complete at least 4 weeks of electives and emergency medicine trained fellows must complete at least two weeks of elective for successful completion of fellowship program.

1. Administration
2. Adolescent Medicine/Gynecology
3. Adolescent Medicine/Sports-Related Injuries
4. Dermatology
5. Neurosurgery (Observational)
6. Ophthalmology (2 weeks Observational)
7. Otolaryngology (2 weeks Observational)
8. Pediatric Dentistry (2 weeks Observational)
9. Pediatric Injury Prevention
10. Plastic/Hand Surgery (2 weeks)
11. Pediatric Cardiology
12. Pediatric Infectious Disease
13. Pediatric Neurology
14. Suturing/Procedures
15. Design an elective

Curriculum Objectives for Clinical Rotations

I. First Year Curriculum for pediatric trained fellows

A. Pediatric Emergency Medicine

1. Clinical (Addressed Core Competencies: Patient care, Medical knowledge, Interpersonal and communication skills, and Professionalism)

   All first year fellows will
   a) Acquire the core clinical therapeutic decision-making skills to care for the emergency patient with critical or non-critical problems
   b) Acquire the core technical skills to care for pediatric patients of all ages, from infants to young adults
c) Be introduced to the medical-legal and bioethical issues that play a role in the EC

d) Acquire the knowledge and skills to diagnose and manage patients with acute life-threatening problems, that include but not limited to, patients requiring cardiopulmonary resuscitation, stabilization for transport to the pediatric intensive care unit, trauma activation, high level triage, ventilatory support, circulatory support, neurologic support, management for poisonings, management of renal or hepatic failure, and complicated hematologic, infectious and immune problems.

e) Acquire the knowledge and skills specific for acceptance of patient for transport not requiring the use of the critical care transport team: Fellows will be educated about the process of obtaining intake information and documentation of such information and making appropriate triage and administrative decisions regarding acceptance of the patient, including determination of the method of transport, identification of required equipment and staff, and relaying appropriate management and stabilization recommendations prior to transport of the patient.

f) Acquire the ability to interpret laboratory studies essential to the care of the patient

g) Acquire the skills necessary to communicate effectively with other members of the health care team and with patients and their families

h) Use professional behavior in clinical settings

i) Attend and participate in regularly scheduled, multidisciplinary conferences

j) Incorporate Evidence Based medicine principles into clinical practice as they relate to diagnostic testing, therapeutic interventions and prognosis in clinical decision making.

2. Teaching (Addressed Core Competencies: Medical knowledge, Practice-based learning and improvement, Interpersonal and communication skills, and Professionalism)

All first year fellows will

a) Begin to develop skills required to conduct one-on-one teaching of residents and medical students in the ED

b) Begin to develop skills to teach procedural skills

c) Begin to develop skills to teach clinical diagnosis, decision-making, and stabilization skills to the residents and medical students

d) Begin to develop didactic teaching skills: One 50 minute lecture on a topic pertinent to pediatric emergency medicine will be prepared and presented to residents, medical students, and other health care workers

e) Lead small group discussions: One Journal club and one Morbidity and Mortality Conference will be presented by the fellow in the first year of fellowship

3. Administrative (Addressed Core Competencies: Practice-based learning and improvement and Systems-based practice)

All first year fellows will

a) Acquire knowledge of administrative decision-making for disposition of patient in the ED

b) Acquire knowledge on decision-making regarding issues of patient flow-capacity in the ED, ancillary staff availability, and patient volume related management issues
4. **Research (Addressed Core Competencies: Medical knowledge and Practice-based learning and improvement)**

All first year fellows will
a) Be introduced to the field of research applicable to pediatric emergency medicine through literature reviews, journal clubs, and electronic data searches
b) Select an area of activity for a scholarly project and identify a faculty mentor for the project
c) Begin a hypothesis driven project and have complete a timeline for the project
d) Complete certification for research involvement through Baylor college of Medicine or through the National Institutes of Health
e) Submit an IRB proposal for a research project
f) Participate in the acquisition of consent for enrollment of ED patients at Texas Children's Hospital to various projects being conducted through the ED

B. **Pediatric Intensive Care Unit (PICU) (Addressed Core Competencies: Patient care and Medical knowledge)**

1. All PEM fellows will
   a) Learn to evaluate and manage critically ill children, with particular attention to:
      1) The patient in shock
      2) The patient with head trauma
      3) The patient with respiratory failure
   b) Gain experience in procedures such as central line placement, arterial line placement, and intubation
   c) Become familiar with vasoactive and other continuous IV infusion medications as well as medications utilized in the unstable patient to include indications, contraindications, and side effects: These medications should include but are not limited to dopamine, dobutamine, isoproterenol, epinephrine, norepinephrine, amiodarone, fentanyl, vecuronium, versed, ketamine, terbutaline, sodium bicarbonate and naloxone
   d) Review respiratory physiology and become more proficient in initiating treatment for, and managing patients on mechanical ventilation
   e) Review principles of stabilization of patients with cardiovascular disease. This should include acquisition of knowledge and skills to include: electrocardiogram interpretation, appropriate use of cardioversion and defibrillation, and acute treatment of arrhythmias, including SVT.
   f) Review management of endocrinologic emergencies such as diabetic ketoacidosis, adrenal insufficiency, and thyroid storm

2. Responsibilities of the PEM fellow in the PICU include
   a) Participation in all clinical rounds
   b) Assumption of a supervisory role in conjunction with the Critical Care Fellow and under the supervision of the Critical Care Attending
c) Precept pediatric residents on the care of critically ill pediatric patients

C. Pediatric Anesthesia (Addressed Core Competencies: Patient care and Medical knowledge)

1. All PEM fellows will
   a) Augment their knowledge and skill in the intubation of the pediatric airway
   b) Be introduced to the management of the non-intubated paralyzed pediatric patient
   c) Augment their knowledge of neuromuscular blockade, including reversal for neuromuscular blockade in children
   d) Augment their knowledge of the documentation of the anesthesiology intraoperative medical record for the pediatric patient
   e) Augment their knowledge of pre-operative and post-operative evaluation of the pediatric patient undergoing anesthesia
   f) Augment their knowledge of intraoperative care medications, temperature control, and monitoring of pediatric patients undergoing operative care

2. Responsibilities of the PEM fellow in pediatric anesthesia includes
   a) Preoperative evaluation of pediatric patients to whom he/she has been assigned
   b) Intraoperative delivery of anesthesia care and support, including documentation, for pediatric patients to whom he/she has been assigned
   c) Care of patients to whom he/she has been assigned in the Post Anesthesia Care Unit
   d) Postoperative follow-up and evaluation of pediatric patients to whom he/she has been assigned

D. Adult Anesthesia (Addressed Core Competencies: Patient care and Medical knowledge)

1. All PEM fellows will
   a) Augment their knowledge and skill in the intubation of the large (adolescent and adult) airway
   b) Be introduced to the management of the non-intubated paralyzed patient
   c) Augment their knowledge of neuromuscular blockade, including reversal of neuromuscular blockade
   d) Be introduced to the placement of central venous lines above the diaphragm (subclavian, internal-jugular)
   e) Augment their knowledge of the documentation of the anesthesiology intraoperative medical record
   f) Augment their knowledge of pre-operative and post-operative evaluation of the patient undergoing anesthesia
   g) Augment their knowledge of intraoperative care medications, temperature control, and monitoring of patients undergoing anesthesia
   h) Augment their knowledge of the resuscitation of multiple trauma patients
   i) Augment their knowledge of response to resuscitation as part of a “Code” team

2. Responsibilities of the PEM fellow in pediatric anesthesia includes
   a) Preoperative evaluation of patients to whom he/she has been assigned
b) Intraoperative delivery of anesthesia care and support, including documentation, for patients to whom he/she has been assigned

c) Care of patients to whom he/she has been assigned in the Post Anesthesia Care Unit, as well as during specific assigned periods of time in the Post Anesthesia Care Unit

d) Postoperative follow-up and evaluation of patients to whom he/she has been assigned

e) In-house call on the Anesthesiology Service of Ben Taub General Hospital

f) Participation in the Code Blue (resuscitation team) as assigned by the attending Anesthesiology faculty

g) Participation in all conferences scheduled for Anesthesiology Service

E. Child Abuse (Addressed Core Competencies: Patient care, Medical knowledge, and Interpersonal and communication skills)

1. All PEM fellows will
   a) Child Abuse
      1) Outline the significance of history in the evaluation of abuse
      2) Review national statistics related to all categories of abuse
      3) Outline risk factors for abuse
      4) Review and outline documentation in findings of abuse
   b) Neglect
      1) Define neglect
      2) Outline details to determine medical care neglect
   c) Physical abuse
      1) Review physical findings suspicious for abuse
      2) Distinguish between inflicted and accidental trauma
      3) Know the most common fracture types in physical abuse
      4) Review dermatologic findings of abuse
      5) Recognize patterns of injury in children suggestive of abuse
      6) Review recommended evaluation process
   d) Sexual Abuse
      1) Review genital findings suggestive of abuse
      2) Know Joyce Adams criteria
      3) Review appropriate evaluation and management of abuse
      4) Review Forensic evidence kit and collection
      5) Observe forensic interview
      6) Observe court proceedings in cases of child abuse
      7) Discuss the significance of forensic interview
      8) Review the significance of sexually transmitted disease in prepubertal child and adolescent.
   e) Factitious disorder by proxy
      1) Review features of factitious disorder by proxy
      2) Review management plan for this disorder
   f) Domestic Violence
      1) Review statistics on Domestic Violence
      2) Outline the effects of Domestic violence on family and community
      3) Review the effects of domestic violence on children
      4) Recognize common characteristics of violent children
2. Responsibilities of the PEM fellow in Child Abuse
   a) Review normal and abnormal genital findings in the context of the Sexual Assault Examination
   b) Review range of physical and radiographic findings in context of the Physical Assault Examination
   c) Review the mediocolegal aspects of Child Abuse reporting (eg. documentation, testimony)
   d) Review Domestic Violence as it relates to Child Abuse
   e) Attend Domestic Violence class and visit shelter
   f) Evaluate cases of abuse with the Child Protection Consult Service
   g) Attend court proceedings for child abuse cases
   h) Observe forensic interview of a child
   i) Participate in Child Abuse Team weekly meetings
   j) Contribute at least two articles to ongoing Child Abuse reading list
   k) Develop an educational case presentation on specific case of child abuse
   l) Assist in development of Child Abuse Elective to be implemented for PEM fellowship program during 2006 academic year.
   m) Complete self-assessment evaluation pre and post elective.

F. Radiology (Addressed Core Competencies: Medical knowledge, Patient care, Interpersonal and Communication Skills)

1. Goals for PEM fellows
   a) Recognize the basic radiographic principles, procedures and policies pertinent to Emergency radiology
   b) Observe and, when appropriate, assist in the interpretation and performance of radiologic examinations and procedures pertinent to Emergency Medicine
   c) Appropriately use the radiologist as a consultant in the evaluation of emergency department patients

2. At the completion of this rotation, PEM fellows will be able to
   a) Discuss the various imaging modalities applicable to the evaluation of acutely ill and injured patients
   b) Discuss the indications for specific imaging examinations/procedures and their proper sequence in the evaluation of acutely ill or injured patients
   c) Discuss the indications and contraindications of various contrast agents used in the radiographic evaluation of acutely ill or injured patients
   d) Discuss radiation safety and standard radiation protection measures

3. Responsibilities of PEM fellow in radiology
   a) Completion of modules on the Center for Online Medical Education and Training Pediatric Radiology Curriculum
   b) Observation of the performance of radiologic examinations and procedures by pediatric radiologists and observation of the interpretation of radiologic examinations by pediatric radiologists 5 to 6 times during the course of the rotation
G. Toxicology (Addressed Core Competencies: Medical knowledge, Patient care, Interpersonal and Communication Skills)

The PEM fellows’ toxicology rotation is at University of Texas Medical Branch-Poison Center, the oldest and most established poison center in the region.

1. All PEM fellows will
   a) Gain exposure to and experience in the management of patients who present with poisoning and drug overdose
   b) Gain exposure to the concepts of clinical pharmacology and clinical toxicology, which are important in the treatment of poisoning and drug overdose
   c) Be able to diagnose and manage patients with acute exposure to hazardous materials
   d) Be able to appropriately use the resources available at the Poison Control Center
   e) Act as a physician consultant for Poison Control Center calls

2. Responsibilities of the PEM fellow in toxicology:
   a) On the Toxicology rotation, the PEM fellow will be part of the Toxicology consulting service. They will actively be involved in consultations on both emergency patients and in-patients, especially overdose patients. They will consult on in-patients with complicated clinical pharmacological problems. They will learn pharmacokinetics and learn to apply a computer pharmacokinetics program to specific patient problems.
   b) During this one-month rotation, they will spend a significant portion of their time in the Poison Control center. The fellow will be expected to be present for 20 eight-hour shifts. The first one to two days will be spent in orientation with John Thompson, MS, DABAT, Director of the UTMB-Poison Center, or his designee. During this time they will receive an orientation package of written information on how to handle incoming calls. They will then spend time monitoring incoming calls to the Poison Center. The Poison Control Center contains extensive reference texts on Toxicology and Pharmacology as well as Poisondex and other poisoning data banks. The UTMB-Poison Control Center in 2004 received 98,148 total calls, half of which pertained to poisonings and exposures with the other half being information calls (e.g. medication identification and information). The center serves over 6 million people. No overnight call are expected. The resident will also be expected to generate a written report, which he/she will present at the Toxicology conference at the end of the month. This report will be a review of a toxicologic topic selected by the fellow in consultation with Dr Snodgrass, Medical Director of Poison Control Center.

3. The Poison Center is located on the third floor of the UTMB trauma building, one floor above the UTMB-Emergency Department. The center is roughly 1500 square feet and consists of seven workstations including one, which is used by the director of the Poison Center. The unit is staffed by 13 Certified Specialists in Poison Information (CSPI). Each shift is covered by a minimum of 2 and a maximum of 4 specialists.

H. Adult Medicine (see section IV)
II. Second Year Curriculum for pediatric-trained fellows

A. Pediatric Emergency Medicine

1. Clinical (Addressed Core Competencies: Patient care, Medical knowledge, Interpersonal and communication skills, and Professionalism)

All second year fellows will
a) Further develop and refine the core clinical therapeutic decision-making skills to care for the emergency department patient whether critical or non-critical
b) Further develop and refine the core technical skills to care for pediatric patients of all ages, from infants to young adults
c) Advance their knowledge of the medical-legal and bioethical issues that play a role in the EC
d) Further develop and refine their knowledge and skills to diagnose and manage patients with acute life-threatening problems, that include but not limited to, patients requiring cardiopulmonary resuscitation, stabilization for transport to the pediatric intensive care unit, trauma activation, high level triage, ventilatory support, circulatory support, neurologic support, management for poisonings, management of renal or hepatic failure, and complicated hematologic, infectious and immune problems
e) Further develop and refine their knowledge and skills specific for acceptance of patient for transport not requiring the use of the critical care transport team: Fellows will be educated about the process of obtaining intake information and documentation of such information and making appropriate triage and administrative decisions regarding acceptance of the patient, including determination of the method of transport, identification of required equipment and staff, and relaying appropriate management and stabilization recommendations prior to transport of the patient.
f) Further develop and refine their ability to interpret laboratory studies essential to the care of the patient
g) Continued attendance and participation in regularly scheduled, multidisciplinary conferences.
h) Participate in the development of Critical Appraisal Topics that integrate the best current evidence with clinical practice.

2. Teaching (Addressed Core Competencies: Medical knowledge, Practice-based learning and improvement, Interpersonal and communication skills, and Professionalism)

All second year fellows will
a) Further develop and refine skills to conduct one-on-one teaching of residents and medical students in the ED
b) Further develop and refine skills to teach procedural skills
c) Further develop and refine skills to teach clinical diagnosis, decision-making, and stabilization skills to the residents and medical students
d) Further develop and refine didactic teaching skills: Each fellow will prepare and present one 50-min clinical lecture to the pediatric residents, medical students, and other health care staff, and one 50-min lecture to the PEM section

e) Lead small group discussions: One Journal club and one Morbidity and Mortality Conference will be presented by the fellow in the second year of fellowship

3. Administrative (Addressed Core Competencies: Practice-based learning and improvement and Systems-based practice)

All second year fellows will
a) Gain further knowledge of administrative decision-making for disposition of patient in the ED, understanding issues of admission and appropriate location in the hospital for a particular patient to be admitted
b) Gain further knowledge of on decision-making regarding issues of patient flow-capacity in the ED, ancillary staff availability, and patient volume related management issues.
c) Develop understanding of diagnosis/treatment coding and billing

4. Research (Addressed Core Competencies: Medical knowledge and Practice-based learning and improvement)

All second year fellows will
a) By the end of year 2, have submitted a case report to a national journal or nationally recognized fellowship case review competition
b) Have participated in active enrollment for the fellow’s research study
c) Have successfully completed (as evidenced by a passing score) the Fundamentals of Clinical Investigation Course at Baylor College of Medicine
d) Understand grant application processes by participating in workshops and/or didactic teaching of such processes.

B. Orthopedics (Addressed Core Competencies: Patient care and Medical knowledge)

1. Goals for the PEM fellow
a) Evaluate and manage orthopedic problems presenting to the ED.
b) Learn the appropriate radiographic evaluation of patients with orthopedic problems.
c) Gain knowledge in the interpretation of orthopedic radiographs.
d) Learn the appropriate use of orthopedic consultation in the ED.
e) Gain an appreciation of the practice style of our orthopedic colleagues

2. At the completion of this rotation, PEM fellows will be able to
a) Perform a thorough orthopedic history and physical exam, as well as a joint specific orthopedic history and examination
b) Demonstrate competence in a thorough examination, including the neurovascular examination, of an injured extremity
c) Perform common splinting, casting and other immobilization techniques, including those for emergent reductions necessary for neurovascuarly compromised injuries
d) Become familiar with simple reductions including finger dislocations, nursemaid’s elbow, patellar dislocation and shoulder dislocation

e) Discuss three different techniques for the reduction of an acute shoulder dislocation and perform at least one technique

f) Diagnose and manage low back pain and neck pain syndromes in adolescents

g) Appropriately use diagnostic radiography in the evaluation of orthopedic problems

h) Be able to appropriately classify pediatric fractures into the Salter-Harris Classification System

i) Describe a fracture from a radiograph using the standard orthopedic terminology including the following: fracture type, comminution, angulation, displacement, impaction, and articular surface involvement

j) Describe and differentiate the following fracture types: complete, incomplete, greenstick, closed, open, impacted, avulsion, pathologic, oblique, spiral and transverse

k) Perform physical examination and requisite testing for skeletal infections, e.g. osteomyelitis, discitis, septic arthritis

l) List the most likely organisms involved in osteomyelitis and describe the general principles of treatment

m) Describe the common mechanism of injury, clinical findings, radiographic findings, and potential complications with Emergency Department management of common and uncommon orthopedic injuries

n) Gain experience in arthrocentesis

o) Describe the appropriate orders for the laboratory analysis of joint fluid and utilize the results of joint fluid to categorize the fluid as normal, inflammatory, hemorrhagic or septic

p) Recognize and evaluate hip problems e.g. septic arthritis, toxic synovitis, Legg-Calve-Perthes disease, slipped capital femoral epiphysis

q) Discuss the indications, potential complications, and techniques for reducing common orthopedic dislocations

r) Become familiar with common outpatient problems e.g. sprains, strains, Osgood-Schlatter’s disease, chondromalacia

3. Responsibilities of the PEM fellow in orthopedics

a) Attendance of the weekly pediatric orthopedic clinic at Ben Taub General Hospital

b) Attendance of the weekly fracture clinic at Texas Children’s Hospital

c) Take evening call with the orthopedic resident on call for consults in the Ben Taub ED

d) PEM fellows are NOT responsible for taking overnight call and Friday, Saturday, and Sunday call

C. Adult Trauma (see section IV)

III. Third Year Curriculum for pediatric trained fellows
A. Pediatric Emergency Medicine

1. Clinical

All third year fellows will be given the opportunity to further enhance their clinical skills with the Extra Hours Experience Elective (see goals and objectives in III.D.1)

2. Teaching (Addressed Core Competencies: Medical knowledge, Practice-based learning and improvement, Interpersonal and communication skills, and Professionalism)

All third year fellows will
a) Refine didactic teaching skills: Each fellow will prepare and present one 50-min clinical lecture to the pediatric residents, medical students, and other health care staff, and one 50-min lecture to the PEM section
b) Refine skills in leading small group discussions: One Journal club and one Morbidity and Mortality Conference will be presented by the fellow in the third year of fellowship

3. Administrative (Addressed Core Competencies: Practice-based learning and improvement and Systems-based practice)

All third year fellows will
a) Refine knowledge of administrative decision-making for disposition of patient in the EC, issues of admission and where in hospital the patient should be admitted
b) Refine knowledge of and autonomy in decision-making requiring issues of patient flow-capacity of EC, number of nurses, volume
c) Develop expertise in reimbursement methodologies as well as coding and billing

4. Research (Addressed Core Competencies: Medical knowledge and Practice-based learning and improvement)

All third year fellows will
a) Have participated regularly in the Baylor Pediatric Emergency Medicine Research Didactic Lecture Series (over the course of the 3 years of training) and successfully completed (as evidenced by a passing grade) all problem set assignments
b) Participate in the data analysis of their project
c) Have submitted a second case report to a national journal or nationally recognized fellowship case review competition (if the first attempt was not selected for publication or presentation)
d) Submit a written manuscript of their completed scholarly project

Third year fellows will be encouraged to
a) Write and submit a grant application for funding of a research project
b) Present in poster or podium format, an abstract of the fellow’s own scientific work at a regional or national forum

**B. Pediatric Trauma OR Procedures (Addressed Core Competencies: Patient care, Medical knowledge, and Interpersonal and communication skills)**

1. Pediatric Trauma Goals for the PEM fellow
   a) Appropriately evaluate and manage the multiply injured child
   b) Function effectively as a member of the pediatric trauma team
   c) Develop the manual skills necessary for emergency surgical intervention in the pediatric trauma patients
   d) Appropriately perform procedures and acquire skills necessary to manage the pediatric patient with multiple trauma

2. At the completion of this rotation, PEM fellows will be able to
   a) Recognize and respond appropriately to life- and limb- threatening injuries
   b) Evaluate and manage the multiply injured pediatric patient appropriately
   c) Manage pediatric resuscitation
   d) Appropriately manage the airway of an acutely injured pediatric patient
   e) Obtain rapid vascular access in the critically ill child
   f) Recognize and manage emergency surgical conditions in the injured pediatric patient
   g) Discuss the indications, contraindications, and the procedure of diagnostic peritoneal lavage
   h) Appropriately use consultants for evaluation of the multiply injured pediatric patient
   i) Discuss the indications for the approach to emergency thoracotomy
   j) Compassionately interact with pediatric patients and the families of ill children
   k) Assist in managing and supervising junior residents and medical students in the evaluation of pediatric patients

3. Responsibilities of the PEM fellow in Pediatric Trauma
   The PEM fellow, while on the Pediatric Trauma Team, will work a minimum of fourteen 8 hour shifts in the month and will have responsibility along with the other members of the Pediatric Trauma Team in caring for the Pediatric Trauma patient.

4. Procedures Goals for the PEM fellow
   a) Assess various clinical situations and determine the appropriate procedures to perform
   c) Improve clinical skills in performing procedures common in the practice of pediatric emergency medicine
   d) Develop efficiency in the performance of these procedures
   e) Consult subspecialty services in appropriate cases

5. At the completion of the Procedure rotation, PEM fellows will
   a) Determine the appropriate procedures to perform in given clinical situations
   b) Apply the principles of wound care, including the selection of proper irrigation solutions, suture materials, and suture techniques
   c) Perform neurovascular examination of the effected appendage(s)
d) Use appropriate medications for local anesthesia and sedation

e) Use appropriate sedation and restraint measures to aid in the performance of procedures

f) Consult subspecialty services for procedures in situations requiring subspecialty services

g) Apply laceration repair principles to include:
   i) Simple interrupted sutures
   ii) Vertical mattress sutures
   iii) Horizontal mattress sutures
   iv) Running sutures
   v) Corner sutures
   vi) Nail bed laceration repair
   vii) Tongue laceration repair
   viii) Vermilion border repair

h) Use local anesthetic blocks for appropriate clinical situations:
   i) Infraorbital nerve block
   ii) Mental nerve block
   iii) Inferior alveolar nerve block
   iv) Foot nerve blocks (e.g. sural)

6. Responsibilities of the PEM fellow in Procedures

The PEM fellow will work 12 shifts (2 12hr/weekends, 9 8hr/weekdays, and 1 12hr overnight shift in Labor & Delivery) in the TCH ED/Ben Taub Labor & Delivery (L&D) and will be responsible for performing procedures required for routine patient care in the ED and L&D.

C. EMS (see section IV)

D. Extra Hours Experience

This clinical opportunity is offered only to fellows in their 3rd year of training after they have satisfactorily completed all PEM clinical requirements in the first two years of fellowship. Fellows may opt to take this opportunity to maintain clinical skills during a primarily research year of their fellowship.

1. Clinical (Addressed Core Competencies: Patient care, Medical knowledge, Interpersonal and communication skills, and Professionalism)

   All third year fellows will
   a) Further refine their core clinical therapeutic decision-making skills to care for the emergency department patient whether critical or non-critical
   b) Further refine their core technical skills to care for pediatric patients of all ages, from infants to young adults
   c) Further refine their knowledge of the medical-legal and bioethical issues that play a role in the ED
   d) Further refine their knowledge and skills to diagnose and manage patients with acute life-threatening problems, that include but not limited to, patients requiring
cardiopulmonary resuscitation, stabilization for transport to the pediatric intensive care unit, trauma activation, high level triage, ventilatory support, circulatory support, neurologic support, management for poisonings, management of renal or hepatic failure, and complicated hematologic, infectious and immune problems.

e) Further refine their knowledge and skills specific for acceptance of patient for transport not requiring the use of the critical care transport team: Fellows will be educated about the process of obtaining intake information and documentation of such information and making appropriate triage and administrative decisions regarding acceptance of the patient, including determination of the method of transport, identification of required equipment and staff, and relaying appropriate management and stabilization recommendations prior to transport of the patient.

f) Further refine their ability to interpret laboratory studies essential to the care of the patient.

g) Further develop autonomy in assuring efficient throughput of an Emergency Department and management of all clinical care issues.

2. Teaching (Addressed Core Competencies: Medical knowledge, Practice-based learning and improvement, Interpersonal and communication skills, and Professionalism)

All third year fellows will
a) Refine skills to lead teaching one-on-one in the EC with pediatric residents and medical students
b) Refine skills to teach procedural skills
c) Refine skills to teach clinical diagnosis, decision-making, and stabilization skills to the residents and medical students
d) Teach clinical decision making and how to integrate Evidence Based Medicine principles into the clinical care process.

3. Administrative (Addressed Core Competencies: Practice-based learning and improvement and Systems-based practice)

All third year fellows will
a) Refine knowledge of administrative decision-making for disposition of patient in the EC, issues of admission and where in hospital the patient should be admitted
b) Refine knowledge of and autonomy in decision-making requiring issues of patient flow-capacity of EC, number of nurses, volume
c) Develop expertise in reimbursement methodologies as well as coding and billing

IV. Four months of adult training at University of Texas Memorial-Hermann Hospital (ACGME accredited Emergency Medicine Residency Program)*

*It is mandatory per the American Board of Pediatrics (ABP) and American Board of Emergency Medicine (ABEM) that PEM fellows do four months of training with an accredited emergency medicine program. The four months in our curriculum that satisfy this requirement are: Adult Emergency Medicine x 1 month, Adult Trauma x 2 months, and EMS x 1 month.
A. **Adult Emergency Medicine (Addressed Core Competencies: Patient care, Medical knowledge, Interpersonal and communication skills, and Professionalism)**

1. Goals for the PEM fellows
   a) Demonstrate appropriate prioritization, evaluation, and management of patients presenting to the Adult Emergency Department for care
   b) Interact with consultants in a mature manner
   c) Practice efficient, clear, and thorough chart documentation
   d) Interact appropriately with the patient’s family and primary care physician
   e) Provide timely, competent care.
   f) Gain familiarity in the evaluation and stabilization of patients with chest pain
   g) Review ACLS protocols
   h) Gain familiarity in common adult problems seen in the EC and be able to evaluate and stabilize patients with these problems
   i) Evaluate and treat common gynecologic problems
   j) Act as a resource to physicians in the Adult EC concerning the treatment of pediatric patients

2. Upon completion of the rotation, the fellow will be able to
   a) Effectively evaluate and stabilize adult patients that present with chest pain
   b) Gain a higher level of comfort in the management of common adult problems seen in the EC and be able to evaluate and stabilize that patient
   c) Perform emergency procedures under the direct supervision of the Emergency Medicine Senior Resident or faculty attending
   d) Utilize referral mechanisms appropriately
   e) Interact knowledgeably and professionally with pre-hospital care providers, nurses, consultants, patients and their family members in the EC.

3. Responsibilities of the PEM fellow in Adult Emergency Medicine:
   PEM fellows will work fourteen 12-hour shifts (10 weekdays and 4 weekends) if not on vacation and ten 12-hour shifts (8 weekdays and 2 weekends) if on vacation during this one-month rotation. PEM fellows are supervised by the emergency medicine attending or third year emergency medicine resident during their shifts. All patient care is discussed with the supervising faculty or senior resident before tests are ordered or treatment is begun. The PEM fellow participates in the management of any adult patient in the emergency center. The fellow attends the core didactic lecture series for PEM during this month.

B. **Adult Trauma (Addressed Core Competencies: Patient care, Medical knowledge, Interpersonal and communication skills, and Professionalism)**

1. Goals for the PEM fellows
   a) Appropriately evaluate and manage of the multiply injured patient
   b) Function effectively as a member of the trauma team
   c) Develop the manual skills necessary for emergency surgical intervention in the trauma patients
d) Correctly perform procedures and skills necessary to manage the patient with multiple trauma

2. Upon completion of the rotation, the fellow will be able to
   a) Recognize and respond appropriately to life- and limb- threatening injuries
   b) Evaluate and manage the multiply injured patient appropriately
   c) Appropriately manage the airway of an acutely injured patient
   d) Rapidly obtain intravascular access in the multiply injured patient
   e) Discuss the indications, contraindications, and the procedure of diagnostic peritoneal lavage
   f) Appropriately use consultants on the multiply injured patient
   g) Discuss the indications for the approach to emergency thoracotomy

3. Responsibilities of the PEM fellow in Adult Trauma:
   PEM fellows will work fourteen 12-hour shifts (10 weekdays and 4 weekends) if not on vacation and ten 12-hour shifts (8 weekdays and 2 weekends) if on vacation during this one month rotation. The PEM fellow will have responsibility along with the other members of the trauma team in caring for the trauma patient. The fellow will participate in the trauma evaluation of approximately ten new trauma patients per day. A Third year or higher surgical resident, emergency medicine attending, or trauma attending will supervise the PEM fellow. The fellow attends the core didactic lecture series for PEM during this month

C. Emergency Medical Services (EMS) (Addressed Core Competencies: Patient care, Medical Knowledge, and Systems-based practice)

The PEM fellows’ Emergency Medical Services (EMS) rotation is with the City of Houston-EMS, Dr. David Persse, Houston Fire Department Medical Director; the EMS rotation is coordinated by Dr. Manish Shah

1. Goals for the PEM fellows
   a) Gain knowledge about the history of the development of EMS, nationally through 2 supplemental readings: the 2007 IOM Reports (“Emergency Medical Services at the Crossroads” and “Emergency Care for Children: Growing Pains”)
   b) Gain knowledge about the operations and system configuration of our local EMS system through observation of 911 Dispatch at the Houston Emergency Center (HEC), the telemetry station, and the Houston Fire Department (HFD) medical directors’ meetings.
   c) Gain knowledge about the training and certification process for different levels of EMS personnel by observing Emergency Medical Technician (EMT) testing (aka “Plan A”) and by observing one and delivering one lecture to either EMT basics and/or paramedics
   d) Develop a working knowledge of the components of the EMS system including the communication system through observation at HEC
Develop a working knowledge of the local pre-hospital care through review of the HFD EMS protocols (http://www.hfdmd.org/HFD2007Protocols.pdf) and observation on ride alongs with EMTs and medical directors.

Gain familiarity with medical-legal issues in pre-hospital care through observation at the HFD medical directors’ meetings.

Gain exposure to governmental, regulatory and fiscal issues related to EMS through observation at the HFD medical directors’ meetings and any local, regional, and state meetings that may occur during the month.

Gain knowledge about the principles of disaster planning and disaster management through observation of the Hazardous Materials (HAZ-MAT) crew, on-line National Incident Management System (NIMS) training, and supplemental reading of 2 articles: “A Makeshift Shelter for the Storm: An Evaluation of Pediatric Disaster Preparedness in Texas” and “Pediatric Terrorism Preparedness: National Guidelines and Recommendations”

2. Upon completion of the rotation, PEM fellow will be competent to:
   a) Discuss governmental regulations, which define and regulate pre-hospital medical care
   b) Demonstrate knowledge of state, county, and local EMS structure and function
   c) Describe the difference between EMT basic and paramedic training requirements and scope of practice
   d) Discuss the organization and function of the base station and its interaction with the receiving facilities
   e) Describe the duties of the base station medical control physician
   f) Discuss the HFD EMS Treatment Protocols
   g) Describe the dispatch and communication system operative in Harris County and specially in the HFD EMS system
   h) Prepare and deliver lectures to EMTs (basic or paramedic)
   i) Interact with all members of the pre-hospital care system in an informed, professional manner
   j) Describe the function of an EMS Medical Director in both on-line and off-line medical control
   k) Discuss medical-legal issues of liability and refusal of care
   l) Describe the Quality Assurance mechanism used by the HFD EMS system
   m) Discuss disaster scene management and disaster planning
   n) Demonstrate appropriate techniques for victim extrication and immobilization at a trauma scene

3. Responsibilities of the PEM fellow in EMS:
   a) Attend an orientation with Dr. Chris Souders, Associate Medical Director for the Houston Fire Department, during the first week of the rotation (4 hours)
   b) Complete 8 ride alongs with prehospital professionals and receive one written evaluation during each shift (8 hours each = 64 hours):
      a. EMT-Basic (8hrs x1)
      b. EMT-Paramedic (8hrs x2)
      c. Paramedic Supervisor (8hrs x2)
      d. Physician Medical Director (8hrs x2)
e. Hazardous Materials Crew (8 hrs x1)
c) Attend the HFD medical directors' meetings on the 1st and 3rd Mondays of the month, from 1-4 pm (6 hours)
d) Observation of the local EMS infrastructure at work (20 hours)
   a. Telemetry (4 hrs x2)
   b. 911 Dispatch at HEC (6 hrs x2)
e) Participate in local EMT education and testing (6 hours)
   a. Observe one “Plan A” test (2 hrs x1)
   b. EMT Basic and Paramedic lectures (2hrs x2; observe one and teach one)
f) Read provided supplemental information
   a. Institute of Medicine Reports ("Emergency Medical Services at the Crossroads" and "Emergency Care for Children: Growing Pains")
   b. HFD EMS Protocols
   c. 2 articles on Pediatric Disaster Preparedness

Complete online NIMS training by going to http://www.fema.gov/emergency/nims/nims_training.shtm

V. First Year Curriculum for emergency medicine trained fellows

A. Pediatric Emergency Medicine (see section I.A.)

B. PICU (see section I.B.)

C. Pediatric Anesthesia (see section I.C.)

D. Neonatology (NICU) (Addressed Core Competencies: Patient care and Medical knowledge)

By the end of the rotation the PEM fellow will acquire expertise in:
   a) The stabilization of the premature neonate including umbilical arterial catheter (UAC), umbilical vein catheter (UVC) line placement, and endotracheal intubation
   b) Ventilator management of the NICU patient
   c) Assessment, diagnosis and treatment of common infectious diseases in the neonate
   d) Nutritional assessment and support of the infant
   e) The common sequelae in the NICU graduate and how it may impact health during childhood

E. Pediatric Cardiology (Addressed Core Competencies: Patient care and Medical knowledge)

By the end of the rotation the PEM fellow will develop competence in:
   a) Physical examination of the child with a cardiovascular complaint
   b) Evaluation of the child presenting with a heart murmur
   c) Diagnosis of infant presenting in congestive heart failure
   d) Interpretation of pediatric electrocardiograms
   e) Evaluation and management of complications found in the post-operative pediatric cardiology patient
F. Developmental (Addressed Core Competencies: Patient care and Medical knowledge)

Upon completion of the rotation, the PEM fellow will develop:

a) Familiarity with normal development in infants and children
b) Competence in recognizing departures from normal development
c) Competence in the recognition of the developmentally delayed child
d) Knowledge of resources available for developmentally delayed children

VI. Second Year Curriculum for emergency medicine trained fellows

A. Pediatric Emergency Medicine (see section II.A.)

B. Pediatric Infectious Disease (Addressed Core Competencies: Patient care and Medical knowledge)

By the end of the rotation, the PEM fellows will have expertise in the evaluation, diagnosis and management of:

a) The febrile infant, specifically understanding the risks of serious bacterial illness and the need for inpatient versus outpatient management
b) Common bacterial illnesses, including meningococcemia, staphylococcal and streptococcal disease
c) Viral exanthems including varicella, erythema infectiosum, hand foot mouth disease, roseola, and rubella
d) The child with meningitis, specifically the emergent management of patients with meningitis. The resident will focus on the differentiation of viral versus bacterial meningitis, and the risks, complications and treatments of each.
e) Infectious illnesses in the immunocompromised host
f) The child with fever of unknown origin
g) Common chest infections, including but not limited to bronchiolitis, pneumonia, empyema, pneumonitis, and tuberculosis
h) Kawasaki disease, specifically understanding the emergent evaluation and management of patients suspected of having Kawasaki disease

C. Pediatric Neurology (Addressed Core Competencies: Patient care and Medical knowledge)

During this rotation the PEM fellows will:

a) Gain competency in completing the age-appropriate neurologic examination of the child
b) Develop an appreciation for normal and abnormal neurodevelopment
c) Gain knowledge in the evaluation and treatment (both emergent and chronic) of the child with seizure disorder
d) Gain knowledge in the approach to the diagnosis and treatment of the child presenting with altered mental status or coma
e) Gain knowledge in the approach to the child presenting with other common neurologic complaints, including headache, visual disturbance, movement disorders, syncope, ataxia, and pseudotumor cerebri

D. Child Abuse (see section I.E.)

VII. Elective rotations for PEM fellows

A. Administrative Elective Objectives

During this rotation, the PEM fellow will:

a) Gain familiarity with JCAHO Quality Improvement requirements for hospital emergency departments.
b) Gain familiarity with reimbursement patterns and their impact on the provision of emergency medical services.
c) Gain familiarity with state and federal laws which impact emergency care delivery (EMTALA/COBRA).
d) Participate in the quality assurance activities of the Emergency Medicine Section.
e) Participate in seminars for pediatric emergency medicine fellows, which will introduce the fellows to concepts, issues, and skills related to the administration of an emergency department such as medical-legal issues, public relations, facilitating group discussions, budgeting, planning, and child advocacy.
f) Serve on a hospital committee or community EMS committee as a representative of the Emergency Medicine Group.
g) Work on a project related to Emergency Department Administration and bring some resolution to an administrative issue.

B. Adolescent Medicine/Gynecology Objectives

During this rotation, the PEM subspecialty fellow will become competent in:

a) Performing the pelvic examination with special attention to the recognition and treatment of:
   1) Abnormal vaginal bleeding
   2) Sexually transmitted diseases
   3) Vaginal discharge
   4) Dysmenorrhea
   5) Pregnancy and threatened abortion
b) Performing the examination of the female external genitalia, including the recognition of:
   1) Hydrocolpos
   2) Hematocolpos
   3) Labial adhesions
   4) Genital warts
   5) Sexual abuse
c) Performing the examination of the male external genitalia, including the recognition and treatment of:
1) Sexually transmitted diseases
2) Sexual abuse
3) Epididymitis
4) Balanitis, phimosis, paraphimosis
5) Testicular torsion
d) Performing the examination and treatment of the sports-related injury, including:
   1) Sprains and strains
   2) Over-use injuries
e) Evaluating the drug-intoxicated patient, including those with suicidal ideation.

C. Adolescent Medicine/Sports Medicine Objectives

During this rotation, the PEM fellow will gain knowledge in:
i) Examination and treatment of sports-related injury.
   1) Knee injury
   2) Shoulder injury
   3) Elbow injury
   4) Over-use injuries
j) Specific disease management (if available)
   1) Osgood-Schlatter
   2) Slipped capital femoral epiphysis
k) Specific issues pertaining to the pediatric athlete.
   1) Back pain
   2) Muscle strain
   3) Hydration and training

D. Dermatology Objectives

During this rotation, the PEM fellow will:
a) Define and appropriately use basic dermatologic terminology in clinical practice.
   These terms include but are not limited to:
   1) Macule
   2) Papule
   3) Plaque
   4) Nodule
   5) Bullae
   6) Vesicle
   7) Wheal
   8) Scale
   9) Crust
   10) Purpura
   11) Erosion
   12) Fissure
   13) Ulcer
   14) Lichenification
b) Gain familiarity with the dermatologic presentations and management of common childhood diseases and conditions, including:
1) Viral diseases, including rubeola, herpes simplex, and varicella zoster
2) Bacterial disease including folliculitis, abscess, erysipelas, impetigo, and Stevens-Johnson syndrome
3) Fungal diseases including tinea capitis, tinea corporis, tinea pedis, and tinea versicolor
4) Parasitic diseases, including scabies and pediculosis
5) Viral warts and molluscum
6) Toxic epidermal necrolysis
7) Necrotizing fasciitis
8) Dermatitis and eczema
9) Acne
10) Vasculitis, including HSP

f) Gain familiarity with basics of dermatological therapy, including the use of emollients, compresses, anti-microbials, anti-virals, and corticosteroids

E. Neurosurgery Objectives

During this rotation, the PEM fellow will:

a) Gain competency in recognition and treatment of increased intracranial pressure.
b) Develop proficiency in diagnosing and treating neurologic shock.
c) Gain proficiency in performing a functional neurological exam.
d) Gain proficiency in the use of the GCS (Glasgow Coma Scale) and children's coma scales.
e) Gain experience in evaluation, stabilization, and treatment of head and spinal cord injuries; skull fracture - linear, depressed, open; C-spine - fracture, subluxation, dislocation; concussion.
f) Improve skill in the ordering and interpretation of head CT scans, MRIs, skull films, and C-spine films, including flexion/extension C-spine films.
g) Gain familiarity with evaluation of shunts for malfunction and infection.
h) Understand the indications of emergent procedures, such as ventricular tap, shunt tap, etc.
i) Discuss particulars of intubation of head injured child (pharmacologic aspects).

F. Ophthalmology Objectives

During this rotation, the fellow will:

a) Gain familiarity with the recognition and management of common eye trauma:
   1) Hyphema
   2) Globe penetration
   3) Corneal abrasion or burn
   4) Foreign body
   5) Lid lacerations
   6) Retinal hemorrhage
b) Gain familiarity with the recognition and management of other common eye problems, such as:
   1) Contact lens-related problems
   2) Conjunctivitis
3) Glaucoma
4) Iritis
5) Blocked nasolacrimal duct
6) Pre-septal and septal cellulitis
7) Papilledema
8) Amblyopia
c) Gain familiarity with the following techniques:
   1) Fluorescein examination
   2) Lid eversion
   3) Cycloplegia/Dilation Eye irrigation
   4) Eye patching
   5) Visual acuity assessment
   6) Removal of superficial foreign bodies
d) Gain proficiency in the use of a slit lamp.

G. Otolaryngology Objectives

During this rotation, the fellow will:
a) Gain proficiency with foreign body removal from the ear, nose, and esophagus.
b) Gain proficiency in recognizing and treating common ENT problems, such as:
   1) Otitis media and otitis externa
   2) Septal hematoma
   3) TM perforation
   4) Hemotympanum
   5) Cholesteatoma
   6) Soft palate lacerations
   7) Peritonsillar and retropharyngeal abscesses
   8) Torticollis
   9) Facial paralysis
   10) Caustic ingestions
   11) Sinusitis
   12) Stridor
   13) Post-T&A bleeding
   14) Adenitis
   15) Inflammatory conditions of the airway, including tracheitis, epiglottitis, laryngotracheobronchitis
c) Gain familiarity with common ENT procedures, such as nasal packing, myringotomy, cauterization.
d) Proficiently treat patients with epistaxis.
e) Gain familiarity with tracheostomy care.
f) Develop proficiency in the techniques of cerumen removal from the external ear canal.
g) Participate in ENT clinic and assist in operating room as appropriate. Suggested procedures include endoscopy, laryngoscopy, and tracheostomy.

H. Pediatric Cardiology Objectives (see section V.E.)
I. Pediatric Dentistry Objectives

During this rotation, the PEM fellow will develop skills in the performance of the following:

a) The performance of intraoral and extraoral examinations.
b) The assessment of oral trauma with particular attention to what clinical situations demand dental referral and/or follow-up.
c) The diagnosis and treatment of gingivostomatitis.
d) The diagnosis and management of perioral infection/inflammation including sinusitis, sialoadenitis, and Ludwig's angina.
e) Assessing intraoral lesions as they provide clues to systemic diseases, including varicella, Herpes zoster, measles, syphilis, Crohn's disease.
f) Skills to acquire: Temporomandibular joint dislocation reduction and tooth reimplantation.

J. Pediatric Injury Objectives

During this rotation, the PEM fellow will

a) Understand the scope of pediatric injury and its impact on the practice of pediatrics and pediatric emergency medicine.
b) Understand the role and obstacles of pediatric injury surveillance.
c) Understand the different modes of pediatric injury prevention
   1) Education and its impact/drawbacks
   2) Legislation and its impact/drawbacks
d) Complete portfolio tasks
   1) Demonstrate core elements of the Haddon matrix
   2) Review the history of EMS-C and demonstrate accomplishment of this goal by selecting one article or description of EMS-C from published literature
   3) Review of the national data from the EMSC data center for injuries
   4) Visit the Museum of Human and Health and Science’s exhibit on “Injuries”
   5) Visit a car safety seat “rally” (optional)
   6) Describe the scope of one topic (see topic areas below) as it relates to political dilemmas, legislative efforts, and major campaigns for injury prevention.
   7) Prepare a lecture OR write a protocol to be submitted to the IRB in an area of pediatric injury
      a. In your lecture/portfolio, be prepared to summarize your month of study (i.e. what is new in injury prevention).

e) Consider different topics pertinent to child injury prevention
   1) Car seat safety
   2) Traffic Safety (i.e. 20 mph speed limits around schools)
   3) Bike helmets
   4) Swimming pool safety
   5) Toxic Exposures or ingestions
      a. Carbon monoxide poisoning
      b. Suicide attempts/gestures
6) Injuries around the home
   a. Burns (hot water heaters)
   b. Falls
   c. Poison/Toxins exposures
   d. Smoke detectors
7) Sports related injuries and particular problem areas
   a. Football equipment (C-spine injuries)
   b. Baseball equipment (Commotio cortis)
   c. Winter Sports (i.e. ski helmets)
   d. Horse-back riding (i.e. break-away stirrups, cowboy’s neck guards)

K. Plastic/Hand Surgery Objectives

   During this rotation, the PEM fellow will become proficient in:
   a) Assessment of traumatic injuries, including human and animal bites.
   b) The principles of wound care, including the selection of proper irrigation solutions,
      suture materials and suture techniques.
   c) Assessment and management of burn injuries, including electrical injuries.
   d) Evaluation and management of injuries to the head and neck, including facial bone
      fractures.
   e) Neurovascular examination of the hand.
   f) Management of simple trauma to the hand, including appropriate referral to
      subspecialty services.

L. Suturing Elective Objectives

   During this rotation, the PEM fellow will become proficient in:
   a) Assessment of traumatic injuries, including human and animal bites.
   b) The principles of wound care, including the selection of proper irrigation solutions,
      suture materials, and suture techniques.
   c) Neurovascular examination of the effected appendage.
   d) Appropriate use of sedation and restraints for laceration repair.
   e) Appropriate referral to subspecialty services for complex laceration repair.
   f) The application of laceration repair principles to include:
      1) simple interrupted sutures
      2) vertical mattress sutures
      3) horizontal mattress sutures
      4) running sutures
      5) corner sutures
      6) nail bed laceration repair
      7) tongue laceration repair
      8) vermilion border laceration repair
   g) The use of local anesthetic blocks
      1) infraorbital nerve blocks
      2) mental nerve blocks
3) inferior alveolar nerve block
4) foot nerve blocks (ex. sural)
## Didactic Curriculum

Pediatric Emergency Medicine Didactic Conferences are held weekly on Thursdays from 9am to 12 or 1 pm throughout the academic year with the exception of holidays.

<table>
<thead>
<tr>
<th>CONFERENCE</th>
<th>FELLOW ATTENDANCE*</th>
<th>FREQUENCY</th>
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</thead>
<tbody>
<tr>
<td>Board Review</td>
<td>R</td>
<td>2 hours/month</td>
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<tr>
<td>Journal Club</td>
<td>R</td>
<td>1 hour/month</td>
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<tr>
<td>Morbidity &amp; Mortality</td>
<td>R</td>
<td>1 hour/month</td>
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<tr>
<td>Progress and Topics in Research</td>
<td>R</td>
<td>2 hours/month</td>
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<tr>
<td>Administrative Series</td>
<td>R</td>
<td>4 hours/year</td>
</tr>
<tr>
<td>Child Abuse Series</td>
<td>R</td>
<td>3 hours/year</td>
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<tr>
<td>Education Series</td>
<td>R</td>
<td>4 hours/year</td>
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<tr>
<td>EMS/Disaster Medicine Series</td>
<td>R</td>
<td>4 hours/year</td>
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<tr>
<td>Neurology Series</td>
<td>R</td>
<td>2 hours/year</td>
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<tr>
<td>PEM Core Lectures</td>
<td></td>
<td>Variable</td>
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<tr>
<td>PEM/Critical Care Joint Conferences</td>
<td>R</td>
<td>2 hours/year</td>
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<tr>
<td>Psychiatry Series</td>
<td>R</td>
<td>2 hours/year</td>
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<tr>
<td>Sports Medicine Series</td>
<td>R</td>
<td>4 hours/year</td>
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<tr>
<td>Surgical Series</td>
<td>R</td>
<td>3 hours/year</td>
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<tr>
<td>Toxicology Series</td>
<td>R</td>
<td>3 hours/year</td>
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<tr>
<td>Trauma Series</td>
<td>R</td>
<td>4 hours/year</td>
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<tr>
<td>Pediatric Resident Lecture Series</td>
<td></td>
<td>Each fellow presents 2-3 lectures during the course of fellowship</td>
</tr>
<tr>
<td>Pediatric Grand Rounds</td>
<td>O</td>
<td>1 hour/week</td>
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</tbody>
</table>

* R-required   O-optional

The Pediatric Emergency Medicine fellows participate in these activities as follows:

**Administrative Series (Addressed Core Competencies: Practice-based Learning and Improvement and Systems-based Practice)** is coordinated by Dr. Joan Shook to familiarize the fellow with the administrative aspects of the health care industry particularly as they pertain to emergency medicine. The discussion topics include managed care contracting, reimbursement, and billing in the emergency department. In addition, this time is utilized for discussion of patient complaints and death and dying issues as they pertain to the fellow.

**Board Review Series (Addressed Core Competencies: Patient Care and Medical Knowledge)** is a monthly meeting in which the fellow is expected to participate in open discussion on the assigned topics that pertain to a core emergency medicine text assignment. The goal of this meeting is to augment the trainee’s knowledge base and to prepare the fellow to take the pediatric emergency medicine subspecialty board examinations at the completion of
training. A minimum of 2 core textbooks in pediatric emergency medicine is covered over a 3-year period.

Child Abuse Series (Addressed Core Competencies: Patient Care and Medical Knowledge) is coordinated by Dr. Michelle Lyn. The purpose of the Child Abuse Series is to highlight specific areas in child maltreatment relevant to pediatric emergency medicine.

Education Series (Addressed Core Competencies: Medical Knowledge, Interpersonal and Communication Skills, and Professionalism) is coordinated by Dr. Deborah Hsu. The goals of this series are to enhance understanding of effective teaching techniques, to improve teaching skills, and to document teaching activities of pediatric emergency medicine fellows. The course objectives are 1) Introduce principles of adult learning; 2) Demonstrate effective teaching techniques in a variety of settings; 3) Provide educational materials for teaching/learning encounters; 4) Demonstrate techniques to provide feedback and evaluation to learners; 5) Introduce principles of curriculum development and program evaluation; 6) Provide tools and methods to document educational activities in a scholarly fashion.

Emergency Medical Services/Disaster Medicine Series (Addressed Core Competencies: Patient Care, Medical Knowledge, Practice-based Learning and Improvement, and Systems-based Practice) is coordinated by Dr. Paul Sirbaugh, PEM, and Assistant Medical Director, EMS-Houston, and Dr. Erin Endom, PEM. The curriculum includes handling of transfers, medical on-line/off-line direction, paramedic education, and topics pertinent to disaster medicine.

Journal Club (Addressed Core Competencies: Patient Care, Medical Knowledge and Practice-based Learning and Improvement) is coordinated by Dr. Chantal Caviness. These small group discussions are designed to enhance fellows’ critical appraisal skills. Fellows, under Dr. Caviness’ direction, lead journal club by selecting article(s) for review, provide critical appraisal of the articles using the CASP model, and lead discussion of the articles during the monthly Journal Clubs. If a fellow cannot fulfill his/her obligations for journal club on his/her designated month, he/she may trade designated months with another fellow with the approval of the program director AND the journal club coordinator.

Morbidity & Mortality (Addressed Core Competencies: Patient Care, Medical Knowledge, Practice-based Learning and Improvement, and Systems-based Practice) is coordinated by Dr. Michael Distefano. Fellows review cases of admitted patients seen in the EC twice or more within a 48-hour period, patients who experienced complications while in the EC or afterwards, and patients requiring resuscitation in the EC. Particular attention is paid to issues of management in the emergency center. This review is then discussed during the M&M conference with the other fellows and faculty in attendance.

Neurology Series (Addressed Core Competencies: Patient Care and Medical Knowledge) coordinated by Dr. Donna Mendez, PEM, and Dr. Tim Lotze, Pediatric Neurology, is held 2 times a year. Topics to be discussed include those relevant to both subspecialty practices, with an emphasis on the emergency department management of pediatric patients with neurologic disorders.
Pediatric Emergency Medicine Core Lectures (Addressed Core Competencies: Patient Care, Medical Knowledge, Practice-based Learning and Improvement, Systems-based Practice) is coordinated by the associate fellowship program director; lecture topics pertain to the practice of pediatric emergency medicine and vary every year depending on fellows’ needs.

PEM/Critical Care Joint Conferences (Addressed Core Competencies: Patient Care, Medical Knowledge, Practice-based Learning and Improvement, Interpersonal and Communication Skills, Professionalism and Systems-based Practice) is coordinated by Dr. Joseph Allen, PEM and Dr. Mona McPherson, Critical Care Medicine to discuss topics pertinent to care beginning in the emergency center and continuing in the PICU of critically ill and injured patients.

Progress and Topics in Research (Addressed Core Competencies: Medical Knowledge and Practice-based Learning and Improvement) is a 2-hour monthly workshop coordinated by Dr. Chantal Caviness. The objectives of this series are

1. To review the basic processes of clinical research
2. To review clinical study design and analysis
3. To gain knowledge in the underpinnings of human subjects protection and applying for IRB approval
4. To apply principles of biostatistics and epidemiology to the design and analysis of research studies in the PEM section

The didactic portions of these workshops cover principles of biostatistics, epidemiology, manuscript and poster preparation, and abstract writing. The hands-on portions of the workshops consists of active round table format discussions of ongoing projects within PEM; it is expected that all fellows participate actively in these discussions and apply, in the discussions, research principles learned in the didactic part of this course. Scholarly activity projects being conceived or implemented by fellows will be discussed in depth as a case illustration of didactic topics.

Psychiatry Series (Addressed Core Competencies: Patient Care and Medical Knowledge) is coordinated by the associate fellowship program director, and Dr. Toi Harris, Psychiatry. Topics to be covered pertain to the acute management of patients with psychiatric illnesses and include

1) Evaluation and Treatment of the Suicidal Patient; 2) Somatoform Disorders (Diagnosis and Management Issues); 3) Management of Pediatric Psychiatric Emergencies (Aggression and agitation, Psychosis, Schizophrenia, Substance intoxication or withdrawal); 4) Post-Traumatic Stress Disorder (Trauma Exposure); 5) Drug management/New drugs used in pediatric psychiatry, e.g. antidepressants, antipsychotics, drug side effects, combination therapies, etc.; 6) Munchausen/Munchausen by proxy.

Sports Medicine Series (Addressed Core Competencies: Patient Care and Medical Knowledge) is coordinated by the associate fellowship program director and Dr. Joseph Chorley, Sports Medicine. A faculty or fellow from sports medicine presents lectures pertinent to the management of pediatric patients presenting to the emergency department with sports related injuries. Topics include 1) Head injuries (Concussions); 2) Spine injuries; 3) Shoulder injuries;
4) Back pain assessments; 5) Hip, knee, and ankle injuries; 6) Hydration issues in sports medicine

**Surgical Series (Addressed Core Competencies: Patient Care and Medical Knowledge)** is coordinated by Dr. Andrew Kienstra. Lectures pertinent to the practice of pediatric emergency medicine and pediatric surgery/pediatric surgical subspecialties are prepared and presented by faculty and fellows from Pediatric Surgery and other pediatric surgical subspecialties.

**Toxicology Lectures (Addressed Core Competencies: Patient Care and Medical Knowledge)** is coordinated by Dr. Rohit Shenoi. A faculty member from the section or a guest lecturer from the Poison Center speaks on topics related to the management of pediatric patients with acute poisonings. Topics of discussion that may be covered in a three year period include, 1) Function of the Poison Center and use of ipecac, lavage, charcoal, & whole bowel irrigation; 2) Tricyclic antidepressants; 3) Ca channel blockers / cardiac meds; 4) Fad drugs; 5) Over the counter drugs; 6) Mushrooms, plants etc; 7) Inhalation injuries; 8) Alcohols / ethylene glycol; 9) Anticholinergic / sympathomimetics; 10) Antipsychotics (barbiturates, benzodiapeazines, phenothiazines)

**Trauma Series (Addressed Core Competencies: Patient Care, Medical Knowledge, Practice-based Learning and Improvement)** is coordinated by Dr. David deLemos. Pediatric emergency medicine faculty in conjunction with surgical faculty present didactic sessions on the salient points of pathophysiology, work up, and management of the pediatric trauma patient presenting to the emergency center.

**Pediatric Resident Lecture Series (Addressed Core Competencies: Medical Knowledge, Interpersonal and Communication Skills, and Professionalism)** coordinated by Dr. Shabana Yusuf, these lectures are held 4 times a week at BTGH. The fellow is expected to plan, develop, and present 2-3 lectures during fellowship to pediatric residents and medical students at BTGH. The lectures are 40 minutes, incorporating the work up of a particular disease entity. Faculty members assist in the preparation and critique of these sessions.

**Pediatric Grand Rounds** are held once a week at TCH and organized by the Pediatric Residency Office.
Evaluation Processes

PEM Fellow Evaluations

Fellows are evaluated monthly and quarterly.

Monthly evaluations are obtained from outside service attendings responsible for the supervision of the PEM fellows during their months on rotations outside of the Texas Children’s Emergency Center.

The fellows’ performances within the Texas Children’s Emergency Center and within their academic duties for PEM are evaluated by PEM faculty quarterly via online evaluation forms and in a quarterly meeting of the fellowship faculty mentors.

Evaluation forms for pediatric residents/medical students/ancillary staff/patients are currently being validated for their use as evaluation tools for the PEM fellows.

All lectures, presentations, and medical writings performed by the PEM fellow along with the evaluations received for these activities are included in each fellow’s portfolio.

All fellows are required to keep a log of procedures they have performed.

All fellows are expected to keep their Curriculum Vitae up to date.

PEM Faculty Evaluations

Faculty members are evaluated anonymously by fellows annually.

Program Evaluations

Annual in-site exams given by the ABP are administered to all fellows annually. Every two years, the ABP certifying examination for Pediatric Emergency Medicine is given and graduates of our program meeting eligibility criteria take the exam. Fellows’ scores on both exams are reviewed for deficiencies in knowledge base. Emphasis on topics related to identified deficiencies is placed in the didactic curriculum or on an individual basis.

Biannual meetings lead by the chief fellow(s) in conjunction with the fellowship program directors and all PEM fellows are conducted for formative feedback regarding the fellowship program.

An annual curriculum meeting is conducted with a majority of PEM section members (faculty and fellows) in attendance to evaluate both the clinical and didactic aspects of the fellowship curriculum.
All fellows provide an anonymously administered online program evaluation annually.

All fellows conduct an exit interview with the fellowship directors in conjunction with a written program evaluation at the culmination of their fellowship program. Approximately 5-6 such interviews are conducted annually.