



MUSC PEDIATRIC EMERGENCY MEDICINE FELLOWSHIP

Overview

The fellowship is intended for physicians to acquire expertise and skills in clinical practice, teaching, investigative research and administrative functions related to the field of pediatric emergency medicine. The clinical information and skills acquired during residency training will be sharpened and focused as the fellow gains new knowledge and experience pertinent to the emergency management of critically ill and injured children. The fellow will participate in teaching of both medical and lay personnel on topics related to pediatric emergency medicine in a variety of formats. An understanding of clinical research will be fostered through course study in research design and the development and execution of a research project. In addition, exposure to the administrative aspects of managing an emergency department will be afforded the fellow during the years of training.

Clinical Facilities / Experience

MUSC Children's Health serves as the comprehensive regional pediatric quaternary hospital for Charleston and the surrounding area. The new Shawn Jenkins Children's Hospital which opened February 2020 contains 250 beds, an increase of nearly 20 percent over the previous hospital.

Unique features include:

- an entire floor dedicated to the care of children with heart problems
- a comprehensive interventional program for non-cardiac surgical procedures housing six operating rooms, four procedure suites, and an MRI scanner specifically designed for the care of children
- a full top floor dedicated to the care of children with cancer and blood disorders, providing these longer-term patients with soothing views of Charleston and surrounding tidal areas
- 22,000 lb. rooftop helio-pad is engineered to accommodate the Coast Guard's new Jayhawk helicopter for emergency and disaster situations

All major subspecialties are represented at our institution with national recognition in the US News and World Report hospital rankings in 6 specialties. MUSC Health has invested more than 500 million dollars to expand the clinical mission of pediatric care in the region with the construction of the new Shawn Jenkins Children's Hospital and a new medical office building and ambulatory surgical center that opened in early 2019.

The Children's Health Emergency Department (ED) provides care for almost 30,000 patient visits per year in our downtown location, including over 600 trauma patients annually. Our division also runs three pediatric-exclusive urgent care clinics throughout the greater Charleston area, where we care for an additional 30,000 patients.

Our pediatric trauma program is certified by the American College of Surgeons. Our new state-of-the-art ED houses 20 unique patient rooms, including two beautiful and expansive resuscitation/trauma rooms, a dedicated orthopedic room, and dedicated psychiatric rooms. Our ED is equipped with video recording capabilities for resuscitations for educational purposes, as well as centralized virtual patient monitoring, telemedicine, and real-time locations systems (RTLS) capabilities. We have an additional 6-8 beds to flex into in evenings or on weekends, when volumes necessitate. Current acuity ranges from minor pediatric illnesses to major multiple trauma, with almost 18% to 20% of patients visits resulting in hospital admission.

We perform anywhere between 450-500 procedural sedations annually for an ever-increasing number of indications. Nationally, we rank in the top 20th percentile for critical care billing and proportion of patients admitted, which is a strong testimony to the acuity of patients we see. The ED is staffed 24 hours a day by faculty physicians of the Division of Pediatric Emergency Medicine, Pediatric Nurse Practitioners, and residents from training programs in Pediatrics, Emergency Medicine, Medicine-Pediatrics, and Family Medicine. We are also staffed with only pediatric-trained nurses and Certified Child Life Specialists. In 2017, our ED was awarded the prestigious Lantern Award from the Emergency Nurses Association, which is a national award given to EDs that exemplify exceptional practice and innovative performance in the core areas of leadership, practice, education, advocacy and research.



MUSC has an excellent transport team that transports patient to our hospital from around our state and beyond via ground, helicopter and fixed wing vehicles. The ED attending and fellows serve as medical control for all transport crews coming to the ED.

Sample schedule for applicants from pediatrics

| <i>Peds First Year</i> | <i>Peds Second Year</i> | <i>Peds Third Year</i> |
|-------------------------------|--------------------------------|-------------------------------|
| PED | Research | PED |
| Trauma | PED | Research |
| PED | PED | Research |
| PED | PED | Research |
| PED | Research | PED |
| PED | Research | Elective |
| Research | Research | PED |
| Anesthesia | PED | PED |
| PED | Elective | PED |
| PICU | PED | CAP/Disaster |
| Ortho/Radiology | Toxicology | PED |
| Elective | PED | Ultrasound |

Sample schedule for applicants from emergency medicine

| <i>EM First Year</i> | <i>EM Second Year</i> |
|-----------------------------|------------------------------|
| PED | PED |
| PED | PED |
| Wards | PED |
| Research | PED |
| NICU | Research |
| Elective | Research |
| PICU | CAP/ID |
| PED | Ortho/Radiology |
| Research/Elective | PED |
| PED | PED |
| PED | Toxicology |
| PED | Ultrasound |

Fellowship Curriculum

Research Experience

All pediatric fellows participate in both in-person and on-line courses in Evidence-Based Medicine and Clinical Research Methods during their dedicated research months. In addition, fellows will be expected to attend and participate in regular journal club meetings, during which critical review of current literature pertinent to pediatric emergency medicine will be conducted. The Pediatric residents participate in an Evidenced-Based Medicine Curriculum throughout their three years of training; the fellows will be encouraged to attend these weekly educational conferences and review of current literature. MUSC and GME also create regular conferences pertinent to fellows and their gaining knowledge in these endeavors.

Fellows will be expected to design and implement a research project during their three-year fellowship which will satisfy the “Meaningful Accomplishment in Research” requirement of the American Board of Pediatrics in order to sit for the Sub-board examination in Pediatric Emergency Medicine.

Fellows entering the training program are not assigned to a research program. From discussions with faculty, educators and clinicians, the fellow is expected to identify a research question and a mentor to assist the fellow in addressing that question. We firmly believe that the project must be of the interest of the fellow, or it is not worth pursuing. This mentor must be responsible for providing the ongoing formative feedback that is essential to the trainee’s attainment of competence in clinical care, teaching and scholarship.

Each fellow will have a scholarship oversight committee (SOC) with appropriate expertise in scholarly research endeavors; the SOC will be appointed during the first year of fellowship. The mentor and SOC will ensure global scholarly success as mentioned above.

We expect that fellows will submit their completed research projects to a national meeting for presentation, and if accepted will be supported by our division to present at the conference. Each first-year fellow will attend a national Peds EM fellows’ conference where their research ideas will be discussed with other fellows and nationally recognized PEM faculty.

Teaching Experience

Fellows will prepare and present instructional lectures to students, residents, nurses, and other medical personnel (e.g., nurses and emergency medical services personnel) on topics related to pediatric emergency medicine. The department offers many additional opportunities to teach, including Pediatric Advanced Life Support classes, Suture/Wound Management and Splinting workshops, and Sim Lab courses for residents and medical students. Under the supervision of Dr. Amanda Price, each fellow will annually develop a mock code scenario through simulation while learning details of curriculum development and evaluate his/her colleagues and faculty in the simulation scenario and procedural skills. Fellows have many more opportunities to teach simulation to residents on the topics of resuscitation and procedures.

In addition, one-on-one teaching skills will be developed as fellows precept residents and medical students on clinical cases in the Emergency Department. Teaching activities will be monitored, and periodic critique/feedback will be provided.

All pediatric subspecialty fellows may participate in a Teach-the-Teacher course which focuses on improving the skills of feedback and mentorship to name a few. In addition, MUSC’s Center for Academic Excellence collaborates with all Pediatric Fellowship Directors to provide resources for Peds fellows in specific courses such as developing a CV, how to conduct small group discussions, professionalism, scholarly publication preparation etc. Fellows have the opportunity to teach and mentor residents with participation in *Pedcomm*, a communication course for pediatric residents and medical students in several College of Medicine teaching courses.

Administrative Experience

Fellows will participate in inter- and intra-departmental meetings as they relate to the Emergency Department and are of interest to the individual fellow. As part of this process, policies and procedures will be developed and reviewed. We encourage the fellow to choose multi-disciplinary committees or project development teams that support their interest within our field. Fellows have many opportunities and resources to perform and

evaluate the success of Quality Improvement projects which impact operations in both the Peds ED and Children's Hospital as a whole.

Educational Conferences

One day every week is set aside for fellowship educational conferences. The format will vary week-to-week but will include didactic lecture presentations from faculty within the department and faculty from other disciplines on topics germane to pediatric emergency medicine; review of sections of a major textbook of pediatric emergency medicine; case conference presentations such as morbidity and mortality; research conferences; hands-on ultrasound training and critical review of contemporary articles taken from a variety of academic journals. Fellows take an active role in Fellows Conference with presentations on topics relevant to M&M, PICU Review and Toxicology. This will allow them some administrative and teaching experience. A current fellows conference schedule is included in your folder for your review.

Other educational conferences include: Simulation Labs for both procedures and resuscitations, Peds EM/Peds Radiology Conference, EM resident conference, Peds noon conference, Sedation course, Mock Codes, Ultrasound, [trauma video review](#)...and the list goes on!

Emergency Ultrasound

Under the direction of Dr. Matthew Moake, fellowship-trained in both Pediatric Emergency Medicine and Emergency Ultrasound, the fellows will engage in a longitudinal training program in the use of ultrasound within fellows conference, with the option to join the weekly Emergency Ultrasound Conference held in conjunction with EM residents and the EUS faculty. Fellows are trained in using point-of-care ultrasound for vascular access, regional anesthesia, as well as a veritable cornucopia of diagnostic uses for POCUS. For more information about MUSC emergency ultrasound, you can check out the following website:

<https://www.emergencyultrasoundteaching.com>

Simulation Laboratory

Our world-class Simulation Center has 50 advanced adult and pediatric simulators, used to provide clinical training to nursing, medical, and allied health trainees as well as continuing education for practicing health care professionals. Simulation training includes acute care, trauma, CPR, mock codes, and procedures – valuable practice in a controlled, risk-free environment. The opportunities for teaching experience and research endeavors are endless!

PEM Portal

Our Peds EM portal is an excellent resource for lots of pertinent information. In addition, the Peds ED division has an online course where we archive our lectures so they can be reviewed at any time for learning or teaching. We recently added a complete library of important and landmark PEM articles with access from any computer at any time. We encourage fellows and faculty to add to the library of articles with any new or relevant literature they wish to share.

Journal Club and Treatment Guidelines

Fellow-driven journal clubs are avenues to critically review literature and to develop treatment guidelines for management of patients in the ED. Collaboration with other Pediatric and EM specialists foster communication and combined learning. A good time is had by all.

International Experiences

The MUSC Pediatrics Program is highly invested in the health of children on the international scale. The program has funded residents to participate in international rotations and has sent several residents and fellows abroad over the past few years. We have established affiliations with hospitals in Nicaragua, Honduras, Tanzania and Uganda and among other organizations partner with One World Health

<https://oneworldhealth.com/>.

Child Advocacy & Injury Prevention

MUSC leads the South Carolina Area Health Education Consortium, which links the academic center to community-based health care centers statewide with an emphasis on health disparities, rural health issues and access to health care.

Research Activities

The Darby Children's Research Institute is home to cutting edge research in pediatric cardiology, endocrinology, oncology, prenatal nutrition, and obesity.