

Atrium Health's Carolinas Medical Center
and Levine Children's Hospital
Pediatric Emergency Medicine Fellowship





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Atrium Health

Atrium Health

One of the largest non-profit healthcare systems in the country (based on # of hospitals in the system).

Includes 50 hospitals in North Carolina, South Carolina, and Georgia, 44 urgent care centers, 45 EDs, 25 Cancer Care Locations. >69,800 Teammates with >4,650 Physicians, 17,000 Nurses.

Carolinas Medical Center – Main

CMC Main - 7th largest hospital in the country (>1,200 beds)

Flagship hospital of the healthcare system with an annual budget of over \$2.4 billion.

1,211-bed (including 234 Levine Children's Hospital), community-based teaching hospital, now associated with the Wake Forest School of Medicine

Wake Forest is building their new Charlotte Campus of the medical school just down the road

Level 1 Trauma Center and Level 1 Pediatric Trauma Center

8 ICU's: coronary, medical, surgical, trauma, neurosurgical, cardiovascular, pediatrics, and neonatal

PICU and Pediatric CVICU with recent expansion that doubled the bed capacity in November 2024

Level 1 Trauma center has the 6th highest trauma volume in the US.

The [Children's Emergency Department](#) was a cornerstone to the launching of the 234-bed Levine Children's Hospital, which was completed in October 2007 and expanded (doubled bed capacity) in 2020. It is the first ED in the region open 24 hours a day and dedicated to the care of children in a family-centered environment.

www.levinechildrenshospital.org



High Patient Volume

~115,000 annually or ~315/day (85,000 Adult)

~Pediatric annual patient volume increased 30% between 2021 and 2023

~Pediatric ED volume hit 38,000 for 2024

High Patient Acuity

~18-20% are admission rate for children's hospital

~27% admission rate for adult

Unusually Diverse Payor Mix

Adult

Commercial 2%

Medicaid 23%

Other 2%

Managed Care 24%

Medicare 17%

Self Pay 32%

Pediatric

Medicaid 65%

Self Pay 5%

Commercial 30%

Diverse Patient Mix

Medical 26%

Surgical/Trauma 23%

Pediatrics 27%

Ob/Gyn 21% Psych/Tox 3%

Annual Trauma Registry

4600 trauma code activations (89% blunt, 9% penetrating, 2% burns).

Sixth highest trauma volume amongst level one trauma centers in the US.

The only Adult and Pediatric Level I trauma centers in the greater Charlotte region

>5,900 adult (+ geriatric) trauma patients (~21% penetrating); >1,400 pediatric trauma patients annually



Carolinas Medical Center - Main



Emergency Department

There are **four main treatment areas** (66+ beds total) within our emergency department:

- **Children's Emergency Department** - Patients under 18. Level 1 Pediatric Trauma Center. 21 beds between 2 separate Pods, plus hallway beds, plus vertical care areas, Open 24/7.
- **Major Treatment** – High acuity medical and trauma patients. Level 1 Trauma Center. Stroke and Cardiovascular Centers of Excellence. 18 beds (+hallways), open 24/7.
- **Diagnostics** – Medium acuity, Ob-Gyn. 15 beds, open 24/7.
- **Ambulatory Emergency Center / Intake** – Lower acuity medical, lacerations, abscesses, sprains, strains, simple fractures. 10 beds + 6 Intake Rooms, open 9a-1a.
- **Expansion care areas** include **Vertical Care Area** and **Intake**



Physician Coverage

Children's ED:

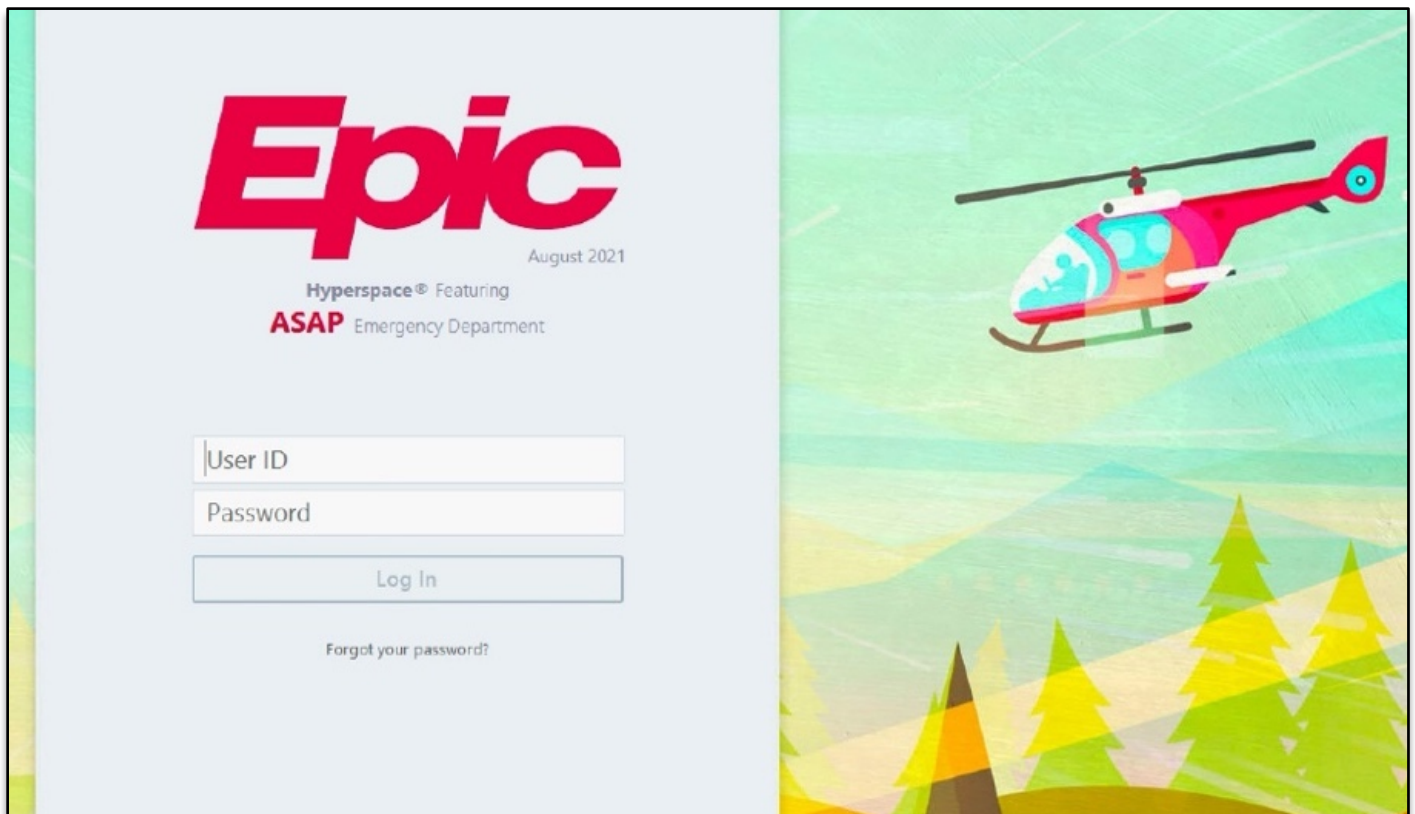
Single attending 24/7 (Pod 1); Additional attending 5p -1a (Pod 2)
PGY1: 9a-5a; PGY2/3 EM: 24/7; PGY2/3 Peds 5p-1a, APPs during high volume
PEM fellows cover 4 shift times: 7a-4p, 3p-12a, 5p-1a, 11p-7a
15 shifts per month
(EM-trained fellows- the count of 15 includes 3 Adult ED attending shifts built in per month- don't lose your adult EM skills!)

Support:

Radiology: 24/7 interventional radiology, C-arm fluoroscopy in ED

Electronic Medical Record: EPIC patient tracking, Dragon voice recognition software.

Ancillary Support: **Live Spanish and Video language interpreters, Child Life Specialists 6am-3am**, Pediatric Nurses, Healthcare techs, Respiratory Therapists, Social Work, Patient Reps, Fast Track Scheduler



Ultrasound Equipment:

10 Diagnostic US machines for physician use, and **3 vascular access machines**.

14, 000 Ultrasounds performed annually

Ultrasound information system = Qpath linked with EMR and PACS

All ACEP US core applications performed with credentialed faculty

Resuscitative Transesophageal Echo (TEE) privileges

Rotation Schedules

Pediatrics Background

PGY 4

Curriculum

1 month CED/Orientation
4 months of CED (Children's ED)
2 months of Research
1 month PICU
1 month Ultrasound
1 month Trauma/STICU
1 month ED Trauma
2 weeks Anesthesia
2 weeks Child Protection
Team/Advocacy/Human Trafficking

Responsibilities

12, 9-hour shifts
15, 9-hour shifts
4 CED shifts, 2 Ultrasound shifts

Inpatient trauma team
Dedicated to running trauma activations
2 weekend CED shifts
2 weekend CED shifts

PGY 5

Curriculum

3 months of CED
4 months of Research
1 month PICU
1 month Toxicology
1 month Adult ED
1 month Orthopedics/Sports Med
1 month Elective

Responsibilities

15, 9-hour shifts
4 CED shifts, 2 Ultrasound shifts
Option for 2 weeks with CVICU team
Toxicology call

PGY 6

Curriculum

4 months of CED
3 months of Research
3 months of Sr Research/CED
1 month of EMS
2 weeks of Anesthesia
2 weeks of Elective

Responsibilities

15, 9 hour shifts
4 CED shifts, 2 Ultrasound shifts
8 CED shifts
No CED shifts
2 weekend CED shifts
2 weekend CED shifts

Emergency Medicine Background

PGY 4

Curriculum

1 month CED/Orientation
4 months of CED (Children's ED)
2 months of Research
1 month PICU
1 month NICU and NICU Clinic
2 weeks Adolescent Clinic
2 weeks General Peds Clinic
2 weeks Anesthesia
2 weeks Child Protection
Team/Advocacy/Human Trafficking
4 weeks Peds Subspecialty
Outpatient clinic

Responsibilities

12, 9-hour shifts
12, 9-hour shifts plus 3 Adult ED attending shifts
4 CED shifts, 2 Ultrasound shifts

PGY 5

Curriculum

7 months of CED
2 months of Research
1 month PICU
2 weeks of Anesthesia
2 weeks of Orthopedics/Sports Med
or Elective

Responsibilities

12, 9-hour shifts plus 3 Adult ED attending shifts
4 CED shifts, 2 Ultrasound shifts
Option for 2 weeks with CVICU team
2 weekend CED shifts
2 weekend CED shifts

1 month Elective

ACLS, PALS and ATLS are offered throughout the year.

Annual Presentation Requirements

One 60-minute didactics presentations to the PEM fellows

One/Two 30 or 60-minute didactics presentations to the EM residents

One/Two 60-minute Morbidity and Mortality EM Department presentations per year

One PEM Journal Club leads

One PEM Patient Safety & Quality presentation

Additional teaching opportunities to: medical students, Pediatrics residents, ED nurses, pop up procedure labs



Didactics

Through the utilization of a block format, 3 hours of educational conferences provide optimal fellowship learning experience that reinforces clinical education, encourages life-long-learning, accentuates fellows as educators, and assists fellows in becoming masterful pediatric emergency medicine physicians and educators. These educational conferences are patient-centered, interactive, and innovative, providing a rich variety of formats as well as traditional didactics. We also integrate collaborative monthly conferences with our Trauma Team (Trauma Video Review), with our Pediatric Critical Care Team, and with overlapping curriculum for the Emergency Medicine Residency. We have monthly PEM fellow simulation sessions, and an annual cadaver lab for PEM fellows only.

General Topics

Core Content covered in interactive ways
M&M
Toxicology conference
U/S Core Content
All content based on ABP Board Specs

Dedicated Symposia

Airway
Wound Care
Risk Management and Patient Safety
Board Review
U/S Course
Nerve Block Course
Ortho Splinting and Casting Workshop

Sample Monthly Didactics Table

Format	Led By
Simulation Lab	Sim Faculty
*PEM Core Lectures	PEM Faculty, Fellows
Acuity Conference	PEM Faculty
PEM Quality & Safety	PEM Quality Leader, Fellows
Scholarly Oversight Committee (SOC)	SOC Chair, CMC Research Committee
Fellow Business Meeting	Program Director, Associate Program Director
Trauma Video Review	Trauma Surgery, Quality Team
PEM M&M	PEM Fellows
Specialty Rounds	Levine Children's Subspecialists
Board Review	PEM Faculty, Fellows
Journal Club	PEM Fellows, EM Residents, Faculty

****PEM Core Lectures include longitudinal curriculums on Toxicology and Ultrasound****

Simulation

CMC simulation center is the only facility in the region to be both an **American College of Surgeons accredited** Level I Education Institute and a **Society for Simulation in Healthcare accredited** simulation center. The medical director is Mark Bullard, MD, one of our CMC EM Faculty. Dr. Lia Cruz and Dr. Chad

Scarboro direct the PEM Simulation Curriculum. Simulation cases cover high acuity low occurrence situations, the science of team leadership, and human factors training for complex healthcare teams. The **Simulation and Medical Education Track** at CMC PEM provides the fellow with dedicated training in healthcare simulation, medical education strategy, and innovative learning techniques.



Journal Club

Monthly journal club lead by a fellow and PEM faculty member, designed to identify a practical use of pediatric emergency medicine literature. 2-3 articles focusing on landmark PEM papers. Journal clubs include a combination of PEM Division Journal clubs, joint Journal clubs with the EM Residency, and Regional Journal clubs held through an interactive Zoom format engaging PEM Divisions from neighboring institutions in our region.

UNIQUE ATTRIBUTES of CMC Pediatric EM

Next Generation Education

While traditional means of disseminating education are valuable, understanding and being a part of the electronic communities is also critical for all EM providers. We are well versed and adept at authoring medical texts at Carolinas Medical Center, but we are also providers of **educational blogs and podcasts**. In addition to the content on cmcedmasters.com, our faculty and residents also actively produce high end content via multiple venues, including the **J. Lee Garvey Innovation Studio**. Fellows have the opportunity to develop and record EM Guidewire content for www.EMGuideWire.com. PEM Fellows also contribute to Pediatric EM Morsels found at www.pedemmorsels.com.

Inclusion and Health Equity

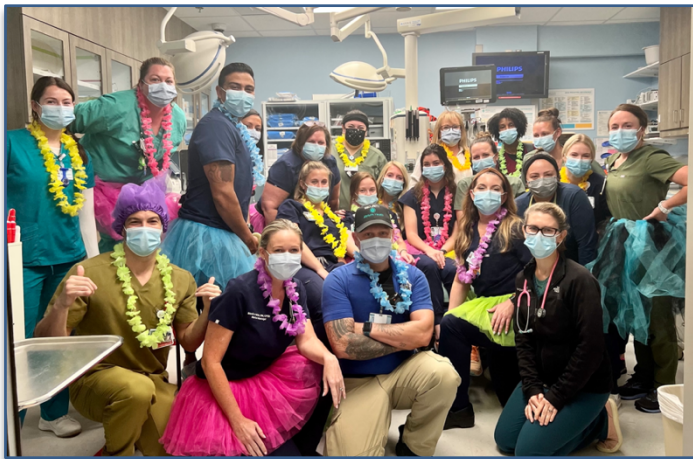
Our program and the entire division of Medical Education is dedicated to promoting a diverse, inclusive and equitable environment for our learners and our patients. Specifically, Peds EM has been working intentionally on evolving our department to reflect the population we are privileged to serve. In addition, to being leaders in our academic space in this area, we also extend outside the walls of our ED to connect with the **community of Charlotte** through a myriad of direct clinical care and educational opportunities all of which are open to our fellows and residents.

Some recent **Community Service and Outreach**:

- **Shelter Health** for Homeless Women and Children
- **Stop the Bleed Campaign**
- **CPR Education**
- **Narcan Kit Distribution**

Pediatric EM at CMC

The Division of Pediatric Emergency Medicine is comprised of **12 academic subspecialists in pediatric emergency medicine** who drive the research, education, advocacy, and quality mission of the department. The Children's Emergency Department is a level I trauma facility with a volume of roughly 38,000



visits/year. LCH provides trauma certified, CPEN (certified pediatric emergency nurses) to work alongside the **26 total faculty members** who voluntarily invest their clinical time in the CED. This unique structure immerses fellows in the best intersection of emergency medicine and tertiary care, acute pediatrics as they learn to care for childhood medical and surgical emergencies. We have **six pediatric emergency medicine fellows** who teach residents and medical students throughout fellowship. The team-based learning environment empowers fellows and residents to serve children as community ED physicians or future academic leaders.

Global Health at CMC



Under the guidance of CMC EM faculty member Adeline Dozois, MD, the **Global Health Track** helps fellows prepare for **international elective rotations**, provides educational offerings to enhance knowledge on global health topics, and offers mentorship to those seeking a career in global health. Current sites include Dar es Salaam in **Tanzania**, and Buenos Aires, **Argentina**. The EM residency maintains relationships with two hospitals in **Guatemala** (in Escuintla and Guatemala City), and two hospitals in **New Zealand** (Tauranga and Whatakane). We also have budding relationships with hospitals in **Brazil** and are planning to establish formal elective sites there as well.



Ultrasound at CMC

CMC EM Ultrasound Division (Est 1992) has had a vigorous growth of applications and faculty under the guidance of founder and US division chief Vivek Tayal MD, Research Director Anthony Weekes MD, Undergraduate Medical School Director Margaret Lewis MD, US Fellowship Director Denise Fraga, Ped US Director Lindsey Chaudoin, Operations Director Vitaliy Belyshev MD, and part-time faculty Peter Brooks MD. The US Division supervises care protocols to the full ACEP core applications: Trauma, Pregnancy, Aorta, Cardiac, Biliary, Urinary Tract, DVT, Thoracic, MSK/ST, Ocular, Bowel, Procedures. Pediatric-trained fellows will have one month of ultrasound rotation in their first year. All fellows have ultrasound shifts built into their schedule during research months in order to help fellows hone their ultrasound skills and build scanning into their ED workflow. Fellows are expected to complete a baseline number of ultrasounds each month they are in the Children's ED (CED) for the most common applications (Trauma E-FAST, cardiac, OB 1st trimester, MSK). Ultrasound didactics during PEM fellow conferences solidify other POCUS applications and help fellows sharpen their skills.



Prehospital Care / EMS at CMC

Ground EMS services within Mecklenburg County are provided by the Mecklenburg EMS Agency, or **MEDIC**. Faculty member **Doug Swanson, MD** serves as the agency's **Medical Director**. MEDIC tallied 156,212 responses in 2021: 107,224 patient transports for 2021.

Other EMS Faculty include Eric Hawkins, MD who serves as the EMS Medical Director for **Union and Anson Counties**; **Tyler Constantine, MD** who serves as co-medical director for **Atrium Mobile Integrated Health and Stanly County EMS**, and **David Callaway, MD** who is Medical Director for **Med-1 Mobile Hospital**.

Aeromedical services provided by **MedCenter Air**, assets owned and operated by Atrium.



Christyn Magill, MD, is the faculty advisor for the Charlotte site of the CHaMP (Charlotte, Houston, and Milwaukee Prehospital) node of PECARN. She participates in Pediatric Prehospital Research focusing on resource utilization. Charlotte is currently enrolling for the PediDOSE (seizure) study and PediPART (airway) study.

The **Center for Prehospital Medicine** is a **Division of the Department of Emergency Medicine** and serves as a regional center for prehospital medical oversight, paramedic/prehospital education, disaster and preparedness planning, mass gathering medical support, and other EMS-related activities.

CMC EM provides on-line medical control for MEDIC and MedCenter Air ground and flight services as well as out of county EMS units who transport to our ED. Fellows will take transfer calls from external emergency departments and pediatric clinics, and will provide medical control for prehospital crews transporting to our ED.



MedCenter Air Ground & Air Transport

- 4 rotor wing aircraft, EC135 helicopters provide latest in medical and aviation technology (collision avoidance, satellite tracking, environmental control, NVG's)
- 4 fixed wing aircraft (equipped with all current and proposed State / Federal safety recommendations)
- Multiple critical care ground trucks positioned throughout the region



Atrium Health Med-1 - <https://atriumhealth.org/medical-services/specialty-care/other-specialty-care-services/trauma-care/atrium-health-med1>

- **Two 53 foot tractor trailers**, one for patient care and one for support and storage
- Nearly **1,000 square feet of indoor treatment space**, deployable tent system adds 250 additional beds
- Six critical care beds, seven general treatment beds, one dental/ENT chair
- Full pharmacy, point of care labs, radiology, ultrasound, environment HEPA filtered to 0.3 microns
- **Mobile Level 1 trauma center capabilities**, telemedicine uplinks





Toxicology at CMC

The Medical Toxicology Division at Atrium Health's Carolinas Medical Center (CMC) is comprised of **four medical toxicologists** and **one clinical toxicologist (PharmD)** who provide a bedside consultation service for CMC and Levine Children's Hospital 24/7/365. These physicians are also Emergency Medicine attendings at CMC. PEM fellows work with and learn directly from these experts.

The Medical Toxicology Division provides monthly rotations and takes rotators from the CMC EM residency, Southeastern EM residency, CMC PEM fellowship, Wake Med PEM fellowship, ACP EM fellows, medical students, PharmD residents and students.

Members of the division also provide subject matter expertise for healthcare system on numerous initiatives.



Fellowship Programs

Research
Toxicology
EMS
Ultrasound
Pediatric EM
Disaster Preparedness / Operational Medicine
Global Medicine

Michael Runyon, MD
 Erik Fisher, MD
 Tyler Constantine, MD
 Denise Fraga, MD
 Lia Cruz, DO
 Dave Callaway, MD
 Adeline Dozois, MD

Graduate Statistics

The fellowship program was established in **2006**.

As of June 30, 2025, our fellowship has enrolled 36 **pediatric emergency medicine specialists**.

Our graduates are in academic practice, in private practice, hybrid models, and 1 went into military practice. We have 6 currently enrolled fellows.

Faculty (biographies available online)

Of 47 faculty, 14 are dual boarded (2 Peds/EM, 2 Peds/PEM, 1 EM/PEM, 2 Critical Care/EM, 4 Tox/EM, 4 EMS/EM). 2 are triple boarded (EM/Tox/Addiction Med, Peds/EM/PEM). Four more are fellowship trained in emergency ultrasound, one is fellowship trained in medical informatics, one is fellowship trained in global medicine, one is fellowship trained in medical simulation, and one is fellowship trained in research.

12 Carolinas Medical Center – Allen, Antoniazzi, Bullard, Hawkins, Heffner, Runyon, Salzman, Swanson, Tayal, Wares, Dozois, Hoglund

1 East Carolina University – Scarboro

1 Denver Health Med Center - Pearson

2 Columbia University – Colucciello, Chaudoin

1 Henry Ford Hospital – Asimos

1 Christiana Care - Belyshev

1 Indianapolis – MacNeill

1 Jacobi Medical Center - Weekes

2 Maryland – Fox, Fraga

2 Pittsburgh – Gibbs, Reynolds

1 Beth Israel – Callaway

1 Medical University of South Carolina – Lewis

1 Baystate Med Center/Tufts – Patel

2 Virginia Commonwealth – Murphy, Magill

1 Boston Medical Center – Griggs

1 CHOP – Puchalski

1 Cincinnati – VanderHave

1 Einstein Philadelphia - Kopec

1 Mt. Sinai – Cox

1 Carilion/VA Tech – Manning

1 University of Chicago - Constantine

1 Morristown Memorial Hospital - Geib

1 NYU – Grady

1 Stony Brook – Meyers

1 University of California – Brown

1 University of South Florida – Rominger

1 Augusta University – Sutton

1 Cooper University – Cruz

1 Yale University – Fisher

Recent Fellowship Graduate Positions

Dr. Haseeb Khatri (EM), 2025, Carolinas Medical Center, Charlotte NC

Dr. Maureen Nsofor (Peds), 2025, Carolinas Medical Center, Charlotte NC

Dr. Zachary Gibson (EM), 2025, University of Utah, Salt Lake City UT

Dr. Alison Rosser (EM), 2024, Dell Children's Hospital, Austin, TX

Dr. Kendra Jackson (Peds), 2024, Johns Hopkins University, Baltimore, MD

Dr. Lizz Olson (EM), 2023, Medical College of Georgia/Augusta University, Augusta, GA
 Dr. Erica Scott (EM), 2023, Global Medicine Fellowship, then UT Southwestern Faculty, Dallas, TX
 Dr. Whitney Ficker (Peds), 2023, University of Missouri, Columbia, MO
 Dr. Vanessa Goff (Peds), 2022, Vidant Health, East Carolina University, Greenville, NC
 Dr. Nikki Richardson (EM), 2022, St. Joseph's Children's Hospital, Tampa, FL
 Dr. Elise Alves Graber (Peds), 2021, Jackson Health System, Miami, FL
 Dr. Juliana Jaramillo (EM), 2021, Vidant Health, East Carolina University, Greenville, NC
 Dr. Ashley Mazo (Peds), 2020, Children's Hospital Colorado, Colorado Spring, CO
 Dr. Mary Grady (Peds), 2020, Carolinas Medical Center, Charlotte, NC
 Dr. Chantel Walker (Peds), 2019, Mercy Children's Hospital, St. Louis, MO
 Dr. Jennifer Tiller (Peds), 2019, UT Southwestern, Dallas, TX
 Dr. Simone Lawson (Peds), 2018, Children's National Medical Center for PEM Ultrasound Fellowship then faculty, Washington, DC
 Dr. Kat Bryant (EM), 2017, Vidant Health, East Carolina University, Greenville, NC
 Dr. Christyn Magill (Peds), 2017, Carolinas Medical Center, Charlotte, NC
 Dr. JR Young (Peds), Novant Health/Mecklenburg Emergency Medicine Associates (MEMA), Charlotte, NC
 Dr. Jeremiah Smith (Peds), 2016, Prisma Healthcare, Greenville, SC
 Dr. Matt Neal (Peds), 2015, Prisma Healthcare, Greenville, SC
 Dr. Abby Mofield (Peds), 2015, Novant Health/Mecklenburg Emergency Medicine Associates (MEMA), Charlotte, NC
 Dr. Luis Pinzon (Peds), 2014, Emory/Children's Healthcare of Atlanta, then St. Joseph's Children's Hospital, Tampa, FL
 Dr. Manessha Agarwal (Peds), 2014, Emory/Children's Healthcare of Atlanta
 Dr. Michael Preis (Peds), 2013, Cohen Children's Medical Center
 Dr. Chad Scarboro (EM), 2013, Carolinas Medical Center, Charlotte, NC
 Dr. Johanna York (Peds), 2012, Novant Health/Mecklenburg Emergency Medicine Associates (MEMA), Charlotte, NC
 Dr. Jeremiah Johnson (Peds), 2011

Faculty Awards:

ACEP National Faculty Teaching Award Winners:

2021 – Andrew Asimos, MD
2014 – Sean M. Fox, MD
2005 – Michael Gibbs, MD
2004 – Vivek Tayal, MD

2023

Brown, Cortlyn	Atrium Health – Outstanding Academician Faculty Award
Allen, Bryant	Atrium Health – Outstanding Teacher Faculty Award
Weekes, Anthony	Atrium Health – Exemplar Faculty Award

2022

Asimos, Andrew	Atrium Health – Teal Acorn Physician Atrium Career of the Year (<i>Honoree</i>)
Chaudoin, Lindsey	Atrium Health – Teal Acorn Physician Rookie of the Year (<i>Honoree</i>)
Cox, Dalton	WFUSM Charlotte Campus Excellence in Medical Student Teaching in the EM Clerkship Award (for Faculty)
Hoglund, Jessica	Atrium Health – Outstanding Teacher Faculty Award
Kopec, Kathryn	American College of Medical Toxicology (ACMT) -Voluntary Service Recognition
Lewis, Margaret	CFE Excellence in Medical Student Education (Faculty) Award
MacNeill, Emily	Atrium Health – Teal Acorn Physician of the Year <i>Finalist</i>
Magill, Christyn	Atrium Health – Exemplar Faculty Award
Meyers, Harvey P.	Atrium Health – Outstanding Academician Faculty Award
Murphy, Christine	Atrium Health – Teal Acorn Physician Academician-Preceptor of the Year (<i>Honoree</i>)
Reynolds, Stacy	Wake Forest School of Medicine – Women's Achievement in Medicine
	Atrium Health – Teal Acorn Physician Leader of the Year (<i>Honoree</i>)
Salzman, Jessica	Atrium Health – Teal Acorn Community Impact Award (<i>Honoree</i>)

2021

Asimos, Andrew	ACEP – National EM Faculty Teaching Award
	Atrium Health – Teal Acorn Career Physician/APP Career <i>Finalist</i>
	Atrium Health – Teal Acorn Physician of the Year <i>Finalists</i>
	Atrium Health – Teal Acorn Tree of Life Physician Innovator of the Year <i>Finalist</i>
	Wake Forest School of Medicine – Established Investigator- Clinical/Population Research Award
Brown, Cortlyn	Atrium Health – Teal Acorn Physician Rookie of the Year
Callaway, David	Carleton College – Distinguished Alumni Award

Colucciello, Stephen	Atrium Health – Teal Acorn Physician Atrium Career Award
Fetterolf, Brandon	Atrium Health – Exemplar Faculty Award
Griggs, Christopher	American Journal of Emergency Medicine (AJEM) – Senior Editorial Consultant
Kopec, Kathryn	Atrium Health – Teal Acorn Dr. Francis Robicsek Physician Community Impact Atrium Health – Teal Acorn Physician/APP Academician/Preceptor of the Year <i>Finalist</i> American College of Medical Toxicology (ACMT) – Education Committee Service American College of Medical Toxicology (ACMT) – Top Contributor of 2020 Atrium Health – Teal Acorn Physician Academician-Preceptor of the Year <i>Finalist</i> CMC/Atrium Health – Excellence in Simulation-Based Education
Lewis, Margaret	Atrium Health – Pinnacle Award <i>Finalist</i>
MacNeill, Emily	Atrium Health Diversity, Inclusion and Equity Award
Meyers, Harvey P.	Atrium Health – Outstanding Teacher Faculty Award Atrium Health – CFE Excellence in Resident Education Award
Olson, Elizabeth	Atrium Health – Teal Acorn Tree of Life Physician Innovator of the Year Atrium Health - John A. Marx Outstanding Senior Resident Award. UNC School of Medicine – Excellence in Medical Student Teaching Resident Award Administration for Community Living – Social Care Referrals Challenge, Phase 1 Winner
Pearson, David	American Board of Preventive Medicine – Clinical Information Diplomate
Rivera-Camacho, Gabriela	Atrium Health – Touchstone Award for “Improving Quality Care for Cardiac Patients”
Salzman, Jessica	Atrium Health – Darren Bean Outstanding Teaching by a Resident
Schulz PA-C, Christian	Atrium Health – Teal Acorn Physician/APP Academician of the Year <i>Finalist</i>
Tayal, Vivek	Atrium Health – Teal Acorn APP Leader of the Year
Thomas, Alyssa	American Institute of Ultrasound in Medicine (AIUM) – Presidential Recognition Award
Wares, Catherine	Atrium Health – Jeffrey Kline Outstanding Resident Research Achievement Atrium Health – Outstanding Academician Faculty Award

2020

Asimos, Andrew	Atrium Health - Atrium Health Teal Acorn Physician of the Year Award <i>Finalist</i>
Brooks, Peter	American College of Emergency Physicians (ACEP) Medical Jeopardy Champion
Callaway, David	Center for Strategic and International Studies (CSIS) Abshire-Inamori Leadership Academy (AILA) Fellow CMC - John A. Marx Outstanding Senior Resident Award. NIH / National Hispanic Medical Association Travel Award (Postponed to 2021.)
Hoglund, Jessica	Department of Emergency Medicine, CMC Outstanding Academician 2020
Jaramillo, Juliana	ALiEM AIR Toxicology Honorable Mention for Publication 2020.
Kopec, Kathryn	Women in Medicine - Top Emergency Medicine Specialist 2020 Atrium Health – Teal Acorn Physician Academician-Preceptor <i>Finalist</i>
Pearson, David	Atrium Health – Teal Acorn Physician of the Year <i>Finalist</i>
Salzman, Jessica	Carolinas Medical Center COVID S.U.P.E.R. Hero Award
Wares, Catherine	Atrium Health – Teal Acorn Dr. Francis Robicsek Physician Community Impact <i>Finalist</i> UNC School of Medicine Excellence in Teaching Award - Emergency Medicine Clerkship Charlotte Magazine - 2020 Top Doctors - Emergency Medicine

2019

Asimos, Andrew	Atrium Health – Teal Acorn Physician of the Year <i>Finalist</i>
Callaway, David	United States Army Special Operations Command Commander's Public Service Award
Fox, Sean	Atrium Health - Teal Acorn Physician Academic of the Year <i>Finalist</i>
Gibbs, Michael	Charlotte's Top Doctors Publication Award
Magill, Christyn	Atrium Health - TEAL Acorn Nominee for Physician Rookie of the Year Levine Children's Hospital Emergency Department
Reynolds, Stacy	Atrium Health - Pinnacle Award Winner Organization award
Runyon, Michael	Atrium Health - Chair, Subboard of Pediatric Emergency Medicine Atrium Health - Atrium Health Medical Group Academic Physician Award Winner



Research and Scholarly Activity

Fellowship Scholarly Requirements (for all fellows regardless of residency training)

- Submit one manuscript of publishable quality before graduation.

The experienced EM research team has the **tools and support** to utilize our unique access to such a **large, diverse patient population** from within **our >20 EDs** who have a **wide variety of injuries, symptoms, and conditions** to the explore numerous avenues of patient care.

EM Research Departmental Personnel:

- 5 full-time research professionals:
Director of Clinical Research, Research Manager, Research Nurse, and 2 Coordinators
- 3 full-time research interns
- All staff are cross trained to support all ongoing studies
- Research staff help screening/recruitment

Expertise in:

- Pediatric emergency medicine
- Observational and randomized trials
- Qualitative methodology
- Complex diagnostic and therapeutic interventions with critically ill patients
- Organization-wide initiatives, including:
Carolinas Stroke Network, Chest Pain Network, Carolinas Trauma Network, Critical Care Network, and Poison Control Center

Areas of Interest (*abridged*)

Michael Runyon, MD – Diagnosis and management of sepsis, management of emergency conditions in resource-limited settings

Dave Pearson, MD – Cardiac arrest and post-cardiac arrest syndrome focused on the peri-arrest period

Alan Heffner, MD – Emergency airway management, sepsis, shock, cardiac arrest, and therapeutic cooling

Mike Gibbs, MD - Airway management, trauma, medical errors

Andrew Asimos, MD – Stroke, seizures, and other neurological emergencies

Stacy Reynolds, MD – Human Trafficking

Tony Weekes, MD – Echocardiography, pulmonary embolism, emergency ultrasound

Chad Scarboro, MD – Pediatric head injury and diagnostic imaging

Mark Bullard, MD – Medical simulation

Christine Murphy, MD - Alternative therapies for calcium channel blocker toxicity, trends in recreational drug abuse

Doug Swanson, MD – Prehospital care

Vivek Tayal, MD – Ultrasound, airway, health policy

Margaret Lewis, MD – Ultrasound education and applications

David Callaway, MD – Trauma, disaster medicine, tactical medicine

Kathryn Kopec, DO – Drugs of abuse, agitation, envenomation, global toxicology, education

Chris Griggs, MD – Opioid abuse, pain management in the ED, health policy

Cathy Wares, MD - Neuroprognostication in post-cardiac arrest and simulation education

John Manning, MD – Informatics and analytics

Bryant Allen, MD – EM didactics and curriculum; instructional videos for EM procedures

Vitaliy Belyshev, MD - ED ultrasound operations; community and global health initiatives

Cortlyn Brown, MD – Teaching and education; diversity, equity and inclusion initiatives

Tyler Constantine, MD – Community paramedicine

Adeline Dozois, MD - Global health curriculum

Erik Fisher, MD - Envenomation, global toxicology, education

Denise Fraga, MD – Ultrasound education and protocol, global medicine

Ann-Jeannette Geib, MD – Methylxanthines, critical care toxicology

Christopher Griggs, MD – Addiction medicine

H. Pendell Meyers, MD - Acute coronary syndromes

Christyn Magill, MD- Pediatric Airway, Pediatric Prehospital Medicine

Annie Rominger, MD- Mentoring PEM research, Statistics

Amy Puchalski, MD- Pediatric Injury Prevention and Advocacy

Lia Cruz, DO- Simulation, Medical Education, Quality Improvement

Living in Charlotte, North Carolina



Charlotte, NC is a beautiful place to live, work, and play. It's a city that has been growing exponentially, perfectly located between the beach and the mountains, between the north and the south. We have all four seasons and sunny weather the majority of the year. The cultural offerings include the Charlotte Symphony Orchestra, Charlotte Ballet, and the North Carolina Opera, along with multiple comedians and Broadway shows who come through. Professional sports such as the Carolina Panthers, Charlotte Hornets, and Charlotte FC Soccer are very popular here. We also have a strong fan base for the Charlotte Knights baseball team and the Charlotte Checkers hockey team. The US National Whitewater Center draws crowds from across the region to spend time on the manmade whitewater courses, the flatwater kayak and standup paddleboarding areas, high ropes courses, and rock climbing walls, as well as to listen to regional music festivals. You can find any kind of food cuisine you want in Charlotte as well.

PEM Fellow 2025-2026 E-mails

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