

**CRITICAL CARE FELLOWSHIP for EMERGENCY
MEDICINE PHYSICIANS
GEORGETOWN UNIVERSITY HOSPITAL
WASHINGTON HOSPITAL CENTER PROGRAM**

AAMC ID 1561012141

INFORMATION for APPLICANTS

Application Cycle 2011-2012 (Class Starting 2012)

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**Georgetown University Hospital/Washington Hospital Center
Emergency Medicine Critical Care Fellowship Program**

OVERVIEW

The Georgetown University Hospital / Washington Hospital Center Emergency Medicine Critical Care Fellowship Program is a two-year clinical and research training program that provides emergency medicine-based fellows with a broad and thorough understanding of the conditions encountered in the clinical practice of critical care medicine. This program is seamlessly integrated with the pulmonary critical care fellowship program. We accept pulmonary critical care fellows for 3 years of training (3 positions each year) and emergency medicine critical care fellows for 2 years of training (1 or 2 positions in alternate years). Therefore, in any given year, we train a total of 12 pulmonary critical care or emergency medicine critical care fellows. We have been training critical care fellows with primary training in emergency medicine since 2009.

At the end of two years, emergency medicine critical care fellows will have the education and experience to:

- Formulate and execute diagnostic and therapeutic strategies for relevant conditions in critical care medicine;
- Function as a clinical educator in an ACGME training program;
- Conduct independent research and design scientific studies.

The Washington Hospital Center has a long history of training pulmonary and critical care fellows. In addition to the fellows from our own program, fellows from the National Institutes of Health, Georgetown University Hospital, and the Uniformed Armed Services programs also rotate through the hospital's pulmonary service, medical intensive care unit, surgical intensive care unit, or coronary care unit.

CURRICULUM

The critical care training program curriculum is structured so that fellows can build their clinical experiences on a solid understanding of science and evidence-based medicine. The curriculum sets goals and objectives for each year of training that promote progressively independent clinical experiences and teaching responsibilities in the latter years.

The fellows are generally free of clinical duties during the first month so that they can devote this time primarily to building an educational foundation. Through didactic lectures, seminars, and demonstrations, fellows are taught the principles of evidence-based medicine, scientific clinical decision making, and fundamental concepts in pulmonary medicine, critical care medicine, and mechanical ventilation. The fellows also develop procedural competence as they rotate through the anesthesia service and attend various workshops on radiology, echocardiography, bronchoscopy, and central lines. Some workshops also offer unique learning opportunities through the use of computerized mannequins (patient-simulation exercises) and procedure dummies (for central lines, intubation, etc.).

The Washington Hospital Center is the primary training venue. As a large and very busy tertiary care hospital in the nation's capital, the Washington Hospital Center provides excellent training opportunities in pulmonary medicine, medical critical care, surgical critical care, ED critical care, and cardiac critical care. Annually, the Washington Hospital Center logs more than 41,000 admissions, 85,000 emergency department visits, and 198,000 outpatient visits. The breadth and complexity of cases vary from the common to the rare, providing fellows with a comprehensive experience. In addition, the fellows also have the option to rotate through the National Institutes of Health, Children's National Medical Center, Inova Fairfax Hospital and University of Maryland Shock Trauma Center.

Based on individual career goals and interests, fellows can also schedule elective rotations in infectious disease, nephrology, rehabilitation, cardiology, echocardiography, or international medicine.

FELLOWSHIP CURRICULUM

Activity Over TWO Years	Blocks Year 1	Blocks Year 2	TOTAL
DEDICATED EDUCATION ROTATIONS	1		1
CLINICAL ROTATIONS	6.5	5.5 to 7.5	12 to 14
Medical ICU	3	3	6
Surgical ICU	2		2
CCU		1	1
ICU Night Float	1.5	1.5	3
Elective Rotations		0 to 2	0 to 2
ECHO ROTATION	1		1
RESEARCH	4.5	5.5 to 7.5	10 to 12
Total	13	13	26

* Each block is four weeks.

SAMPLE SCHEDULE

Block*	Year 1	Year 2
1	Education	Research
2	MICU	MICU
3	Research	Research or Elective ICU
4	MICU	CCU
5	ECHO	Research
6	SICU	Night Float
7	Research	MICU
8	Night Float	Research
9	SICU	Night Float / Research
10	Night Float / Research	Research
11	Research	Research
12	MICU	MICU – As Attending
13	Research	Research or Elective ICU

* Each block is four weeks.

CONFERENCES

FUNDAMENTALS OF PULMONARY CRITICAL CARE COURSE (JULY EDUCATIONAL BLOCK) - In the first month of fellowship, the fellows are free of clinical duties so that they can devote this time primarily to building an educational foundation. Currently, the fellows from the GTU/WHC, the NIH, and the George Washington University programs learn together during the course and the faculty from the three institutions leads the lectures or seminars.

	Mon, July 2, 2012	Tue, July 3, 2012	Wed, July 4, 2012	Thu, July 5, 2012	Fri, July 6, 2012	
7:00-8:00		Anesthesia & Independent Reading & Practice	HOLIDAY	Anesthesia & Independent Reading & Practice		
8:00-9:30	Fellowship Orientation – Part I				EBHC Praxis I	
9:30-11:00					Hypercapnia	
11:00-12:30	EBHC – The 5 “A”s	EBHC – Therapeutic Decision Making			EBHC – PICO RAMBO PS	EBHC – Diagnostic Decision Making
1:30-3:00	Introduction to Chest Films, CT Scans, & US	Hypoxia			Physiology I	Physiology II
3:00-4:30	Simulation – Lines & Intubations	Acid Base			Sodium	IV Fluids
4:30-6:00		Metabolic Acidosis			Physiology Praxis I	Physiology Praxis II
	Mon, July 9, 2012	Tue, July 10, 2012	Wed, July 11, 2012	Thu, July 12, 2012	Fri, July 13, 2012	
7:00-8:00				Anesthesia & Independent Reading & Practice		
8:00-9:30	Simulation - Chest Tubes & Bronchoscopy	Simulation - Ventilation	Simulation - Critical Care Ultrasound		Simulation - Oxygenation	
9:30-11:00						Goals of Oxygenation
11:00-12:30	Ventilator Associated Lung Injury			Cardiac Arrest	ARDS	
1:30-3:00	Sepsis I	Sepsis II	Modes of Ventilation	Refractory Hypoxic Respiratory Failure	NIPPV	
3:00-4:30	Goals of Ventilation	Extubation				
4:30-6:00	Test Lung Praxis I	Test Lung Praxis II	Test Lung Praxis III	Test Lung Praxis IV	Test Lung Praxis V BIPAP	
					New Fellows Reception Saturday 6:30 PM	
	Mon, July 16, 2012	Tue, July 17, 2012	Wed, July 18, 2012	Thu, July 19, 2012	Fri, July 20, 2012	
7:00-8:00					Anesthesia & Independent Reading & Practice	
8:00-9:30	NIH - Antibiotics	NIH – Transplants	PFTs	Simulation Exam, Bronchoscopy Exam, Radiology Exam, & Ultrasound Exam		
9:30-11:00	NIH – Conscious Sedation	NIH - Neuro Critical Care	Sedation			
11:00-12:30	NIH - CVVHD	NIH - CVVHD	Sarcoidosis		Asthma	
1:30-3:00	NIH - Ultrasound	NIH - IABP	HRCT	Simulation Exam, Bronchoscopy Exam, Radiology Exam, & Ultrasound Exam	COPD	
3:00-4:30		NIH Ultrasound Practicum	ILD			Pulmonary Hypertension
4:30-6:00			EBHC Praxis II		PBL Conference	Pulmonary Praxis I
	Mon, July 23, 2012	Tue, July 24, 2012	Wed, July 25, 2012	Thu, July 26, 2012	Fri, July 27, 2012	
7:00-8:00		Anesthesia & Independent Reading & Practice	Anesthesia & Independent Reading & Practice		OFF	
8:00-9:30	Pulmonary Nodules			Pulmonary Exam & ICU Exam		
9:30-11:00	Lung Cancer					
11:00-12:30	Pleural Effusions	Hemoptysis	Bronchiectasis			
1:30-3:00	CAP	Antibiotics	PE & DVT	Evaluations & Feedback LUNCH		
3:00-4:30	VAP	Antifungals	MDI, Nebs, Oxygen, & High Flow Oxygen			
4:30-6:00	Pulmonary Praxis II	Pulmonary Praxis III	Fellowship Orientation – Part II			

ADVANCED CONCEPTS IN PULMONARY CRITICAL CARE COURSE (WINTER EDUCATIONAL BLOCK) - In the middle of the academic year (typically January), the fellows are once again free of clinical duties for 1 week so that they can devote this time to furthering their skills in several key areas.

	Mon, Jan 9, 2012	Tue, Jan 10, 2012	Wed, Jan 11, 2012	Thu, Jan 12, 2012	Fri, Jan 13, 2012
8:00-9:30	Speaking for Excellence	Work of Breathing, Campbell Diagram, & Pmus	Pulmonary Physiology	ARDS, PV Curves, Inflection Points, & APRV	Difficult Airway I
9:30-11:00	ICU Infection Surveillance	P Support, V Support, & Proportional Assist Modes of Ventilation	Critical Care Physiology Praxis	Ventilator Praxis II – Stress Index, PEEP-PI Curve, & APRV	Difficult Airway II
11:00-12:30	MRSA & VRE Infections	EBHC – Meta-analysis & Forest Plots	EBHC – Alpha, Beta, Mu, & R	EBHC – Systematic Reviews & Mu	Negotiating Your First Contract
1:30-3:00	Speaking for Excellence & Ultrasound Workshops	High Frequency Oscillatory Ventilation	Endobronchial Ultrasound Concepts	Surgical Critical Care Topic	Renal Replacement Therapy I
3:00-4:30		Initiating & Terminating Breaths	Endobronchial Ultrasound, Chest Tubes, and Critical Care Ultrasound Praxis	Ventilator Praxis III – More Wave Forms	Renal Replacement Therapy II
4:30-6:00		Ventilator Praxis I – HFOV, Autopeep		EBHC Praxis	Effective ICU Manager

SAMPLE CONFERENCE SCHEDULE FOR A TYPICAL 4-WEEK BLOCK - Regularly scheduled conferences are an integral part of the training program.

Week	Day	Time	Topic
1	Tue	3:00 p.m.	Critical Care Core Conference
	Thu	3:00 p.m.	Pulmonary Core & Physiology Conference
2	Tue	3:00 p.m.	Research Conference
	Thu	3:00 p.m.	Journal Club Conference
3	Tue	3:00 p.m.	Ventilator / ECHO / Simulation Conference
	Thu	7:30 a.m.	Thoracic Oncology Conference
	Thu	3:00 p.m.	Clinical Conference
4	Tue	3:00 p.m.	M&M Conference
	Thu	3:00 p.m.	Pathology Conference
	Thu	4:00 p.m.	PBL Conference

FELLOWSHIP TRACKS

The goal of the Program is to stimulate and nurture the career interests of each fellow. Program leadership recognizes that each fellow has a unique area of passion within the field of critical care medicine. Therefore, we encourage the fellow to choose among several tracks of training. For all of the tracks, the core clinical training remains the same but the fellow has the ability to differentiate in the second and (optional) third years to tailor the fellowship experience for optimal education.

- A. Clinician Research Track (Default Track) – The purpose of this track is to train fellows so that he/she is able to successfully pursue an academic career in basic science or clinical research.
 - 1. Fellow will pursue faculty-mentored research at WHC or the NIH. The research experience may be in basic science, physiology, epidemiology, outcomes, or other clinical research.
 - 2. Minimum requirements for graduation are submission of at least one hypothesis-driven research paper to a peer-reviewed journal and presentation at a national meeting.
 - 3. Fellows may pursue an optional third year for research, which may include course work resulting in M.P.H. or similar degree.

- B. Clinician Educator Track – The purpose of this track is to train fellows so that he/she will be able to successfully pursue an academic career in medical education.
 - 1. Fellow will acquire knowledge and skills in adult learning theory, cognitive psychology, evidence-based medicine, and medical simulation. Fellow will pursue protected time in teaching, writing, and curriculum development.
 - 2. Minimum requirements for graduation are any two of the following: a) submission of at least one hypothesis driven research paper to a peer-reviewed journal; b) submission of at least one review article or book chapter; or c) presentation at a national meeting.
 - 3. Fellows may pursue an optional third year for further training, which may include course work resulting in M.Ed., M.A. or similar degree.

- C. Individual Concentration Track – A fellow may pursue a variety of other fields, including but not limited to public policy, informatics, ethics, or international health.
 - 1. The curriculum and activities for this track will be determined individually by the Program Director to meet the unique career interests of the fellow.
 - 2. Minimum requirements for graduation are any two of the following: a) submission of at least one hypothesis driven research paper to a peer-reviewed journal; b) submission of at least one review article or book chapter; or c) presentation at a national meeting.
 - 3. Fellows may pursue an optional third year for further training, which may include course work resulting in M.A. or similar degree.

KEY TEACHING FACULTY

Burton W. Lee, MD	Program Director
Medical School	Harvard Medical School
Residency Training	Massachusetts General Hospital - Internal Medicine
Fellowship Training	Massachusetts General Hospital – Pulmonary Critical Care
Current Position(s)	Program Director, Pulmonary Critical Care & EM Critical Care Fellowships Assistant Professor of Medicine, George Washington University

Chee M. Chan, MD	Key Faculty
Medical School	Albany Medical College
Residency Training	University of Medicine & Dentistry in New Jersey – Internal Medicine
Fellowship Training	Brown University – Pulmonary Critical Care
Current Position(s)	Director, Medical Intermediate Care Unit, Washington Hospital Center Assistant Professor of Medicine, Georgetown University

Gene L. Colice, MD	Key Faculty
Medical School	New York University Medical School
Residency Training	Bellevue Hospital – Internal Medicine
Fellowship Training	Yale – New Haven Hospital – Pulmonary Critical Care
Current Position(s)	Section Director, Pulmonary Critical Care, Washington Hospital Center Professor of Medicine, George Washington University

Munish Goyal, MD	Associate Program Director
Medical School	Virginia Commonwealth University
Residency Training	Christiana Care Health System – Emergency Medicine
Fellowship Training	R Adams Cowley Shock Trauma Center, U of Maryland – Trauma & Surgical Critical Care
Current Position(s)	Associate Program Director, Pulmonary Critical Care & EM Critical Care Fellowships Associate Professor of Emergency Medicine, Georgetown University

Peter D. Levit, MD	Key Faculty
Medical School	New York Medical College
Residency Training	Georgetown University Hospital – Internal Medicine
Fellowship Training	George Washington University – Pulmonary Critical Care
Current Position(s)	Director, PFT Lab, Washington Hospital Center Assistant Professor of Medicine, George Washington University

Andrew Shorr, MD, MPH	Key Faculty
Medical School	University of Virginia
Residency Training	Walter Reed Medical Center – Internal Medicine
Fellowship Training	Walter Reed Medical Center – Pulmonary Critical Care
Current Position(s)	Associate Section Director, Pulmonary Critical Care, Washington Hospital Center Associate Professor of Medicine, Georgetown University

Jessica Wang Memoli, MD	Key Faculty
Medical School	University of Miami School of Medicine
Residency Training	Georgetown University Hospital Washington Hospital Center – Internal Medicine
Fellowship Training	Medical University of South Carolina – Pulmonary Critical Care
Current Position(s)	Director, Interventional Pulmonology

Christian Woods, MD	Associate Program Director
Medical School	St. Georges University Medical School
Residency Training	Georgetown University Hospital Washington Hospital Center – Internal Medicine
Fellowship Training	Georgetown University Hospital Washington Hospital Center – Infectious Disease Georgetown University Hospital Washington Hospital Center – Pulmonary Critical Care
Current Position(s)	Associate Program Director, Pulmonary Critical Care & EM Critical Care Fellowships Director, Pulmonary Fellows' Clinic

Anthony F. Suffredini, MD	Key Faculty
Medical School	University of Connecticut
Residency Training	Medical College of Virginia – Internal Medicine
Fellowship Training	University of Pittsburgh – Critical Care Medicine
Current Position(s)	Associate Chief & Senior Investigator, Critical Care Medicine Department, National Institute of Health

Arthur St. Andre, MD	Key Faculty
Medical School	Thomas Jefferson Medical College
Residency Training	George Washington University – Internal Medicine
Fellowship Training	George Washington University – Critical Care Medicine
Current Position(s)	Director, Surgical Critical Care, Washington Hospital Center Associate Clinical Professor of Medicine, George Washington University

Dorothea McAreavey, MD	Key Faculty
Medical School	Queens University, Belfast, Northern Ireland
Residency Training	Western Infirmary, Glasgow, Scotland – Internal Medicine
Fellowship Training	Royal Infirmary, Edinburgh, Scotland – Cardiology National Institute of Health – Critical Care
Current Position(s)	Program Director, Critical Care Fellowship, National Institute of Health Attending Cardiologist & Intensivist, National Institute of Health

RECENT FELLOWS

CLASS STARTING 2011		
Leslie Matesick	Emergency Medicine Residency San Antonio Uniformed Services Health Education Consortium, Wilford Hall	B.S. University of Central Florida D.O. Arizona College of Osteopathic Medicine
Jessica Pamer	Internal Medicine Residency Georgetown University Hospital Washington Hospital Center	B.S. St. Mary's College of Maryland M.D. Ross University
Vinay Patel	Internal Medicine Residency Georgetown University Hospital Washington Hospital Center	B.S. St. Johns University, New York M.D. Ross University
Bruce Sabath	Internal Medicine Residency Johns Hopkins University Hospital	B.S. Georgetown University M.D. Johns Hopkins University
CLASS STARTING 2010		
Phuong Ho	Internal Medicine Residency & Chief Residency Georgetown University Hospital Washington Hospital Center	B.S. University of Maryland College Park M.D. Pennsylvania State College of Medicine
Genese Lamare	Emergency Medicine Residency & Chief Residency, Georgetown University Hospital & Washington Hospital Center Program	B.S. University of Texas – Pan American M.D. University of Texas San Antonio
Joe McDonald	Internal Medicine Residency & Chief Residency University of Kansas Hospital	B.S. Baker University M.A. University of Kansas M.D. University of Kansas
CLASS STARTING 2009		
Bernard Kim	Internal Medicine Residency University of Maryland Medical Center	B.S. University of California Los Angeles M.D. University of Cincinnati
Anthony Mitchell	Emergency Medicine Residency Louisiana State University & Charity Hospital of New Orleans	B.S. United States Air Force Academy M.D. Harvard Medical School
Matthew Schreiber	Internal Medicine Residency Georgetown University Hospital Washington Hospital Center	B.A. Washington University, St. Louis M.D. Ross University, Dominica
CLASS STARTING 2008		
Cindy Lee	Internal Medicine Residency University of Maryland Hospital	B.A. University of Maryland Baltimore County M.D. University of Maryland School of Medicine
Christian Woods	Internal Medicine Residency & Chief Residency Georgetown University Hospital Washington Hospital Center Infectious Disease Fellowship Georgetown University Hospital Washington Hospital Center	B.S. Seton Hall University M.D. St. George's University, Grenada
CLASS STARTING 2007		
Lev Agarunov	Internal Medicine Residency Union Memorial Hospital	M.D. St. Petersburg State Pediatric Medical Academy, Russia
Nic Castellano	Internal Medicine Residency Georgetown University Hospital Washington Hospital Center	B.A. University of Virginia M.D. Virginia Commonwealth University
CLASS STARTING 2006		
Scott Hoff	Internal Medicine Residency Northwestern University Hospital	B.A. University of Maryland College Park M.D. Chicago Medical School
Haval Saadlla	Internal Medicine Residency & Chief Residency Prince George's Hospital	M.D. Mosul College of Medicine, Iraq

SOME HIGHLIGHTS OF THE FELLOWSHIP PROGRAM

1. Primary clinical training at the Washington Hospital Center, a very busy tertiary care hospital with outstanding array of clinical pathology, providing excellent training opportunities in pulmonary medicine, medical critical care, surgical critical care, ED critical care, and cardiac critical care.
2. Critical care fellowship training specifically targeting Emergency Medicine trained physicians with dedicated EM-Critical Care trained faculty. Currently recruiting fourth class of EM-Critical Care fellows.
3. Well-defined, learner-oriented curriculum with emphasis on knowledge at the level of the primary literature and facility with evidence-based-medicine tools. Dedicated curriculum specifically designed to promote practical understanding of biostatistics, numeracy, and principles of scientific medical decision making.
4. Differentiated goals and expectations for each year of training, with specific emphasis on independence and teaching more junior members of the team during the latter years of training.
5. Unique learning opportunities through computerized mannequins (patient-simulation exercises), procedure dummies (for central lines, intubation, etc.), anesthesia rotation (for airway management skills), and echocardiography rotation.
6. First month of the fellowship dedicated exclusively to education.
7. Excellent complement of conferences and lectures including clinical case conferences, ventilator rounds, simulation exercises, pathology conference, journal club, research conference, and morbidity and mortality conference. Unique conference (PBL Conference) to promote functional understanding of cognitive psychology, behavioral economics, adult education theory, and bioethics relevant to patient care, medical education, and research.
8. Opportunities for additional elective rotations in infectious disease, nephrology, pulmonary rehabilitation, cardiology, echocardiography, sleep, or international elective.
9. Rich opportunities for faculty mentored clinical research at the Washington Hospital Center or basic science research at the National Institute of Health.
10. Three fellowship tracks to meet the unique passions and career interests of each fellow: Clinician Researcher Track, Clinician Educator Track, and Individual Concentration Track. The purpose of these tracks is to foster an academic career in basic science or clinical research (Clinician Researcher), an academic career in medical education (Clinician Educator), or a career in a number of other fields such as public policy, medical informatics, bioethics, or international health (Individual Concentration). Each track offers an optional third year for further course work leading to an M.P.H., M.Ed., M.A. or similar degree.