PULMONARY & CRITICAL CARE

2023 NEWS & NOTES

Division of Pulmonary, Critical Care, Allergy & Sleep Medicine Annual Newsletter



INSIDE:

Interventional Pulmonology: Pioneering New Standards of Care Optimizing Treatment for Patients with NTM Lung Disease Improving Lung Cancer Screening and Treatment The Division of Pulmonary, Critical Care, Allergy, and Sleep Medicine at the Medical University of South Carolina (MUSC) is committed to providing outstanding care for patients with a wide range of lung diseases and critical illness from across the state. Our subspecialty programs in critical care, cystic fibrosis, lung transplantation, non-tuberculosis mycobacterium, pulmonary fibrosis, pulmonary hypertension, sarcoidosis, sleep medicine, rare lung diseases, thoracic oncology and tele-ICU care are regional and national leaders in patient care and research.

With nearly 40 physicians and researchers and 16 advanced practice providers, the division offers expansive and exceptional research and care in a variety of pulmonary disorders, and also serves as a regional referral center for both inpatient and outpatient evaluation.

As the only lung transplant center in South Carolina, MUSC Health excels at lung transplant surgery for people living with advanced lung disease. Our nationally recognized critical care program provides specialized services, including life support for people with life-threatening illness or injuries. As a Designated Platinum Level Center of Excellence in Life Support, we deliver sophisticated therapies such as extracorporeal membrane oxygenation (ECMO), which takes over the work of the lungs in people who cannot breathe on their own.

Our fellowship training produces outstanding physicians who are fully prepared to pursue careers in academic medicine. The division currently offers three fellowship programs in pulmonary and critical care medicine, critical care medicine, and sleep medicine as well as an NIH-funded T32 training grant for fellows who are interested in pursuing a career in clinical, translational, or basic research.

The division supports a broad-based research enterprise in clinical and translational science, working collaboratively to develop novel therapeutic approaches for the treatment of critical illnesses and pulmonary diseases. Areas of particular emphasis include advanced lung diseases, critical illness, interventional pulmonology, lung cancer, and pulmonary hypertension.





Division of Pulmonary, Critical Care, Allergy and Sleep Medicine

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Division Director and Editor-in-Chief: **Dee Ford, M.D.**

Associate Editor Creative & Production Manager: Natalie Wilson

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musc.edu/pulmonary

MESSAGE FROM THE DIRECTOR

As the director of the Division of Pulmonary, Critical Care, Allergy & Sleep Medicine, I am proud of the unwavering commitment to patient care exhibited by the division faculty members, fellows, and clinical staff over the past year. This report highlights our most important breakthroughs and accomplishments of 2022-2023 and the outcomes and innovations that make us a national leader in the treatment of respiratory disorders and critical illness.

HIGHLIGHTS OF THE PAST YEAR INCLUDE:

- Hiring of six new faculty with diverse areas of focus both clinically and with regards to research (page 11), and in FY24, we will be welcoming five more new faculty members to our team.
- Expansion of lung cancer screening and treatment access in underserved communities across South Carolina and among veterans (page 8).
- Expansion of our Interventional Pulmonology program which provides minimally invasive procedures and therapies to diagnose and treat conditions of the lung and chest (page 5).
- Treatment optimization for patients with Nontuberculous Mycobacterial Lung Disease (page 6).
- Division faculty continue to provide critical leadership to MUSC Health regarding clinical operations and host four medical directors, the Acute, Critical, and Trauma ICCE Chief, and the CEO of the MUSC Health Charleston Division amongst our faculty members.
- With more clinic locations throughout the state and increased telehealth visits, the division continues to make great strides toward MUSC's goal of improving access to care for rural and underserved communities and helping to reduce health disparities in vulnerable patient populations.
- During the past academic year, the division's research portfolio totaled over \$16.3M in research funding and includes the successful acquisition of 34 new or competitively renewed awards. The division maintains a robust pulmonary clinical trials program and conducted 196 active clinical research studies in FY23.

I hope you find this issue informative and are able to get a sense of our team's passion and excitement. We're proud of our accomplishments and the people behind them working as a team of teams to take care of the patients of today as well as the patients of tomorrow.

Dee W Ford

Dee Ford, M.D., MSCR

Professor and Director Division of Pulmonary, Critical Care, Allergy and Sleep Medicine Department of Medicine



CARING FOR South carolinians

The Division of Pulmonary, Critical Care, Allergy, and Sleep Medicine at MUSC has a team of highly trained lung and sleep experts who treat patients in various facilities in the Charleston area and provide specialized clinics to meet the individual needs of our patients. With nationally recognized programs and expertise, we work to help patients regain a sense of normalcy so they can live life on their own terms.

CENTERS OF EXCELLENCE



MUSC ADULT ECMO PROGRAM

is recognized as an ELSO-designated Platinum Level Center of Excellence in Life Support.



MUSC CENTER FOR TELEHEALTH

is one of two HRSA-funded National Telehealth Centers of Excellence (COE) led by program director **Dee Ford**, **M.D**., and co-program director **Kathryn King**, **M.D**.



MUSC PULMONARY VASCULAR DISEASE PROGRAM

is the only designated comprehensive Pulmonary Hypertension Care Center (PHCC) in South Carolina.



MUSC SUSAN PEARLSTINE SARCOIDOSIS CENTER OF EXCELLENCE

is certified by the World Association for Sarcoidosis and Other Granulomatous Diseases (WASOG) as a Sarcoidosis clinic and Center of Excellence.



Pulmonary[®] Fibrosis

Foundation

MUSC CYSTIC FIBROSIS CENTER

is the only Cystic Fibrosis Foundation-accredited program in the Lowcountry.

MUSC INTERSTITIAL LUNG DISEASE PROGRAM

is the only Pulmonary Fibrosis Foundation-designated Care Center in South Carolina.

13 CONVENIENT CLINIC LOCATIONS

Mount Pleasant

- Lung Cancer Screening East Cooper
- Lung Care + Sleep Medicine

Charleston Peninsula

- Pulmonary + Sleep at Rutledge Tower
- Pulmonary Diagnostics at Rutledge Tower
- Pulmonary Diagnostics at Ashley River Tower
- Pulmonary Rehabilitation Lab, Bee Street
- Sleep Lab at University Medical Center

North Charleston

- Lung Cancer Screening, Elms Center
- Pulmonary, Allergy + Sleep, Dantzler
- Florence
 - Pulmonary + Sleep Florence
- Columbia
 - Pulmonary + Sleep Medicine, Columbia NE
- Camden
 - Sleep Center Haile Street
- Lancaster
 Sleep Medicine Lancaster

Call for Appointments:

MUSC Pulmonary Clinics: 843-792-5864

INTERVENTIONAL PULMONOLOGY PROGRAM

Pioneering New Treatment & Standards of Care in Pulmonary Medicine

Article by Natalie Wilson

Interventional pulmonology provides minimally invasive techniques to help diagnose and treat lung diseases.

omplex lung problems like airway tumors, narrowed air passages, and severe COPD can impair lung function and diminish a person's quality of life. The Interventional Pulmonology (IP) program at MUSC Health provides minimally invasive procedures and therapies to diagnose and treat these conditions.

"We want to detect disease early without having to do invasive surgeries," said **Christopher Gilbert, D.O., MS, FCCP**, medical director of the Interventional Pulmonology program at MUSC Health.

That's where interventional pulmonology comes in.

MUSC is the only hospital in the state of South Carolina with a team of two board-certified interventional pulmonologists. Dr. Gilbert and **Travis Ferguson**, **M.D.** specialize in advanced minimally invasive diagnostic tests and therapeutic procedures for lung, airway, and pleural disease-related issues.

"The program provides a complete approach to treating a variety of lung and pleural diseases, including cancer related complications such as malignant pleural effusions and central airway obstruction through our multidisciplinary collaboration with other specialists," said Dr. Gilbert.

The interventional pulmonology team works closely with thoracic surgeons, oncologists, pulmonologists, respiratory therapists, and others to address a variety of conditions that impact the lungs and airway. Additionally, IP nurse navigators help patients and families make their way through the often complex and confusing health care system, remaining in constant contact with the patient and the doctors.

"This model of collaborative care integrates all areas of expertise to create one team for the patient," said Dr. Gilbert. "We are unique in that we have the facilities and



expertise to provide all pulmonology services on-site at the center, so the patient has continuity of care without the need to travel."

Among the procedures offered are rigid bronchoscopy, endobronchial ultrasound, electromagnetic navigation guided bronchoscopy, robotic bronchoscopy, airway stents, pleurodesis, indwelling tunneled pleural catheters, and pleuroscopy/thoracoscopy.

The program is designed to rapidly see patients who are referred to MUSC, make or confirm a diagnosis, and commence treatment in a short time frame. The minimally invasive procedures are frequently performed in outpatient settings, oftentimes reducing costs and wait times.

"We are talking about improved quality of life for most patients and potentially prolonging survival for some," Dr. Gilbert said.

As a leading research center, MUSC is always exploring new and innovative treatment options. The MUSC Thoracic Oncology Research Group currently offers a variety of clinical trials providing eligible patients with access to new treatments not available elsewhere.

The program will also be engaged in training the next generation of pulmonary physicians. "We intend to develop an Interventional Pulmonology fellowship program, the only one of its kind in South Carolina," said Dr. Gilbert. "The ability to provide this speaks to the underlying excellence at MUSC – including clinical volume, dedication to education, and world class research."

Make a Referral

To refer a patient, please call 843-985-3287 or send a fax to 843-985-4772



NTM CLINIC

A Multidisciplinary Team Takes on Nontuberculous Mycobacterial Lung Disease

e are all exposed to nontuberculous mycobacteria (NTM), which are widely found in the environment, including the soil and water. In certain people these bacteria can cause infections primarily in the lungs but can also cause infections in other organs such as skin, bones, and blood. Anyone can get an NTM infection, but the risk is greater for people with compromised immune systems or damaged airways due to asthma, cystic fibrosis, or chronic obstructive pulmonary disease.

Medical University of South Carolina pulmonologist Patrick Flume, M.D., first became interested in NTM lung disease when he noticed that as many as 15% of the patients he was seeing in his cystic fibrosis clinic had the disease. That led Dr. Flume, more than a decade ago, to start a monthly half-day clinic dedicated to these patients, one of the first in the nation. As NTM became more common, that clinic expanded and now runs weekly.

The NTM clinic at MUSC is the only one of its kind in South Carolina and the largest in the Southeast dedicated to the treatment of mycobacterial infections. Dr. Susan Dorman and Dr. Yorsa Alkabab

A coordinated team of clinicians and practitioners at MUSC Health help NTM patients navigate their treatment, which can be very specific from patient to patient. The program's core team includes physicians in pulmonary medicine (**Patrick Flume**, **M.D.** and **Christine Mingora**, **M.D.**) and infectious diseases (**Susan Dorman**, **M.D.** and **Yorsa Alkabab**, **M.D.**) who are experts in NTM treatment.

"Our team has the depth and breadth of expertise to address all facets of NTM infections in one clinic location," said **Christine Mingora, M.D.**, a pulmonary physician in the NTM clinic. "In addition to clinicians, we have nurse coordinators, pharmacists, psychologists, respiratory therapists, and administrative staff who help us focus on multiple aspects of care and take a holistic approach to dealing with these infections."

As a leading research center, MUSC is always exploring new and innovative treatment options and has a robust clinical trials program.

With the support of the <u>South Carolina Clinical &</u> <u>Translational Research Institute's Research NEXUS</u>, Dr. Flume now runs NTM clinical trials to help to identify better therapies for these patients. He also works with NTM experts across the nation to improve our understanding of the disease and the burden it poses, both to patients and to the health care system.

Patients with NTM lung disease can go years without a diagnosis because their symptoms – lingering cough, fatigue, fever, weight loss, and sweats – are not recognized or are attributed to different diseases. "By the time they come to us with a diagnosis, they've often been treated multiple times with antibiotics for respiratory symptoms before they finally figure out they've got NTM," said Dr. Flume.

Once diagnosed, patients are put on a regimen of three to four antibiotics for many months, during which time sputum is cultured again to see if the infection has been cleared. Even after infection clearance, patients continue on antibiotics for an additional year.

Dr. Flume thinks that early diagnosis is key to a better quality of life for these patients and to reduced rates of hospitalization. He encourages physicians to consider NTM infection in patients, particularly patients with other lung diseases, who show symptoms, such as a lingering cough, fatigue, and fever that do not improve with antibiotics.

"We're trying to communicate to docs to at least put this in their thought process," said Dr. Flume. "When your patient is having persistent respiratory symptoms, is it possible he or she could be having this type of infection? If we identify them earlier, then we can intervene earlier and make a difference in their lives."

Scan this QR code to learn more about the NTM care team at MUSC Health, schedule a visit, or refer a patient.





Make a Referral

To schedule a referral, please fax patient information to 843-876-0649. Our schedulers will call patients with appointment dates and times available to schedule.

SELECTED CLINICAL STUDIES

Consider offering your patients enrollment in one of our leading-edge NTM clinical research trials at MUSC.

MAC2v3 | A multicenter randomized pragmatic clinical trial comparing two- versus three-antibiotic therapy for pulmonary Mycobacterium avium complex disease

Insmed ENCORE | A Randomized, Double-Blind, Placebo-Controlled, Active Comparator, Multicenter Study to Evaluate the Efficacy and Safety of an Amikacin Liposome Inhalation Suspension (ALIS)-Based Regimen in Adult Subjects with Newly Diagnosed Nontuberculous Mycobacterial (NTM) Lung Infection Caused by Mycobacterium avium Complex (MAC)

SPERO | A Randomized, Double-Blinded, Placebo-Controlled, Multicenter, Phase 2, Dose- Ranging Study to Evaluate the Efficacy, Safety, Tolerability, and Pharmacokinetics of SPR720 as Compared with Placebo for the Treatment of Patients with Mycobacterium avium Complex (MAC) Pulmonary Disease

Paratek | A Phase 2, Double-Blind, Randomized, Parallel-Group, Placebo-Controlled, Multi-Center Study to Evaluate the Efficacy, Safety, and Tolerability of Oral Omadacycline in Adult Subjects with Nontuberculous Mycobacterial (NTM) Pulmonary Disease Caused by Mycobacterium abscessus Complex (MABc)

AN2 | A Phase 2/3, Randomized, Double-blind, Placebocontrolled, Multicenter, Prospective Study to Assess the Efficacy, Safety, and Pharmacokinetics of Orally Administered Epetraborole in Patients with Treatmentrefractory Mycobacterium avium Complex Lung Disease (MACrO2)

RENOVION | A Phase 2a, randomized, double-blind, placebo-controlled study to evaluate the safety and efficacy of ARINA-1 administered twice daily by nebulizer in adult participants with non-cystic fibrosis bronchiectasis (NCFBE) with excess mucus and cough.

For more information about Clinical Studies, contact: **Zerlinna Teague, BSN, RN** | Recruitment Coordinator 843-792-0965 | <u>recruitment@musc.edu</u>

BRINGING CARE TO THE COMMUNITY

Lung Cancer Screening Program Expands through MUSC Regional Hospitals

ung cancer is the second most common cancer and the primary cause of cancer-related death in both men and women in the United States. That's why the MUSC Health Lung Cancer Screening Program, in partnership with MUSC Hollings Cancer Center, offers lung screening to help determine if patients are at risk and, if so, help increase their chance of survival with early detection.

The lung cancer screening program at Hollings has been in place since 2016, growing from 251 patients that first year to 1,485 in 2022.

Not only has the Charleston program increased the number of people getting scans, but the providers have worked diligently to get people to return for scans in subsequent years. Like mammograms, lung cancer scans should be performed annually.

The team's dedication has resulted in a lung cancer detection rate that's higher than the rate in the National Lung Screening Trial. More than that, the Charleston program is seeing a "stage shift," meaning that the majority of cancers it finds are still in Stage 1, when they can be surgically removed.

MUSC lung cancer pulmonologists **Gerard Silvestri**, **M.D.**, and **Nichole Tanner**, **M.D**., along with Hollings colleagues, have been working to increase access to screenings by bringing this service to MUSC Health's regional hospitals and by increasing awareness and expanding navigation services.

Now, the program is offered at MUSC Health Regional Health Network locations in the Midlands, Florence and Lancaster areas, where doctors hope to replicate the success of the Charleston program.

ADDRESSING LUNG CANCER DISPARITIES

Lung cancer is the world's leading cancer killer, but not everyone is at equal risk. Black people, for instance, are diagnosed later and die from lung cancer at rates higher than their white counterparts. The disparities are stark in South Carolina, where two-thirds of the population live in rural and medically underserved areas, according to Dr. Silvestri. Tobacco use is the top risk factor for lung cancer, and smoking prevalence is highest among people living below the federal poverty level, "who are difficult to reach", says Dr. Silvestri. "Many of the people I see come from more than 50 miles away, and some can't afford the gas to get here." Hollings is tackling the state's lung cancer disparities from two angles. One key objective is to make clinical trials and cutting-edge therapies available to the state's population.

The other priority is to boost access to screening with lowdose computed tomography scans of the chest. Nationally, only about 6% of people who are eligible actually get lung cancer screenings. The effort at Hollings targets people aged between 50 and 77 with a 20+ year history of smoking at least one pack of cigarettes on average per day. The goal is to save lives by diagnosing lung cancer during early stages, when five-year survival rates after treatment range up to 92%.

Newly awarded grants are facilitating these efforts.

Dr. Silvestri and Hollings cancer disparities researcher Marvella Ford, Ph.D., are combining their medical and behavioral science expertise to get more people to cancer screenings.

Earlier this year, they led Hollings to receive a Stand Up to Cancer grant and become part of the Southeastern Consortium for Lung Cancer Health Equity, which has as one of its goals improving cancer outcomes and screening rates in medically underserved communities.

Now, they are co-leaders of a \$1.2 million grant to Hollings from The Duke Endowment, with ambitious goals to increase screening rates for five cancers and expand biomarker research trials by working with the regional hospitals in Florence, Lancaster, Chester, Marion, Columbia, and Kershaw and a new facility scheduled to open in 2023 to serve Lake City and Williamsburg County.

The Duke Endowment grant establishes the Center for Cancer Equity and Engagement at Hollings, a center that will house this and many other health disparity initiatives.

SCREENING AND TREATMENT ACCESS AMONG VETERANS

With funding from the Veterans Affairs VA Lung Precision Oncology Program, researchers from MUSC Hollings Cancer Center hope to expand access to lung cancer screening and precision oncology treatments among veterans in the Southeast. The project, which is being led by Dr. Tanner and oncologist and co-investigator **John Wrangle, M.D.**, will create a national network of sites with expertise in lung cancer screening and precision oncology clinical trials that can help facilitate similar research at smaller VA facilities, which are often located in rural areas.

According to Dr. Tanner, the rate of lung cancer among veterans is almost double that of the general population due to higher rates of smoking and exposure to chemicals like tactical herbicides and burn pits, making it a critical health care problem in this population.

Schedule a Screening

Your doctor may refer you for screening, or you may refer yourself for a consultation:

843-792-9300	Charleston & Surrounding Areas
803-416-5470	Chester & Lancaster
803-409-7030	Columbia, Kershaw & Surrounding Areas
843-673-7529	Florence

Scan this QR Code for more information on Lung Cancer Screening





Dr. Nichole Tanner co-directs the comprehensive lung cancer screening program at Hollings. *Photo by Sarah Pack*



FELLOWSHIP PROGRAM NOTES







A major focus of the **Division of Pulmonary, Critical Care**, **Allergy and Sleep Medicine** at MUSC is training the next generation of leaders in pulmonary and critical care medicine.

The division offers a three-year combined Pulmonary and Critical Care Medicine Fellowship Program directed by **Edward Kilb, M.D.**, (above left) to provide training leading to board eligibility in both pulmonary medicine and critical care medicine, and a two-year Critical Care Medicine Fellowship directed by **Andrew Goodwin**, **M.D.**, (above center) to prepare the trainee for board eligibility in critical care medicine. Additionally, we offer a one-year accredited Sleep Medicine Fellowship directed by **Andrea Rinn**, **M.D.** (above right), and an NIH-funded T32 research training program.

The fellowship program offers customizable schedules to train physician-scientists and clinician educators. Daily conferences are dedicated to clinical topics, research, or career development. We pride ourselves in providing robust and productive mentoring for all of our fellows.

Scan this QR Code for more information on our Fellowship Program



INCOMING FELLOWS 2023

PULMONARY & CRITICAL CARE



Kaamya Bhandari, M.D.

Residency: University of Connecticut Medical School: Ross University School of Medicine



Robert Easterling, M.D.

Residency: The Ohio State University Medical School: University of Toledo



Sara Journeay, M.D. Residency: Tufts University

Medical School: University of Texas



Andie O'Laughlin, M.D.

Residency: Virginia Commonwealth Medical School: Cooper Medical School of Rowan University



Melinda Talley, M.D.

Residency: University of Mississippi Medical School: University of Mississippi

CRITICAL CARE MEDICINE



Scott Stockholm, D.O.

Fellowship: Washington University – Nephrology Residency: Cape Fear Valley Hospital – Internal Medicine Medical School: Edward Via College of Osteopathic Medicine

SLEEP MEDICINE



Meher Farooq, M.D.

Residency: University of Tennessee – Pediatrics Medical School: Florida State University

PULMONARY & CRITICAL CARE FACULTY & AWARDS

NEW FACULTY HIRED IN FY23



Rita Bakhru, M.D. Associate Professor **Subspecialty**: Critical Care Medicine



George Carter, M.D. Associate Professor Subspecialty: Critical Care Medicine



Christopher Gilbert, D.O. Associate Professor **Subspecialty**: Interventional Pulmonology



Jessica Lozier, M.D. Assistant Professor Subspecialty: Pulmonary Disease Medicine, Critical Care Medicine



Aravind Menon, M.D. Assistant Professor Subspecialty: Interstitial Lung Diseases



Harrison Smith, M.D. Assistant Professor Subspecialty: Critical Care Medicine, Pulmonary Disease Medicine

Scan this QR Code to view our complete Faculty Listing:



AWARDS & RECOGNITIONS



Patrick Flume, M.D. Named Associate Vice President for Clinical Research in the Office of the Vice President for Research at MUSC



Dee Ford, M.D., MSCR Accepted into the Executive Leadership in Academic Medicine (ELAM) Program



Edward Kilb, M.D. Received the 2022 Education Innovation Fund Award



Chitra Lal, M.D., D-ABSM, FCCP, FAASM, FACP

Named chair of the Non-Respiratory Sleep Section of CHEST's Sleep Medicine Network; named 2022 CHEST Educator



Gerard Silvestri, M.D. Awarded Master Fellow from American College of Chest Physicians



Nichole Tanner, M.D., MSCR Received the Population Health Award, 2023 MUSC Annual Faculty Awards



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THE MUSC DEPARTMENT OF MEDICINE

Founded in 1824 in Charleston, The Medical University of South Carolina is the oldest medical school in the South. Today, MUSC continues the tradition of excellence in education, research, and patient care. MUSC educates and trains more than 3,000 students and residents, and has nearly 17,000 employees, including approximately 1,500 faculty members.

> As the largest Department in the MUSC College of Medicine, the Department of Medicine provides essential leadership to numerous programs across the university, MUSC Health, and South Carolina. Our Department made up of 10 divisions engaged in care at two hospital systems and multiple ambulatory practices—is guided by our vision to provide superior patient care, to educate the next generation of physicians, and to generate groundbreaking scientific discoveries to improve human health.

Our divisions are home to numerous NIH-funded, internationally renowned investigators, master clinicians, and award-winning educators who are leaders in their specialized fields of medicine.

Changing What's Possible

UNIVERSITY HOSPITAL