

INFECTIOUS DISEASES

Department of Medicine

SCOPE OF PRACTICE

PGY-4 – PGY-5

Definition and Scope of Specialty

Infectious Diseases subspecialty training is a voluntary component in the continuum of the educational process of physician training; such training may take place after satisfactory completion of an accredited program in internal medicine. The overall goal of training in infectious diseases is to acquire proficiency in evaluating and managing patients with, or suspected of having, illness due to an infectious disease. Fellows entering training in infectious diseases must be graduates of an ACGME accredited internal medicine training program, or a graduate of a non-ACGME accredited internal medicine program with at least three years of internal medicine training prior to entering fellowship. Infectious Diseases training will provide advanced training to allow fellows to acquire competency in infectious diseases with sufficient expertise to act as an independent consultant in the field.

Faculty responsible for the education of fellows in Infectious Diseases include:

- Cassandra D. Salgado, MD, MS, Professor, Division Director, Infectious Diseases
- J. Robert Cantey, MD, Professor, Infectious Diseases
- Susan E. Dorman, MD, Professor, Infectious Diseases, Director, ID Global Health
- Yosra Alkabab, MD, Assistant Professor, Infectious Diseases
- Allison Eckard, MD, Professor, Division Director, Pediatric Infectious Diseases
- Camelia Marculescu, MD, MSCR, Professor, Infectious Diseases
- Eric Meissner, MD, PhD, Associate Professor, Director for HIV and Hepatitis Services and Research, Infectious Diseases
- Scott Curry, MD, Assistant Professor, Associate Hospital Epidemiologist, Infectious Diseases
- Evgenia Kagan, MD, Assistant Professor, Infectious Diseases
- Richard Lueking, MD, Assistant Professor, Co-Director Antimicrobial Stewardship, Infectious Diseases

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- Ruth Adekunle, MD, Assistant Professor, Program Director, Infectious Diseases
- Charles Teixeira, DO, Assistant Professor, Director of Telemedicine, Infectious Diseases
- John McKinnon, MD, Associate Professor, Infectious Diseases
- Alexandra Mills, MD, Assistant Professor, Infectious Diseases
- Drew Charles, DO, Assistant Professor, Infectious Diseases
- Helen (Jensie) Burton, MD, Assistant Professor, Infectious Diseases
- Courtney Harris, MD, Assistant Professor, Infectious Diseases, Transplant Infectious Diseases Fellowship Program Director
- Dannah Wray, MD, Clinical Associate Professor, Ralph H Johnson VAMC Chief of Infectious Diseases, Infectious Diseases
- Stephanie Kirk, PharmD, Clinical Associate Professor, Infectious Diseases
- Hayley Davis, PharmD, Clinical Instructor, Infectious Diseases
- Lisa L. Steed, PhD, Director of Clinical Microbiology
- Logan Patterson, PhD, Director of Molecular Microbiology

Duration and Scope of Education

The Infectious Diseases training program functions as an integral part of the accredited MUSC residency program in Internal Medicine. To ensure compliance with the ACGME accreditation standards, the Program Director for infectious diseases reports to the Program Director for the internal medicine residency program. After successful completion of infectious diseases subspecialty training, the fellow will be eligible for certification in infectious diseases offered by the American Board of Internal Medicine.

The scope of education includes the following elements; 1) learn to evaluate and manage febrile patients including patients presenting with rash or fever of unknown origin, 2) learn to evaluate and manage HIV infection and its complications, 3) learn to evaluate and manage infections in the

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immunocompromised host, including infections in patients who suffer from malignancy and its complications, and those who have received solid organ or bone marrow transplants, 4) learn the outpatient management of infectious diseases, including antibiotic administration and peripherally inserted central catheter (PICC) lines both in the outpatient clinic and home setting, 5) learn to diagnose and manage viral hepatitis, including hepatitis B and C, 6) learn to diagnose and treat sexually transmitted diseases and infections of the reproductive organs, 7) learn the prevention, diagnosis and management of diseases associated with international travel, including tropical infectious diseases, 8) understand the epidemiology of infectious diseases including the fundamentals of hospital epidemiology, infection control, quality improvement and patient safety, 9) understand the appropriate use of the Clinical Microbiology Laboratory and how clinical specimens are processed and microorganisms are identified, and 10) learn the principles and practice of antimicrobial stewardship. Experience in pediatric infectious diseases is suggested and offered, but not required.

The duration of subspecialty training in infectious diseases is two years and typically begins in July of each year. An optional third year of training for research development may be requested and is handled on an individual case by case basis at the discretion of the Division Chief and Program Director. A minimum of twelve months is devoted to clinical experiences, including inpatient consultative service and ambulatory medicine. During the ambulatory experience, fellows have training in both consultative services and continuing care in infectious diseases, including HIV infection. Continuity ambulatory care experience of 24 months is a mandatory component of the training program.

Educational Standards

Fellowship training in Infectious Diseases balances education through didactic instruction, simulation, and education through direct patient care. Education through direct patient care activities includes both inpatient and outpatient experience.

The inpatient consultative teaching service allows the fellow to gain experience in the evaluation and management of infectious diseases in a variety of inpatient settings such as general inpatient medical and surgical wards, and intensive care units. Inpatient consult rounds are held daily where the physiology, pathophysiology, differential diagnosis, evaluation and management of patients followed by the consult service are discussed with the attending physician. Fellows gain experience

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which allows them to become competent in the evaluation and management of the following disorders; 1) pleuropulmonary infections, 2) infections and complications associated with HIV/AIDS, 3) cardiovascular infections, 4) central nervous system infections, 5) GI and intra-abdominal infections, 6) skin and soft tissue infections, 7) bone and joint infections, 8) infections of prosthetic devices, 9) infections related to trauma, 10) sepsis syndromes, 11) nosocomial infections, and 12) urinary tract infections.

The outpatient infectious diseases clinics allow the fellow to gain experience in the evaluation and management of infectious diseases in a variety of ambulatory settings such as the MUH Infectious Diseases Clinic and the RHJVAMC Infectious Diseases Clinic. This ambulatory experience includes training in the longitudinal care of patients with general infectious diseases, and those with HIV infection. Additionally, this experience includes training in the administration of outpatient antibiotics, including the management of PICC lines, the evaluation and management of sexually transmitted infections (STIs), travel medicine-associated infections, as well as pre-travel counsel. Each patient seen by the fellow in the outpatient setting is done under the supervision of the attending physician who will discuss physiology, pathophysiology, differential diagnosis, and evaluation and management of patients as appropriate.

Didactic instruction for fellows includes a variety of conferences including; 1) weekly case of the week presentation (includes morbidity and mortality conference), 2) weekly fellows didactic lecture series, 3) weekly Department of Medicine grand rounds, 4) bimonthly HIV Collaborative Conference, 5) quarterly journal club, 6) research conferences, and 7) bimonthly ID grand rounds. Fellows also participate in and are invited to attend the weekly house staff and medical student lecture series presented to residents and students rotating on the ID consult service.

Fellows complete two months of experience in the Clinical Microbiology Laboratory under the supervision of the MUSC Clinical Microbiology Faculty. Fellows learn through didactic and practical means the methods by which clinical specimens are processed and microorganisms are identified. This includes bacterial pathogens as well as fungal, parasitic, and viral pathogens. Fellows are also exposed to techniques employed for serologic diagnosis of infectious diseases as well as molecular diagnostics.

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Fellows participate in research and scholarly activities mentored by ID faculty or faculty from other collaborating divisions. The fellow is expected to draft a protocol and complete a clinical or basic research project, or, draft a case report or case series with a review of the literature. All fellows participate in a quality improvement project during their training period with related outcomes tracked. The fellow may independently design and complete a quality improvement project or participate in an existing project. Fellows are expected to present the results of their research efforts to the ID faculty and other attendees of the Division research conference, to the state ID society membership at the annual meeting, as well as a national scientific meeting if appropriate. Fellows are also expected to help draft a manuscript related to their research activity if appropriate.

Fellows gain experience in Hospital Epidemiology and Infection Control and Prevention by attending didactic lectures on the topic, serving on the Infection Control Committee, and completing a one-month practical experience with the Hospital Epidemiologist and Infection Preventionists. Fellows are also encouraged to attend the Society for Healthcare Epidemiology of America annual conference for Infection Control and Hospital Epidemiology or participate in the online course.

Fellows gain experience in Antimicrobial Stewardship by completing an online didactic course in antimicrobial stewardship principles and practices then completing a 4-week rotation with dedicated antimicrobial stewardship pharmacists. Fellows with a particular interest in this area are able to dedicate additional time to this training and may participate in quality improvement or research projects with the Antimicrobial Stewardship team.

Fellows are evaluated after each clinical activity by the attending physician(s) who supervised them, by residents and medical students who were under their supervision, by other healthcare providers (including nurses, social workers, pharmacists, and therapists), and by patients for whom they provided care. Evaluation is based on the 6 ACGME competency areas. Additionally, each fellow is evaluated by fellow peers as well as through self-reflection. Evaluations are recorded in the MedHub system or on paper and copies are placed in each fellow's file to be reviewed at any time. All evaluations are reviewed with the fellow every 6 months by the Program Director. The fellows are also evaluated utilizing the subspecialty milestones and entrustable acts as determined by a clinical competency committee made up of the Program Director, three additional faculty members from the division, and one faculty member from a different subspecialty. Committee meetings are held at least

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twice a year and results shared with fellows at the time of their 6-month evaluation, unless more immediate action is deemed necessary by the committee.