

**ACGME Program Requirements for Graduate Medical Education
in Medical Microbiology**

Line Number(s): 321-545

Requirement Revision (major revisions only):

IV.A.2 ACGME Competencies

**The program must integrate the following ACGME competencies
into the curriculum:**

IV.A.2.a) Patient Care

**Fellows must be able to provide patient care that is
compassionate, appropriate, and effective for the treatment of
health problems and the promotion of health. Fellows:**

IV.A.2.a).(1) must demonstrate competence in performing procedures,
including:

IV.A.2.a).(1).(a) ~~must develop knowledge and skills related to the
specimen selection, collection, and transport of
specimens, processing of specimens,~~

IV.A.2.a).(1).(b) ~~must perform and interpret all relevant forms of
direct microscopic examination of clinical materials
(e.g., including light and fluorescence and electron
microscopy) for the morphologic diagnosis of
infectious diseases; in clinical materials (e.g., direct
microscopy of stained smears, cytologic
preparations, and tissue sections); and~~

IV.A.2.a).(1).(c) ~~examination of examining cultures using
biochemical immunologic and molecular techniques
for identification of microorganisms by all
appropriate methodologies (including morphologic,
immunologic, and molecular techniques),
supplemented with stock cultures of infrequently
encountered and medically important
microorganisms, microscopic slides, photographs
and seminar material.~~

IV.A.2.a).(2) must demonstrate competence in:

IV.A.2.a).(2).(a) interpreting results of assays performed in the
medical microbiology laboratory, including
antimicrobial susceptibility tests and molecular
diagnostic tests; and

IV.A.2.a).(2).(b) ~~should observe patients of all ages with a wide~~

	variety of infectious diseases through interaction with physicians from other clinical services;
IV.A.2.a).(2).(c)	must provide medical, scientific, and administrative direction in a diagnostic microbiology laboratory;
IV.A.2.a).(2).(d)	must interpret and correlate <u>interpreting and correlating</u> the clinical status of a patient with the results of medical microbiology testing, including the implications of both negative and positive test results
IV.A.2.a).(3)	must use immunological and molecular methods to aid in the detection and identification of microorganisms and their virulence factors;
IV.A.2.a).(4)	must demonstrate a satisfactory level of diagnostic competence and the ability to provide appropriate and effective consultation in the context of pathology services;
IV.A.2.a).(5)	must have experience and competence in the interpretation of laboratory data as part of patient care decision making and patient care consultation..
IV.A.2.b)	Medical Knowledge
	Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Fellows:
IV.A.2.b).(1)	should <u>must demonstrate expertise in their knowledge of:</u> have instruction including, but not be limited to
IV.A.2.b).(1).(a)	medical bacteriology, including mycobacteriology, mycology, virology, parasitology, immunology, molecular testing related to infectious diseases, public health microbiology (including epidemiologic typing as related to infection control), and antimicrobial susceptibility testing; <u>and</u>
IV.A.2.b).(1).(b)	should have in depth knowledge of specimen collection, transport and processing, microscopic examination of specimens, histopathologic and clinical correlation of microbiologic data, activity and pharmacokinetics of antimicrobial agents, <u>and</u> principles and interpretation of antimicrobial susceptibility testing and antimicrobial assays.
IV.A.2.b).(2)	<u>must demonstrate expertise in their knowledge of:</u>

IV.A.2.b).(2).(a)	<p>must develop knowledge and skills relating to principles of disinfection and sterilization, hospital infection control, infection control committee functions and responsibilities, microbiologic safety, laboratory safety, quality control, workload accounting, budgeting, personnel supervision, and epidemiology as related to the hospital and public health issues;</p>
IV.A.2.b).(2).(b)	<p><u>the role of the microbiology laboratory in the context of the hospital healthcare system and community medicine, including:</u></p>
IV.A.2.b).(2).(b).(i)	<p><u>infection control methods to prevent the spread of antimicrobial resistant microorganisms throughout the hospital and the healthcare system;</u></p>
IV.A.2.b).(2).(b).(ii)	<p><u>interactions of the medical microbiology laboratory with the public health system for the detection and submission of microorganisms so as to aid in the containment of infectious diseases and</u></p>
IV.A.2.b).(2).(b).(iii)	<p><u>public health implications of specific microorganisms and means for their control.</u></p>
IV.A.2.b).(2).(b).(iii).(a)	<p><u>For tests sent to a reference laboratory facility, the fellow should understand the methods used to perform the assays and the interpretation of test results.</u></p>
IV.A.2.c)	<p>Practice-based Learning and Improvement</p>
	<p>Fellows are expected to develop skills and habits to be able to meet the following goals:</p>
IV.A.2.c).(1)	<p>systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;</p>
IV.A.2.c).(2)	<p>locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.</p>
IV.A.2.c).(3)	<p>participate in decisions that affect communicable disease prevention and epidemiology;</p>
IV.A.2.c).(4)	<p>independently evaluate and solve problem situations identified by the medical and laboratory staff relating to</p>

medical microbiology, infectious diseases, and epidemiology.

IV.A.2.d) Interpersonal and Communication Skills

Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

IV.A.2.d).(1) Fellows must demonstrate competence in providing appropriate and effective consultations to other physicians and health professionals, both intra- and inter-departmental.

IV.A.2.d).(1).(a) Consultations should include providing medical advice on the diagnosis, treatment, and control of infectious diseases.

IV.A.2.d).(2) Fellows must demonstrate competence in educating trainees others in the knowledge, skills and abilities related to medical microbiology.

IV.A.2.e) Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

IV.A.2.e).(1) Fellows must interact in a professional manner when communicating with clinicians regarding inappropriate and rejected specimens, and requests for inappropriate testing.

IV.A.2.f) Systems-based Practice

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

IV.A.2.f).(1) Fellows must participate in institution-wide financial and/or operational decisions relating to the diagnosis, management, treatment, and control, and prevention of infectious diseases.

IV.A.2.f).(2) ~~Fellows must assess/recognize the public health implications of specific microorganisms, and means for their control.~~

IV.A.3. Curriculum Organization and Fellow Experiences

IV.A.3.a)	<u>Fellows must have structured instruction and experience in the administration, management, and direction of a medical microbiology laboratory, including quality assurance, safety regulations, and the use of laboratory and hospital information systems.</u>
IV.A.3.b)	<u>Fellows must have experiences providing medical, scientific, and administrative direction in the diagnostic microbiology laboratory.</u>
IV.A.3.c)	<u><i>Fellows' clinical experience should be augmented through didactic sessions, review of the medical literature in the subspecialty area, and the use of study sets of unusual cases.</i></u>
IV.A.3.d)	<u>The didactic curriculum must include teaching conferences in medical microbiology, journal clubs, and joint conferences with the pathology department as well as with clinical services involved in the diagnosis and management of patient care utilizing medical microbiology.</u>
IV.A.3.d).(1)	<u>Fellows should participate in conferences on average at least once per month and should give a minimum of two presentations per year.</u>
IV.A.3.d).(2)	<u>Ensure that the program provides regular administrative meeting, seminars, and conferences in <u>Didactic topics must include medical microbiology, the infectious disease aspects of pathology and the clinical and epidemiologic aspects of infectious diseases.</u></u>

Describe, as appropriate, how the revision:

- 1) impacts the quality and safety of patient care;

The proposed changes will improve patient care by emphasizing competence in performing procedures (e.g., specimen collection and transport) and diagnostic competence. The new requirements are more specific in types of medical knowledge that are required. There is new emphasis on laboratory management, quality improvement activities, identification of system errors, and implementing potential systems solutions, all of these contributing to quality and safety.

- 2) improves the quality of resident education;

The proposed changes provide more specific information on all of the competencies, including the didactic curriculum and medical knowledge and expectations of the fellow. There is also more specific information on program resources which matches the data that will be required on the program information form. The expectations for scholarly activity are specified now and were vague before. The proposed change (V.C.3.) related to board pass rate should promote high quality fellowship education and may increase the emphasis on education in those programs with low board pass rates.

- 3) affects the way the resident, the service, and the staff provide patients with continuing care;

The proposed changes provide more specific information on several

competencies including systems based practice, quality improvement activities, and communication skills that should result in improved patient care.

- 4) requires a change in institutional resources (e.g., facilities; organization of other services; addition of faculty; financial impact);

The proposed changes are more specific regarding program resources and faculty time devoted to the fellowship. However, these are resources that were already in place in quality fellowship programs so this should have minimal impact. The proposed change (V.C.3.) related to board pass rate may require additional institutional resources for those programs with a low board pass rate.

- 5) may change the volume and variety of patients required to provide proper educational resources in the institution(s); and

Little change is expected from the proposed changes as there is no change in types of patient specimens. The proposed changes have slightly different wording to reflect current microbiologic and molecular technologies and are also reordered to match competencies, but were very similar in current requirements.

- 6) impacts residency education in other specialties.

The proposed changes may improve residency education in other specialties as there is emphasis on joint conferences with other departments involved in diagnosis and management of patient care utilizing microbiology (IV.A.3.d) and more emphasis on effective consultation to other physicians and health-care providers (IV.A.2.d). Otherwise little impact is expected.