



Infectious Disease Blueprint

Certification Examination (CERT)

Purpose of the exam

The exam is designed to evaluate the knowledge, diagnostic reasoning, and clinical judgment skills expected of the certified infectious disease specialist in the broad domain of the discipline. The ability to make appropriate diagnostic and management decisions that have important consequences for patients will be assessed. The exam may require recognition of common as well as rare clinical problems for which patients may consult a certified infectious disease specialist.

Exam content

Exam content is determined by a pre-established blueprint, or table of specifications. The blueprint is developed by ABIM and is reviewed annually and updated as needed for currency. Trainees, training program directors, and certified practitioners in the discipline are surveyed periodically to provide feedback and inform the blueprinting process.

The primary medical content categories of the blueprint are shown below, with the percentage assigned to each for a typical exam:

Medical Content Category	% of Exam
Bacterial Diseases	27%
Human Immunodeficiency Virus (HIV) Infection	15%
Antimicrobial Therapy	9%
Viral Diseases	7%
Travel and Tropical Medicine	5%
Fungi	5%
Immunocompromised Host (Non-HIV Infection)	5%
Vaccinations	4%
Infection Prevention and Control	5%
Internal Medicine and Non-Infectious Syndromes	18%
	100%

ABIM is committed to working toward health equity and believes that board-certified physicians should have an understanding of health care disparities. Therefore, health equity content that is clinically important to each discipline will be included in assessments, and the use of gender, race, and ethnicity identifiers will be re-evaluated.

Exam format

The exam is composed of up to 240 single-best-answer multiple-choice questions, of which approximately 40 are new questions that do not count in the examinee's score. Most questions describe patient scenarios and ask about the work done (that is, tasks performed) by physicians in the course of practice:

- Making a diagnosis
- Ordering and interpreting results of tests
- Recommending treatment or other patient care
- Assessing risk, determining prognosis, and applying principles from epidemiologic studies
- Understanding the underlying pathophysiology of disease and basic science knowledge applicable to patient care

Clinical information presented may include patient photographs, radiographs, electrocardiograms, recordings of heart or lung sounds, and other media to illustrate relevant patient findings. [Learn more information on how exams are developed.](#)

A tutorial including examples of ABIM exam question format can be found at <http://www.abim.org/certification/exam-information/infectious-disease/exam-tutorial>.

The blueprint can be expanded for additional detail as shown below. Each of the medical content categories is listed there, and below each major category are the content subsections and specific topics that *may* appear in the exam. The inherent complexity of the field of infectious disease leads to considerable overlap in content categories, and each question can only be assigned to a single blueprint topic. Thus, a question addressing the cause of fever and rash likely would be classified under the specific organism, while a similar question addressing the treatment of that same illness would be classified under the antimicrobial agent used.

Please note: actual exam content may vary.

Gram-positive cocci

Staphylococcus aureus

Streptococcus

Enterococcus

Gram-positive rods

Listeria

Corynebacterium

Bacillus

Erysipelothrix

Gram-negative cocci and coccobacilli

Neisseria

Haemophilus

Gram-negative rods

Enterobacteriaceae

Pseudomonas

Stenotrophomonas

Burkholderia

Acinetobacter

Aeromonas

Salmonella

Shigella

Campylobacter

Vibrio

Pasteurella

Yersinia

Legionella

Capnocytophaga

Bartonella

Brucella

Bordetella

Streptobacillus

Francisella

Helicobacter

Anaerobes

Gram-positive cocci

Gram-positive rods

Gram-negative rods

Actinomycetes

Actinomyces

Nocardia

Spirochetes

Treponema

Borrelia

Leptospira

Mycoplasma

M. pneumoniae

M. genitalium

Tropheryma whipplei**Chlamydia**

C. trachomatis

C. pneumoniae

C. psittaci

Rickettsia

R. conorii

R. akari

R. rickettsii

R. prowazekii

R. typhi

Orientia tsutsugamushi

R. parkeri

R. africae

Coxiella burnetii

Ehrlichia

E. chaffeensis

E. ewingii

Anaplasma phagocytophilum

Mycobacterium

M. tuberculosis

M. bovis

M. leprae

Nontuberculous mycobacteria

Syndromes characterized by bacterial pathogens

Head and neck

Respiratory

Gastrointestinal

Ophthalmologic

Genitourinary
Dermatologic (including skin and soft-tissue infections)
Musculoskeletal
Neurologic
Cardiovascular

Human Immunodeficiency Virus (HIV) Infection

15% of Exam

Epidemiology

Transmission
Testing and counseling
Initial laboratory evaluation
Prevention

Pathogenesis

Virology
Immunopathogenesis
Acute HIV infection

Laboratory testing

Diagnostic evaluation
Baseline evaluation

HIV treatment regimens

Antiretroviral therapy drug classes
Adverse effects of treatment
Drug-drug interactions
When to start therapy
Selection of optimal initial regimen
Laboratory monitoring
Treatment-experienced patients

Opportunistic infections (OIs)

Prevention
When to start HIV therapy in the context of active OIs
Immune reconstitution inflammatory syndrome
Bacteria
Mycobacteria
Fungi
Parasites
Viruses

Malignancies

Kaposi sarcoma
Lymphoma

Cervical cancer

Anal cancer

Other complications of HIV

Hematologic

Endocrine

Gastrointestinal

Renal (HIV-associated nephropathy [HIVAN])

Cardiac (HIV cardiomyopathy)

Pulmonary

Head, eye, ear, nose, and throat

Musculoskeletal

Neurologic

Psychiatric

Dermatologic

Related issues

Substance use

Organ transplantation

Primary care

Miscellaneous non-HIV-related complications that may occur
more commonly in those who have HIV

Pregnancy

Antimicrobial Therapy

9% of Exam

Antibacterials

Aminoglycosides

Antifolates

Carbapenems

Cephalosporins

Fluoroquinolones

Glycopeptides, glycolipopeptides, and lipopeptides

Lincosamides

Macrolides

Monobactams

Nitroimidazoles

Oxazolidinones

Penicillins

Polymyxins

Rifamycins

Tetracyclines
Non-sulfonamide (sulfa drug), non-trimethoprim
urinary tract agents
Pleuromutilins (e.g., lefamulin)
Topical antibacterials
Other routes of administration

Antivirals (non-HIV)

For influenza
For herpes simplex
For cytomegalovirus
For hepatitis C and respiratory syncytial virus (RSV)
For hepatitis B
Interferon alfa 2a and alfa 2b
For hepatitis C

**Pharmacology and outpatient parenteral antimicrobial
therapy (OPAT)**

Susceptibility testing
Drug resistance
ADME (absorption, distribution, metabolism, and excretion)
Dosing
Drug interactions
Toxicity
Outpatient parenteral antimicrobial therapy

Viral Diseases

7% of Exam

DNA viruses

Herpesviruses
Adenovirus
Papillomavirus
Polyomavirus
Poxviruses
Hepadnaviridae
Parvovirus

RNA viruses

Reoviridae (e.g., rotavirus)
Togaviridae (e.g., chikungunya)
Flaviviridae
Coronaviridae

Paramyxoviridae
Rhabdoviridae
Filoviridae (hemorrhagic fever viruses)
Orthomyxoviridae (influenza)
Bunyaviridae (e.g., Rift Valley fever, Crimean-Congo hemorrhagic fever,
 Sin Nombre virus)
Arenaviridae (e.g., lymphocytic choriomeningitis virus)
Non-HIV retroviridae
Picornaviridae
Calciviridae
Hepatitis E

Prions

Travel and Tropical Medicine

5% of Exam

Protozoal intestinal infections

Balantidium coli
Blastocystis hominis
Cryptosporidium parvum and *C. hominis*
Cyclospora cayetanensis
Cystoisospora (Isospora) belli
Dientamoeba fragilis
Entamoeba histolytica (amebiasis)
Giardiasis
Microsporidiosis

Protozoal extraintestinal infections

Amebic meningoencephalitis
Babesiosis
Leishmaniasis
Malaria
Toxoplasmosis
Trichomonas vaginalis
Trypanosomiasis (general)

Nematode intestinal infections

Anisakiasis
Ascaris lumbricoides (ascariasis)
Capillaria philippinensis (capillariasis)
Enterobius vermicularis (pinworm)
Hookworm

Strongyloides stercoralis

Trichuris trichiura (whipworm)

Nematode extraintestinal infections

Angiostrongylus cantonensis

Bayliascariasis (raccoon roundworm)

Cutaneous larva migrans (dog and cat hookworm)

Dracunculus medinensis (Guinea worm)

Filariasis

Gnathostoma spinigerum

Toxocariasis

Trichinella spiralis (trichinellosis)

Cestode infections

Diphyllobothrium latum (fish tapeworm)

Hymenolepis (dwarf tapeworm)

Echinococcus granulosus (hydatid disease)

Echinococcus multilocularis (alveolar disease)

Taenia saginata (beef tapeworm)

Taenia solium (pork tapeworm; intestinal)

Trematode infections (flukes)

Clonorchis sinensis (Chinese liver fluke)

Fasciolopsis buski (intestinal fluke)

Fasciola hepatica and *gigantica* (sheep liver fluke)

Paragonimus westermani (lung fluke)

Schistosomiasis (general)

Ectoparasitic infections

Myiasis (human botfly or tumbu fly)

Pediculus humanus (body, head, and pubic lice)

Tick bites—identification and tick paralysis

Tungiasis (*Tunga penetrans*)

Bed bugs

General principles of travel medicine

Pretravel preparation

Post-travel illness

Immigrants, refugees, and adoptees

Travelers with specific needs

Yeasts

Candida

Cryptococcus

Other yeasts (including *Trichosporon* and *Saccharomyces*)

Endemic mycoses

Histoplasma

Blastomyces dermatitidis

Coccidioides immitis (*C. posadasii*)

Sporothrix schenckii

Paracoccidioides brasiliensis

Talaromyces (Penicillium) marneffeii

Molds

Aspergillus

Hyaline molds

Agents of zygomycosis (mucormycosis)

Dematiaceous molds (*Bipolaris*, *Exophila*, and others)

Superficial and subcutaneous mycoses

Mycetoma

Chromoblastomycosis

Malassezia

Dermatophytes

Pneumocystis jirovecii* pneumonia (PJP)*Therapy**

Agents

Pharmacokinetics

Drug interactions

Spectrum

Toxicity

Prophylaxis

Susceptibility testing

Drug resistance

Diagnostic testing

Histopathology

Culture

Nonculture methods

Syndromes

- Mucosal
- Skin
- Pulmonary
- Central nervous system and eyes
- Cardiac
- Disseminated

Immunocompromised Host (Non-HIV Infection)

5% of Exam

Primary immunodeficiency

- Anatomic lesions
- Lymphocyte defects
- Combined immunodeficiency syndromes (including severe combined immunodeficiency [SCID])
- Phagocytes
- Complement deficiencies
- NK cell deficiencies

Hematologic malignancies and stem cell transplantation

- Infections associated with chemotherapy-induced neutropenia
- Stem cell transplant
- Syndromes
- Noninfectious conditions

Solid-organ transplantation

- Donor-derived infections
- Surgical site infections
- Hospital-acquired infection
- Opportunistic infections
- Noninfectious conditions

Complications of immunosuppression in non-transplant population (disease-modifying agents, including tumor necrosis factor [TNF] blockers, corticosteroids)

- Bacteria
- Fungi
- Viruses
- Parasites and protozoa

Infection prevention in the immunosuppressed host

- Immunizations
- Antimicrobials
- Environmental control

Active immunizations (vaccines)

Pneumococcal
Influenza
Tetanus, diphtheria, and acellular pertussis
Haemophilus influenzae
Hepatitis B
Hepatitis A
Measles, mumps, and rubella
Polio
Meningococcal
Rabies
Varicella
Herpes zoster
Human papillomavirus (HPV)

Passive immunizations

Varicella-zoster virus
Rabies
Hepatitis B
Tetanus
Immune globulin
Other (including cytomegalovirus immune globulin)

Applied epidemiology and biostatistics

Outbreak investigation
Healthcare quality improvement

Healthcare-associated infections (HAIs) of organ systems

HAIs related to intravascular devices,
short-term and long-term (including contaminated infusions)
HA urinary tract infections and pneumonia infections
HA surgical site infections
HAIs of other organ systems (including gastrointestinal
tract infections, and central nervous system infections)

Epidemiology and prevention of HAIs caused by specific pathogens

Bacterial infections
Mycobacterial and fungal infections
Viral infections

Epidemiology and prevention of HAIs in special patient populations

HAIs in obstetrics

HAIs in neoplastic diseases

HAIs in organ transplant and hematopoietic stem cell transplant

Epidemiology and prevention of HAIs in therapeutic procedures

Infection risks of endoscopy

HAIs associated with hemodialysis and peritoneal dialysis

HAIs related to other procedures (including cardiology and respiratory therapy)

HAIs following transfusion of blood and blood products

Fecal transplantation

Prevention of HAIs related to hospital support services

Environmental services

Disinfection and sterilization

Epidemiology and prevention of HAIs in healthcare workers

Prevention of occupationally acquired viral hepatitis in healthcare workers

Prevention of occupationally acquired HIV infection in healthcare workers

Vaccination of healthcare workers

Prevention of occupationally acquired diseases of healthcare workers spread by contact, droplet, or airborne precautions (other than TB, and including diagnostic laboratories)

Organization and implementation of infection control programs

Surveillance of HAIs

Isolation precautions

Hand antisepsis

Epidemiology and prevention of infections in residents of long-term care facilities

Infection control in countries with limited resources

Internal Medicine and Non-Infectious Syndromes

18% of Exam

General internal medicine

Malignancies

Hemophagocytic lymphohistiocytosis (Hemophagocytic syndrome)

Noninfectious inflammatory disorders (e.g., vasculitis, lupus, inflammatory bowel disease)

Dermatologic disorders

Hematologic disorders
Noninfectious central nervous system disease
Bites, stings, and toxins
Drug fever
Ethical and legal decision making

Surgical infections

Orthopedic
Neurosurgery
Ear, nose, and throat
General surgery and intra-abdominal
Thoracic and cardiothoracic
Urologic
Obstetric and gynecologic
Plastic and reconstructive
Vascular

Critical care medicine

Systemic inflammatory response syndrome (SIRS) and sepsis
Ventilator-associated pneumonias
Noninfectious pneumonias (eosinophilic and acute
respiratory distress syndrome [ARDS])
Bacterial pneumonias
Viral pneumonias
Hyperthermia and hypothermia
E-cigarette or vaping product use–associated lung injury (EVALI)

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