Infectious Disease  
Certification Examination Blueprint

**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:

<table>
<thead>
<tr>
<th>Medical Content Category</th>
<th>% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Diseases</td>
<td>27%</td>
</tr>
<tr>
<td>Human Immunodeficiency Virus (HIV) Infection</td>
<td>15%</td>
</tr>
<tr>
<td>Antimicrobial Therapy</td>
<td>9%</td>
</tr>
<tr>
<td>Viral Diseases</td>
<td>7%</td>
</tr>
<tr>
<td>Travel and Tropical Medicine</td>
<td>5%</td>
</tr>
<tr>
<td>Fungi</td>
<td>5%</td>
</tr>
<tr>
<td>Immunocompromised Host (Non-HIV Infection)</td>
<td>5%</td>
</tr>
<tr>
<td>Vaccinations</td>
<td>4%</td>
</tr>
<tr>
<td>Infection Prevention and Control</td>
<td>5%</td>
</tr>
<tr>
<td>General Internal Medicine, Critical Care and Surgery</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Exam questions in the content areas above may also address clinical topics in clinical syndromes and general internal medicine that are important to the practice of infectious disease.

**Exam format**

The exam is composed of multiple-choice questions with a single best answer, predominantly describing patient scenarios. Questions 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.


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.  **Please note:** actual exam content may vary.

<table>
<thead>
<tr>
<th>Bacterial Diseases</th>
<th>27% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gram-positive cocci</strong></td>
<td>4.5%</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em></td>
<td></td>
</tr>
<tr>
<td><em>Streptococcus</em></td>
<td></td>
</tr>
<tr>
<td><em>Enterococcus</em></td>
<td></td>
</tr>
<tr>
<td><strong>Gram-positive rods</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td><em>Listeria</em></td>
<td></td>
</tr>
<tr>
<td><em>Corynebacterium</em></td>
<td></td>
</tr>
<tr>
<td><em>Bacillus</em></td>
<td></td>
</tr>
<tr>
<td><em>Erysipelothrix</em></td>
<td></td>
</tr>
</tbody>
</table>
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 whippelii
**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

**Erlichia**
- E. chaffeensis
- E. ewingii
- Anaplasma phagocytophilum

**Mycobacterium**
- M. tuberculosis
- M. bovis
- M. lepri

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**

**Epidemiology**
- Transmission
- Testing and counseling
- Initial laboratory evaluation
- Prevention

15% of Exam
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's 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 5.5%
- Aminoglycosides
- Antifolates
- Carbapenems
- Cephalosporins
- Chloramphenicol
- Fluoroquinolones
- Fusidanes
- Glycopeptides, glycolipopeptides, and lipopeptides
- Lincosamides
- Macrolides
- Monobactams
- Nitroimidazoles
- Oxazolidinones
- Penicillins
- Polymyxins
- Rifamycins
- Streptogramins
- Tetracyclines
- Non-sulfonamide (sulfa drug), non-trimethoprim urinary tract agents
- Topical antibacterials
- Other routes of administration

#### Antivirals (non-HIV) <2%
- 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
Miscellaneous and topical agents

Pharmacology and outpatient parenteral antimicrobial therapy (OPAT) 2.5%
- 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 4%
- Herpesviruses
- Adenovirus
- Papillomavirus
- Polyomavirus
- Poxviruses
- Hepadnaviridae
- Parvovirus

#### RNA viruses 2.5%
- Reoviridae
- Togaviridae
- Flaviviridae
- Coronaviridae
- Paramyxoviridae
- Rhabdoviridae
- Filoviridae (hemorrhagic fever viruses)
- Orthomyxoviridae (influenza)
- Bunyaviridae
- Arenaviridae
- Non-HIV retroviridae
- Picornaviridae
- Calciviridae
- Hepatitis E

#### Prions <2%

### Travel and Tropical Medicine 5% of Exam

#### Protozoal intestinal infections <2%
- *Balantidium coli*
Blastocystis hominis
Cryptosporidium parvum and C. hominis
Cyclospora cayetanensis
Cyclospora belli (formerly Isospora belli)
Dientamoeba fragilis
Entamoeba histolytica (amebiasis)
Giardiasis
Microsporidiosis
Protozoal extraintestinal infections <2%
Amebic meningoencephalitis
Babesiosis
Leishmaniasis
Malaria
Toxoplasmosis
Trichomonas vaginalis
Trypanosomiasis (general)
Nematode intestinal infections <2%
Anisakiasis
Ascaris lumbricoides (ascariasis)
Capillaria philippinesis (capillariasis)
Enterobius vermicularis (pinworm)
Hookworm
Strongyloides stercoralis
Trichuris trichiura (whipworm)
Nematode extraintestinal infections <2%
Angiostrongylus cantonensis
Baylisascarisia (raccoon roundworm)
Cutaneous larva migrans (dog and cat hookworm)
Dracunculus medinensis (Guinea worm)
Filariasis
Gnathostoma spinigerum
Toxocariasis
Trichinella spiralis (trichinellosis)
Cestode infections <2%
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) <2%

*Clonorchis sinensis* (Chinese liver fluke)
*Fasciolopsis buski* (intestinal fluke)
*Fasciola hepatica* and *gigantica* (sheep liver fluke)
*Paragonimus westermani* (lung fluke)

Schistosomiasis (general)

Ectoparasitic infections <2%

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 <2%

Pretravel preparation
Post-travel Illness
Immigrants, refugees, and adoptees
Travelers with specific needs

<table>
<thead>
<tr>
<th>Fungi</th>
<th>5% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeasts</td>
<td>&lt;2%</td>
</tr>
<tr>
<td><em>Candida</em></td>
<td></td>
</tr>
<tr>
<td><em>Cryptococcus</em></td>
<td></td>
</tr>
<tr>
<td>Other yeasts (including <em>Trichosporon</em> and <em>Saccharomyces</em>)</td>
<td></td>
</tr>
</tbody>
</table>

Endemic mycoses <2%

*Histoplasma*
*Blastomyces dermatitidis*
*Coccidioides immitis* (*C. posadasii*)
*Sporothrix schenckii*
*Paracoccidioides brasiliensis*
*Penicillium marneffei*

Molds <2%

*Aspergillus*
Hyaline molds
Agents of zygomycosis (mucormycosis)
Dematiaceous molds (*Bipolaris*, *Exophila*, and others)

Superficial and subcutaneous mycoses <2%

Mycetoma
Chromoblastomycosis
*Malassezia*
Dermatophytes
**Pneumocystis jiroveci pneumonia (PJP)**

- Therapy
- 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

<table>
<thead>
<tr>
<th>Primary immunodeficiency</th>
<th>5% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomic lesions</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Lymphocyte defects</td>
<td></td>
</tr>
<tr>
<td>Combined immunodeficiency syndromes (including severe combined immunodeficiency [SCID])</td>
<td></td>
</tr>
<tr>
<td>Phagocytes</td>
<td></td>
</tr>
<tr>
<td>Complement deficiencies</td>
<td></td>
</tr>
<tr>
<td>NK cell deficiencies</td>
<td></td>
</tr>
</tbody>
</table>

**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) <2%
- Bacteria
- Fungi
- Viruses
- Parasites and protozoa

Infection prevention in the immunosuppressed host <2%
- Immunizations
- Antimicrobials
- Environmental control

**Vaccinations** 4% of Exam

**Active immunizations (vaccines)** 3%
- Pneumococcal
- Influenza
- Tetanus, diphtheria, and acellular pertussis
  - *Haemophilus influenzae*
- Hepatitis B
- Hepatitis A
- Measles, mumps, and rubella
- Polio
- Meningococcal
- Smallpox
- Rabies
- Varicella
- Herpes zoster
- Human papillomavirus (HPV)
- Anthrax

**Passive immunizations** <2%
- Varicella-zoster virus
- Rabies
- Hepatitis B
- Tetanus
- Immune globulin
- Other (including cytomegalovirus immune globulin)
## Infection Prevention and Control

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applied epidemiology and biostatistics</strong></td>
<td>5% of Exam</td>
</tr>
<tr>
<td>Outbreak investigation</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Healthcare quality improvement</td>
<td></td>
</tr>
<tr>
<td><strong>Healthcare-associated infections (HAIs) of organ systems</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>HAIs related to intravascular devices, short-term and long-term (including contaminated infusions)</td>
<td></td>
</tr>
<tr>
<td>HA urinary tract infections and pneumonia infections</td>
<td></td>
</tr>
<tr>
<td>HA surgical site infections</td>
<td></td>
</tr>
<tr>
<td>HAIs of other organ systems (including gastrointestinal tract infections, and central nervous system infections)</td>
<td></td>
</tr>
<tr>
<td><strong>Epidemiology and prevention of HAIs caused by specific pathogens</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Bacterial infections</td>
<td></td>
</tr>
<tr>
<td>Mycobacterial and fungal infections</td>
<td></td>
</tr>
<tr>
<td>Viral infections</td>
<td></td>
</tr>
<tr>
<td><strong>Epidemiology and prevention of HAIs in special patient populations</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>HAIs in obstetrics</td>
<td></td>
</tr>
<tr>
<td>HAIs in neoplastic diseases</td>
<td></td>
</tr>
<tr>
<td>HAIs in organ transplant and hematopoietic stem cell transplant</td>
<td></td>
</tr>
<tr>
<td><strong>Epidemiology and prevention of HAIs in therapeutic procedures</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Infection risks of endoscopy</td>
<td></td>
</tr>
<tr>
<td>HAIs associated with hemodialysis and peritoneal dialysis</td>
<td></td>
</tr>
<tr>
<td>HAIs related to other procedures (including cardiology and respiratory therapy)</td>
<td></td>
</tr>
<tr>
<td>HAIs following transfusion of blood and blood products</td>
<td></td>
</tr>
<tr>
<td>Fecal transplantation</td>
<td></td>
</tr>
<tr>
<td><strong>Prevention of HAIs related to hospital support services</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Environmental services</td>
<td></td>
</tr>
<tr>
<td>Disinfection and sterilization</td>
<td></td>
</tr>
<tr>
<td><strong>Epidemiology and prevention of HAIs in healthcare workers</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Prevention of occupationally acquired viral hepatitis in healthcare workers</td>
<td></td>
</tr>
<tr>
<td>Prevention of occupationally acquired HIV infection in healthcare workers</td>
<td></td>
</tr>
<tr>
<td>Vaccination of healthcare workers</td>
<td></td>
</tr>
<tr>
<td>Prevention of occupationally acquired diseases of healthcare workers spread by contact, droplet, or airborne precautions (other than TB, and including diagnostic laboratories)</td>
<td></td>
</tr>
</tbody>
</table>
Hand antisepsis
Epidemiology and prevention of infections in residents of long-term care facilities
Infection control in countries with limited resources

<table>
<thead>
<tr>
<th>General Internal Medicine, Critical Care and Surgery</th>
<th>18% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General internal medicine</strong></td>
<td>7.5%</td>
</tr>
<tr>
<td>Malignancies</td>
<td></td>
</tr>
<tr>
<td>Hemophagocytic syndrome</td>
<td></td>
</tr>
<tr>
<td>Collagen vascular and autoimmune disorders</td>
<td></td>
</tr>
<tr>
<td>Dermatologic disorders</td>
<td></td>
</tr>
<tr>
<td>Hematologic disorders</td>
<td></td>
</tr>
<tr>
<td>Noninfectious central nervous system disease</td>
<td></td>
</tr>
<tr>
<td>Bites, stings, and toxins</td>
<td></td>
</tr>
<tr>
<td>Drug fever</td>
<td></td>
</tr>
<tr>
<td>Ethical and legal decision making</td>
<td></td>
</tr>
<tr>
<td><strong>Surgical infections</strong></td>
<td>2.5%</td>
</tr>
<tr>
<td>Orthopedic</td>
<td></td>
</tr>
<tr>
<td>Neurosurgery</td>
<td></td>
</tr>
<tr>
<td>Ear, nose, and throat</td>
<td></td>
</tr>
<tr>
<td>General surgery and intra-abdominal</td>
<td></td>
</tr>
<tr>
<td>Thoracic and cardiothoracic</td>
<td></td>
</tr>
<tr>
<td>Urologic</td>
<td></td>
</tr>
<tr>
<td>Obstetric and gynecologic</td>
<td></td>
</tr>
<tr>
<td>Plastic and reconstructive</td>
<td></td>
</tr>
<tr>
<td>Vascular</td>
<td></td>
</tr>
<tr>
<td><strong>Critical care medicine</strong></td>
<td>8%</td>
</tr>
<tr>
<td>Systemic inflammatory response syndrome (SIRS) and sepsis</td>
<td></td>
</tr>
<tr>
<td>Ventilator-associated pneumonias</td>
<td></td>
</tr>
<tr>
<td>Noninfectious pneumonias (eosinophilic and acute respiratory distress syndrome [ARDS])</td>
<td></td>
</tr>
<tr>
<td>Bacterial pneumonias</td>
<td></td>
</tr>
<tr>
<td>Viral pneumonias</td>
<td></td>
</tr>
<tr>
<td>Hyperthermia and hypothermia</td>
<td></td>
</tr>
<tr>
<td>Near-drowning and <em>Scedosporium</em> and <em>Pseudallescheria</em> infection</td>
<td></td>
</tr>
</tbody>
</table>

January, 2017