

# Infectious Diseases A2

# A. Medical Expert

# 1. Medical History

Elicit a history that is relevant, concise, accurate, and appropriate to the patient's health problem(s). This includes inquiring about other medical conditions, animal and vector exposures, sexual practices, street drug and needle use, prior infections, recent hospitalizations and prior surgeries, immunization history, use of immunomodulator drugs, antimicrobial use and allergies, occupational background, travel, and hobbies.

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## 2. Physical Examination

Perform a complete physical examination that is relevant and appropriate, including examination of the lymphatic system and skin and mucous membranes.

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## 3. Diagnostic Tests

- Select appropriate laboratory (e.g.: haematology and biochemistry) and diagnostic imaging tests (e.g.: radionuclide scans, CT, MRI, and plain films) to diagnose and infection mimics.
  - Learning Venue: Clinical Service and Learning Exams
- Appropriately order and properly interpret the results of microbiologic tests (gram stains, culture and susceptibility, acute and convalescent serologies, antibiotic levels, and quantitative viral load).
   Learning Venue: Clinical Service, Plate Rounds, and Learning Exams

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# 4. Clinical Diagnosis/Decision

Analyze, synthesize, and integrate all relevant data to formulate a rational and effective diagnostic and therapeutic strategy for the patient's illness, focusing on the presence or absence of infection, and the appropriate antimicrobial and adjunctive therapies.

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### 5. Documentation/Presentation

- Document well-organized, complete, and legible histories and physical examinations in the written medical record.
- Deliver well-organized, precise, clear, and coherent oral presentations of the patient's history and physical examination.

Learning Venue: Clinical Service and Interesting Cases

## 6. Procedural Skills

There are no specific procedural skills to this rotation. Learning Venue: Clinical Service

# 7. Medical Knowledge

- Develop familiarity with the etiology, epidemiology, pathogenesis, clinical features, diagnostic tests, and treatment of:
  - community-acquired lower respiratory infections Learning Venue: Clinical Service
  - central nervous system infections, including meningitis, encephalitis, and brain abscess
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  - endovascular infections, particularly endocarditis
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  - pyelonephritis and complicated urinary tract infections Learning Venue: Clinical Service
  - infectious diarrhea
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  - tuberculosis
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  - sexually transmitted infections Learning Venue: Learning Exams
  - infections in travellers
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  - health care-associated infections, including postoperative infections

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- human immunodeficiency virus (HIV) infection and its complications
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- infections in the neutropenic host and solid organ and hematopoietic stem cell transplant recipient Learning Venue: Clinical Service and Learning Exams
- skin and soft tissue infections, including necrotizing soft tissue infections
  - Learning Venue: Clinical Service
- bone and joint infections including septic arthritis, osteomyelitis, and discitis
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- infections of the liver and biliary tree, including viral hepatitis and liver abscess
  - Learning Venue: Clinical Service and Learning Exams
- Become familiar with the clinical and laboratory approach and differential diagnosis of complex problems in which infections may play a role, such as:
  - fever of unknown origin Learning Venue: Clinical Service and Learning Exams
  - acute rapidly progressive illness perhaps due to sepsis from an undefined site; sepsis, systemic inflammatory response syndrome and multiple organ dysfunction syndrome Learning Venue: Clinical Service and Learning Exams
- Understand the principles and practice of prevention of infection by immunization and chemoprophylaxis. This should include the indications, contraindications, and adverse effects of:
  - pneumococcal, meningococcal, H. influenzae and influenza vaccination
  - chemoprophylaxis and immunization for invasive meningococcal disease exposure
    - Learning Venue: Clinical Service and Learning Exams
- Understand the principles and practices of antimicrobial use in the management of infectious diseases:
  - the classes of antimicrobial agents
  - pharmacokinetics and pharmacodynamics in the normal and abnormal host
  - mechanisms of action
  - mechanisms of resistance
  - toxicity and drug interactions
  - clinical indications for their use
  - antimicrobial stewardship

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Learning Venue: Clinical Service, Learning Exams, and Divisional Lecture

# 8. Emergency Management

Recognize and respond promptly and effectively to the following infectious diseases medical emergencies: sepsis, malaria, meningitis, fever in the neutropenic patient, and necrotizing soft tissue infection. Learning Venue: Clinical Service and Learning Exams

#### 9. Evidence-based Practice

 Apply evidence-based investigative strategies and treatments to the management of the patient with an actual or potential infection. Learning Venue: Clinical Service and Learning Exams

### B. Communicator

## **Verbal Communication**

# 1. Patients/Families

Establish and maintain the rapport required to elicit a detailed history, including issues that may be of a sensitive nature. Be aware of age, ethnic, gender, spiritual, and cultural differences and values, as well as differing definitions of family. Be sensitive to the confidentiality and privacy concerns of patient and family and develop a respectful and trusting relationship that will facilitate an effective management plan to meet the patient's goals and expectations. Use terminology and language that the patient and family will understand. Listen effectively and respond appropriately to concerns. Learning Venue: Clinical Service

# 2. Consulting Physicians/Service/Team

Communicate clearly, concisely, and in a timely manner with other physicians in order to effect an appropriate diagnostic and treatment plan. Recognize the primary role of the consulting team in the patient's management.

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# Other Health Care Professionals

Communicate in a timely and professional manner with other health care professionals in order to acquire collateral and/or additional information about the patient's condition and to develop and implement a treatment plan. Communicate with other health professionals in a manner that facilitates the delivery of consistent messages to the patients and their families.

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# **Written Communication**

## 4. Initial Consultation

Provide a comprehensive, but succinct, legible written summary of the history and physical examination, and of the suggested management of the question asked by the consulting service/team/physician for review and endorsement by the infectious diseases staff physician.

Learning Venue: Clinical Service

# 5. Progress Notes and Orders

See patients daily as needed with appropriate and timely written suggestions for the infectious disease management. Orders are legible and written as suggestions for endorsement by the consulting physician/service/team.

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#### C. Collaborator

#### 1. Patients/Families

Develop a collaborative relationship with patients and families, recognizing their important roles in decision-making and treatment adherence. Enlists the participation of patients and their families in their care, and provides education about their illness and its management.

Learning Venue: Clinical Service

# 2. Other Health Professionals

Establish and maintain respectful working relationships with other physicians and health professionals, recognizing the unique and essential skills that they bring to the care and education of patients and their families. In particular, learn the roles played by medical microbiologists and technologists and infection control and prevention professionals. Demonstrate the ability to accept, consider and respect the opinions of other health professionals.

Learning Venue: Clinical Service

## **Infectious Diseases A3**

# D. Manager

# 1. Medical Management

Be able to manage the common or undifferentiated infectious disease problem (actual or potential) experienced by patients, integrating that management into the overall care of the patient. Access and apply a broad base of information to the care of patients in ambulatory care, hospitals and other health care settings, including of the most cost effective laboratory procedures.

Learning Venue: Clinical Service, Plate Rounds, and Learning Exams

## 2. Resource Utilization

Know the structure of the health care system to understand how care is financed and organized. Work effectively and efficiently in a health care organization. Make appropriate and efficient use of health care. Consider the pre-test probability of disease when ordering diagnostic tests. Understand the likely cost-effectiveness of treatment strategies. Appreciate the cost effectiveness of many infection prevention strategies, particularly immunization. Utilize information technology to optimize patient care, lifelong learning and other activities. Practice time management skills including punctuality, prioritization and triage. Maintain a balance of work and personal activities. Learning Venue: Clinical Service and Learning Exams

## 3. Leadership skills

Be able to work effectively with the infectious disease consulting team. Present a positive image of the infectious disease consulting service to those requesting advice. Learning Venue: Clinical Service

#### E. Scholar

## 1. Self-directed Learning

Utilize infectious diseases textbooks, journals, and other learning tools as suggested by attending staff and colleagues. Prepare in advance for the infectious disease learning exam. Independently seek information around patient problems prior to presenting at rounds. Begin to develop a personal continuing education strategy to maintain and advance professional competence in infectious diseases relevant to career path.

Learning Venue: Clinical Service, Interesting Cases, and Learning Exams

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# 2. Critical Appraisal Skills

Able to critically appraise studies reported in the medical literature in terms of validity and applicability.

Learning Venue: Clinical Service, Interesting Cases, Journal Club, and Learning Exams

# 3. Teaching/Supervisory Skills

Facilitate and contribute to the learning of patients, housestaff, students, attending staff, and other health professionals on both the consulting service and the infectious diseases consultation team. Demonstrate an understanding of preferred learning in dealing with students, residents, and colleagues. Provide constructive feedback. Learning Venue: Clinical Service, Interesting Cases, Journal Club, and Learning Exams

# 4. Scholarly Activity

Participate in ID case rounds, journal club, and plate rounds including presentation of clinical cases and syndromic or disease specific reviews of infectious diseases. Learning Venue: Clinical Service, Interesting Cases, Journal Club, and Learning Exams

## F. Health Advocate

### 1. Risk Factor Identification

Identify personal and environmental risk factors for acquiring infection such as sexual behaviours, use of recreational drugs, exposures to vectors, animals, contaminated food or water, community outbreaks, and recent contact with the health care system. Recognize the role of the determinants of health in the patient's well-being.

Learning Venue: Clinical Service and Learning Exams

# 2. Appropriate Response

Identify and promote to patients, families, and other health professionals strategies to ameliorate or avoid exposure to infectious agents, such as personal risk reduction behaviours, immunization, home and personal hygiene, and infection control. In all health care settings, promote and practice proper infection control and prevention measures. Know when to contact public health and infection control personnel regarding communicable infections.

Learning Venue: Clinical Service and Learning Exams

# 3. Knowledge/Promotion of Available Resources

Aware of local and national, private and public sources of information and other resources regarding infections and their prevention and shares this with patients, families, and other health professionals.

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Learning Venue: Clinical Service

# G. Professional

#### 1. Attitudes, Values, Behaviours

Deliver the highest quality care with integrity, honesty, and compassion. Recognizes the responsibility a physician has for the patient's care. Exhibit proper interpersonal professional behaviours. Adopt specific strategies to heighten personal and professional awareness and explore and resolve interpersonal difficulties in professional relationships. Demonstrate flexibility and willingness to adjust to changing circumstances.

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## 2. Ethical Practice

Practice medicine ethically consistent with the obligations of a physician. Know and understand the professional, legal and ethical codes to which physicians are bound; these include issues of confidentiality (e.g.; results of HIV and STD tests) and consent. Demonstrate appropriate conduct when interacting with industry, including the manufacturers and distributors of antimicrobials and diagnostics. Recognize, analyse and attempt to resolve in clinical practice ethical issues such as honesty, reliability, informed consent, confidentiality, and resource allocation.

Learning Venue: Clinical Service and Learning Exams

# 3. Self-assessment Skills

Demonstrate insight into limitations of knowledge. Use appropriate strategies to maintain and advance professional competence. Evaluate continually one's abilities, knowledge and skills and know one's limitations of professional and exhibit a willingness to call upon other with special expertise whenever appropriate. Be responsive to constructive feedback when errors in diagnosis or treatment are identified.

Learning Venue: Clinical Service and Learning Exams

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