Logbook- *cum*- Portfolio

Elective Module: Infectious Diseases

Introduction

Infectious diseases represent one of the oldest and most persistent challenges to human health and continue to exert a profound impact on morbidity, mortality, and socioeconomic development across the world. Infectious diseases are a major cause of morbidity and mortality in India and globally, and their effective prevention and management are core responsibilities of the Indian Medical Graduate (IMG) as envisaged by the National Medical Commission (NMC) under the Competency-Based Medical Education (CBME) framework. These diseases are caused by pathogenic microorganisms such as bacteria, viruses, fungi and parasites and their occurrence, transmission, and clinical outcomes are determined by the interaction between the agent, the host, and the environment.

Medical students are expected to understand the epidemiology and pathogenesis of common and emerging infections, recognize their clinical presentations, and apply principles of diagnosis and management in a patient-centred manner.

Despite remarkable progress in medical science, infectious diseases remain highly prevalent, particularly in low- and middle-income countries. Factors such as overcrowding, poor sanitation, unsafe drinking water, malnutrition, and limited access to healthcare contribute significantly to their continued burden. In recent decades, rapid urbanization, globalization, international travel, climate change, and

ecological disruption have altered disease patterns, facilitating the spread of infections across geographical boundaries and leading to the emergence of new and re-emerging pathogens.

A major contemporary challenge in infectious diseases is the rise of antimicrobial resistance (AMR), which threatens to undermine decades of therapeutic advances. Inappropriate prescribing, over-the-counter availability of antibiotics, poor treatment adherence, and widespread use of antimicrobials in agriculture have accelerated the development of resistant organisms. As a result, common infections are increasingly becoming difficult to treat, leading to prolonged illness, higher healthcare costs, and increased mortality.

Clinically, infectious diseases display a wide spectrum of manifestations, ranging from asymptomatic or mild self-limiting illnesses to severe, life-threatening conditions such as sepsis, septic shock, and multi-organ dysfunction. The presentation varies with the site of infection, virulence of the pathogen, inoculum size, and host factors such as age, nutritional status, comorbidities, and immune competence. Accurate diagnosis relies on a thorough clinical evaluation supported by microbiological, serological, and molecular diagnostic techniques.

Prevention and control form the cornerstone of infectious disease management. Strategies include immunization, infection prevention and control (IPC) practices, safe water and sanitation, vector control, and health education. In healthcare settings, strict adherence to standard precautions, hand hygiene, and isolation protocols is essential to prevent healthcare-associated infections and protect both patients and healthcare

workers.

Infectious diseases occupy a central position in medical education, linking basic sciences with clinical practice and public health. A sound understanding of their epidemiology, pathogenesis, diagnosis, treatment, and prevention is essential for all future physicians. This elective is designed to equip medical students with the knowledge, clinical reasoning skills, and professional attitudes necessary to effectively manage infectious diseases, practice rational antimicrobial use, and contribute meaningfully to disease prevention and control at both individual and community levels.

A key CBME mandate is the ability of the learner to function as a first-contact physician capable of early recognition and initial management of infectious diseases at the primary and secondary care levels. This includes identifying red-flag signs, initiating appropriate investigations, instituting timely empirical therapy, and recognizing situations that require referral. Emphasis is also placed on rational antimicrobial prescribing, aligning with national and global efforts to combat antimicrobial resistance.

Infectious diseases training under CBME also strongly aligns with the IMG role as a leader and member of the healthcare team. Learners are expected to demonstrate competence in infection prevention and control (IPC) practices, including hand hygiene, use of personal protective equipment, biomedical waste management, and prevention of healthcare-associated infections. These competencies are essential for ensuring patient safety and protecting healthcare workers.

From a public health perspective, CBME underscores the physician's role as a **health advocate and communicator**. Understanding modes of transmission, outbreak investigation, surveillance, immunization strategies, and national disease control programs enables the medical graduate to contribute effectively to disease prevention and community health promotion. Communication skills are particularly emphasized for counselling patients and families regarding treatment adherence, vaccination, and preventive behaviors.

This elective in infectious diseases is therefore designed to meet CBME objectives by fostering competency-driven learning, encouraging self-directed and case-based approaches, and promoting reflective practice. On completion, the learner is expected to demonstrate measurable competencies in diagnosing, managing, preventing, and controlling infectious diseases, while upholding ethical principles and practicing evidence-based, patient-centred care consistent with the expectations of the Indian Medical Graduate.

Name of Block	Block 2
Name of Elective	Infectious Diseases
Location of hospital Lab or research facility	Dept. of Medicine
Name of internal preceptor (s)	Dr Narender Pal Jain,Dr. Sandeep Chhabra, Dr Vipin Kumar
Name of external preceptor (if applicable)	NA
Learning objectives of elective	In the end of elective posting the phase III part II MBBS student should be able to; 1.Know about the various infectious diseases and their clinical presentations. 2. Get familiarize with the spectrum of tropical diseases and systemic infections. 3.Investigate various infectious diseases and microbiological aspects. 4.Treat various infectious diseases including antibiotics and supportive care.
Number of students that can be accommodated in this elective	4
Pre-requisites for elective	Knowledge of following topics: Clinical Presentation, Evaluation and Treatment of Infectious Diseases
Learning resources for students	1. Hutchinson's Clinical Methods 2. Harrison s Principles of Internal Medicine 3. Oxford Textbook of Medicine 4. Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases 1.
List of activities of student participation	a. History taking and examination of cases b. Diagnosing and management of these patients
Portfolio entries required	Daily log of activities participated and examining and discussing cases of Infectious Diseases.
Log book entry required	Satisfactory, completion of posting signed and verified by the Preceptor with "M" grade
Assessment	• Attendance • Tutorials • PPT presentation at the end of the elective • Viva • Case presentation at the end of the elective
Other comments	