DEPARTMENT OF INFECTIOUS DISEASES AND HEPATOLOGY
POMERANIAN MEDICAL UNIVERSITY IN SZCZECIN
COURSE IN INFECTIOUS DISEASES, EPIDEMIOLOGY AND TROPICAL MEDICINE
FOR STUDENTS OF FACULTY OF MEDICINE

The name of Unit in which the subject is realized
Chair and Department of Infectious Diseases and Hepatology
Address
Marie-Curie Hospital, Arkońska 4 str., building J
Head
Anna Boroń-Kaczmarska, MD, PhD, professor of medicine
annabk@inet.com.pl
Course coordinator
Marta Wawrzynowicz-Syczewska, MD, PhD, prof. of PUM
Total hours:
90 including:
30 h of seminars
60 h of practical classes
ECTS: 8 points

THE AIM OF THE COURSE
The purpose of the infectious diseases (ID) course is to provide a practical, day-to-day guide to the diagnosis and treatment of common infectious diseases as well as to explain the principles of their epidemiology. The course also includes basic information on communicable diseases which can be brought from tropics and gives an overview on emerging and re-emerging diseases with specific emphasis on emerging multi-drug resistant pathogens.
A series of 15 seminars give an overview of important microorganisms and the disease they cause, promote an understanding of the transmission and control of infectious disease, and provide guidelines to antimicrobial therapy and post-exposure prophylaxis.
Fifteen practical classes aim to guide students through the complexity of signs and symptoms and the differential diagnosis of infectious diseases. The laboratory tests necessary to confirm each diagnosis as well as suggested treatments will be discussed. Students will be instructed how to perform invasive medical procedures such as lumbar puncture, liver biopsy and paracentesis, essential for the diagnosis of ID. It is expected that at the end of the ID course students will be able to take the comprehensive epidemiological history, assess general clinical status of the patient with a life-threatening infection, perform a physical examination with the principles of safety and occupational health, propose diagnostic tests directed to confirm infectious nature of the disease and initiate antimicrobial treatment, either empirical or guided.

FORMS OF ACTIVITIES
The course of Infectious Diseases is carried out as a 3-week block (15 days) during 5th year of studies. It will be covered in form of seminars, practical classes and the final exam. There are no lectures.
1. Seminars are conducted on the consecutive days in the morning hours (8.30 – 10.00) and last 30 hours in total. Main topics are given below. The presence on seminars is obligatory. Every absence must be credited with the given lecturer.
2. **Practical classes** are conducted soon after seminars (there is a 30 min break between seminars and practical classes) and last 4 hours (60 hours in total). The classes are carried out in groups of 3-4 students per tutor. The presence on practical classes is obligatory. Every absence albeit justified (a sick leave or a permission from the Dean’s Office) has to be made up. White overalls and stethoscopes are required.

3. **The final exam** on infectious diseases is carried out as a written test (60 single choice questions). At least 50% + 1 answers need to be correct to pass the exam. The exam has two oral re-takes with the head of the department.

**PROGRAM OF SEMINARS**

1. **Principles of the epidemiology of ID:** definition of ID, routes of transmission, epidemiological chain, principles of taking the epidemiological history, basic glossary such as pandemic pathogen, endemic disease, mortality, morbidity, prevalence, incidence; epidemiology of the chosen infectious diseases in the world, in Europe and in Poland; chronic infectious disease; latent infection.

2. **How to use antibiotics?** principles of chemotherapy in the infection; indications and contraindications for antibiotics; principles of bacteriological examinations; durations, doses and combination of antibiotics; side effects of antibiotic therapy; antibiotics given prophylactically.

3. **Prophylaxis of ID:** vaccinations; passive prophylaxis of ID; post-exposure prophylaxis; epidemiological surveillance; basic laws and rules considering infections and infectious diseases in Poland and in Europe; principles and regulations of epidemiological barriering; monitoring of emerging and re-emerging diseases.

4. **Parasitic diseases of the temperate climate:** epidemiology, clinical picture and the diagnostics of the genuine parasitic invasions (pinworm, toxoplasmosis, taeniasis, trichinosis, toxocarosis); antiparasitic treatment.

5. **Neuroinfections:** etiology and epidemiology of the most prevalent neuroinfections; clinical characteristics of the various neurological syndromes including differential diagnosis focused on ID; diagnostic procedures and interpretation of results; symptomatic and causative treatment of various neuroinfections (bacterial, viral, fungal and parasitic).

6. **HIV part I:** epidemiology of HIV infection in Poland and in the neighboring countries; pathogenesis, diagnosis and the natural course of HIV infection; indicator conditions in case definition of AIDS.

7. **HIV part II:** antiretroviral treatment; treatment and prophylaxis of the opportunistic infections connected with AIDS; prophylaxis of HIV vertical transmission; post-exposure prophylaxis.

8. **Viral hepatitis:** epidemiology of acute and chronic viral hepatitis in Poland and worldwide; characteristics of hepatotropic viruses (HAV, HBV, HCV, HDV, HEV); clinical course and the diagnosis of acute viral hepatitis; extrahepatic manifestations; sequels of chronic hepatitis; symptomatic and causative treatment of viral hepatitis; basic information on the differential diagnosis in hepatology.

9. **Gastrointestinal infections and food poisoning:** epidemiology of food poisoning; clinical picture and treatment of botulism; signs and symptoms of gastrointestinal tract infections; diagnosis and differentiation of gastrointestinal symptoms; indications for hospitalization; prophylaxis of food poisoning and gastrointestinal infections.

10. **Bioterrorism:** ideal bioterrorist agent; managing a biologic attack in the early phases; clinical clues that should raise the possibility of a bioterrorist attack; prophylaxis and treatment of infections – results of the bioterrorist attack;
11. **Sepsis**: definitions of the systemic inflammatory response syndrome (SIRS) and sepsis; diagnostics in case of sepsis suspicion; differential diagnosis of SIRS; causative and symptomatic treatment of sepsis; indications for the hospitalization in the intensive care unit (ICU).

12. **Hospital-acquired infections**: definition of the hospital acquired infection; epidemiology and the routes of transmission of the hospital acquired infections; clinical presentation; prophylaxis and surveillance of hospital acquired infections.

13. **Parasitic infections brought from the tropics**: epidemiology, clinical presentation and the diagnosis of infections or invasions typical for the tropical zone; prophylaxis and treatment of malaria; travelers diseases; vaccinations required in tropics.

14. **Zoonoses**: etiology and epidemiology of the genuine zoonotic diseases; clinical presentation of the chosen antropozoonoses; diagnosis and differentiation in case of suspicion of the particular zoonotic disease; prophylaxis of rabies and tetanus.

15. **Infectious diseases with exanthema**: skin lesions typical for ID; differential diagnosis of various skin eruptions; causative and symptomatic treatment of streptococcal skin infections; complications of ID with the accompanying skin eruptions and indications for hospitalization; herpes virus infections.

**EXEMPLARY PROGRAM OF PRACTICAL CLASSES**

1. Taking a medical history with the specific emphasis on the epidemiological data (the beginning of symptoms, duration of symptoms, sequence of symptoms, contacts with potentially ill people, occupation, travels, relation to the medications or specific food, etc).

2. Assessment of the clinical status in the patient with neuroinfection – meningeal signs, accompanying skin lesions, symptoms of sepsis and multiorgan failure, lumbar puncture – indications and contraindications, assessment of the cerebrospinal fluid, microbiology in the suspicion of neuroinfection.


6. Assessment of HIV-infected patient: counseling before and after testing, medical and epidemiological history, clinical examination, interpretation of the common laboratory abnormalities, accompanying diseases indicating AIDS; comorbidities; social support.

7. Safety and occupational health – basic rules how to avoid epidemiological danger; rules of isolation and barriering.


9. Practical antibiotic therapy – counseling in the admission room and in the outpatient department (when, which antibiotic, how long, dosing).

10. Vaccinations – obligatory and recommended; indications and contraindications; discussion on pros and cons.


Textbooks


Skills and competences of the student who completed the course in infectious diseases
Each student is required to:
  • be able to take a comprehensive epidemiological history
  • be able to propose an empiric or culture-guided antibiotic therapy in the most common bacterial or fungal infections
  • be able to interpret results of serological examinations towards various infections
  • be able to assess general medical status of the patient suspected to have an infection
  • be able to differentiate skin exanthemas in acutely ill patients
  • be able to order basic diagnostic tests in the febrile patient
  • to know vaccination calendar and recommended vaccinations for travelers
  • be able to recognize characteristics of cerebrospinal fluid helpful in differentiating neuroinfections.