Master's Degree

Clinical Infectious Diseases and Advanced Antibiotic Therapeutics

tech global university

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Master's Degree

Clinical Infectious Diseases and Advanced Antibiotic Therapeutics

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Credits: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/pharmacy/master-degree/master-clinical-infectious-diseases-advanced-antibiotic-therapeutics**

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01

Introduction

Currently, infectious pathologies are making a comeback and have prompted pharmaceutical laboratories research Infection control and antibiotic resistance are a concern to the scientific community, which has focused its efforts on studying how to deal with a situation that could lead to global antibiotic crisis. In a scenario where research in this field is proliferating, pharmaceutical professionals must keep up-to-date with the latest discoveries. This is the reason for this 100% online degree that will allow the professional to learn the latest information on mycobacteriosis and anaerobic infections, recent studies on antifungal agents and multidrug-resistant infections. All this, with innovative multimedia content developed by a teaching team specialized in clinical infectious diseases.

Thanks to this Master's Degree you will be aware of the scientific advances and current challenges in rare infectious diseases"

Malaria, tuberculosis and more recently COVID-19 are among the most worrying infectious diseases for researchers given their high incidence rates worldwide, as well as the mortality and long-term effects they have on affected people. A scenario that has highlighted the need to achieve adequate treatments based on a solid knowledge of the cause and transmission of each one of them.

Scientific advances in pharmaceutical sciences, the development of public health and the pharmaceutical and biotechnology industry have led to the emergence of effective vaccines and treatments. However, in Clinical Infectious Diseases there is still an extensive debate about infection control and the silent epidemic of antibiotic resistance. In this context, pharmaceutical professionals cannot be oblivious to the progress and studies that delve into infectious diseases and their current management.

That is why TECH has designed this Master's Degree, which provides pharmacists with the most advanced and up-to-date knowledge on the development of infectious diseases, biosecurity plans for biological protection, pharmacological treatments for international travelers and the latest scientific evidence on coronaviruses.

All this will be possible thanks to an innovative multimedia content, elaborated with the latest technology applied to academic teaching, and to a team of professionals with extensive experience in the approach and study of Clinical Infectious Diseases. Thus, students will be able to delve into the most recent studies dealing with resistant viruses, multidrug-resistant malaria and global strategies applied to control antibiotic prescription.

Pharmaceutical professionals are, therefore, facing an excellent opportunity to keep up to date with scientific progress in Clinical Infectious Diseases and Advanced Antibiotic Therapeutics with a program that can be taken comfortably wherever and whenever they wish. Students only need an electronic device with Internet connection to access the virtual campus where the didactic resources are hosted.
A syllabus, moreover, whose teaching load can be distributed according to their needs.

This **Master's Degree in Clinical Infectious Diseases and Advanced Antibiotic Therapeutics** contains the most complete and up-to-date scientific program on the market.
Its most outstanding features are:

- The development of case studies presented by experts in infectious diseases.
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice.
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

In just 12 months you will be up-to-date on the progress in the management of patients with hepatitis, tuberculosis or HIV"

This 100% online program will take you through the latest studies on new antibiotic developments"

Get to know all the latest information on COVID-19 Don't miss the opportunity to learn about advances in the treatment of infections in order to incorporate them into your daily pharmaceutical practice.

TECH provides you with innovative teaching resources so that you can visually update your respiratory infection knowledge.

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersion education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

02

Objectives

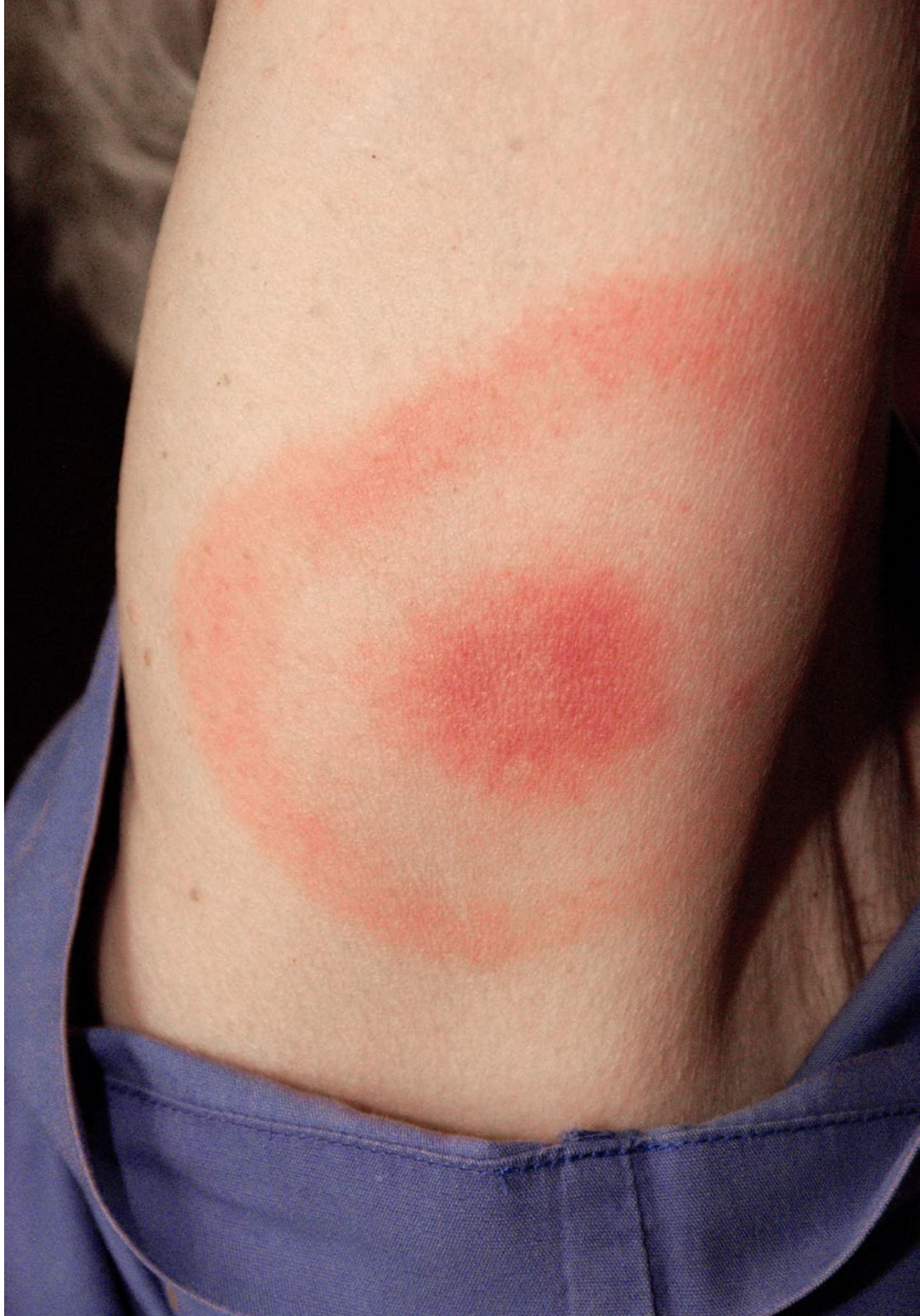
The main objective of this Master's Degree is to offer pharmacists an opportunity to update their epidemiology knowledge, factors that influence infectious disease development, as well as the latest discoveries on antibiotics and the influence of genetics in some people's resistance to certain treatments. All through content with a theoretical-practical approach that can be accessed 24 hours a day.

This degree provides you with the latest scientific evidence on mycoses and parasitosis in infectious diseases"

General Objectives

- Gain in-depth knowledge of key aspects of Infectious Diseases
- Manage the prevention, diagnosis and treatment of infectious diseases
- Deepen a multidisciplinary and integrative approach to facilitate the control of these pathologies
- Acquire competencies related to the area of Clinical Infectious Diseases and Therapeutics. Advanced Antibiotic Therapy
- Be able to apply the latest technological innovations to establish an optimal diagnostic management

This program will enhance your skills in analyzing the microbiological characteristics of mycobacteria"



Specific Objectives

Module 1. Epidemiology of Infectious Diseases

- Know the epidemiological, economic, social and political conditions of countries with major infectious diseases
- Identify the different taxonomies of infectious agents, as well as the properties of microorganisms
- Gain in-depth knowledge of chemical and physical agents in microorganisms
- Know the indications and interpretations of a microbiological study, understanding all the technical aspects

Module 2. Cancer and Immunosuppression

- Identify the general structures of the immune system
- Establish the common responses of the immune system to viral and bacterial infections
- Explain the complex interrelationships between infections and different types of immunosuppression.

Module 3. Occupational Accident and Blood-borne Pathogens

- Address the important role of microbiology and the infectologist in the control of infectious diseases
- Describe the main elements that favour occupational accidents and the transmission of blood-borne pathogens
- Analyze the diagnostic and therapeutic approach to accidents involving blood

Module 4. Infectious Diseases in International Travelers

- To highlight the importance of morbidity and mortality from infections in the international traveller
- Explain the health controls for international travellers
- Know and identify the most common infections for international travelers such as "return travel fever" or "traveler's diarrhea"

Module 5. Chronic Non-Communicable Diseases and Infections

- Study the current pathophysiological elements between non-transmissible chronic diseases and infections
- Know the neurological, endocrine and immune interrelationships in the face of stress and infectious agents
- Identify the digestive diseases associated with infectious microorganisms and the function of this system in the body
- Gain in-depth knowledge on the infectious theory of rheumatic diseases

Module 6. The Most Lethal Respiratory Infections

- Study, in depth, the latest clinical, diagnostic and therapeutic elements of the most lethal respiratory infections
- Know the mortal repercussions of bacterial pneumonia associated with health care and other factors
- Identify the clinical picture, pathobiology and diagnosis of tuberculosis
- Analyze the formation of Loeffler syndrome in its pulmonary phase and the clinical manifestations

Module 7. Latest news on coronavirus infections

- Learn about the progress and evolution of coronaviruses from their discovery to the present day
- Identify the main microbiological characteristics of coronaviruses
- Delve into the biosafety protocols currently used in laboratories handling Coronavirus samples
- Highlight the pathogenesis and pathophysiology of coronavirus infections

Module 8. Urinary Tract and Sexually Transmitted Infections

- Assess the extent of urinary tract infections and immune response in the genitourinary system
- Gain detailed knowledge of urinary tract infections in patients with bladder catheterization, prostate and elderly patients
- Identify and know the latest updates on STIs, as well as the main pathologies of this group according to their classification into viral and bacterial
- Analyze the current approach to herpes and the therapeutic alternatives that have gained the most popularity among specialists

Module 9. Food-Borne Infections

- Gain knowledge of diseases transmitted by the consumption and mishandling of food
- Identify and analyze the classifications of infections caused by improperly handled food
- Evaluate the main etiological agents such as *salmonella*, staphylococcus, among others
- Understand the socio-economic measures taken by ATS for the control of foodborne infections

Module 10. Hepatitis, HIV/ AIDS and Tuberculosis Co-Infection

- Characterize the clinical picture, viral markers, evolution and treatment of Hepatitis, Tuberculosis and HIV/ AIDS infection
- Understand in detail the clinical manifestations of co-infection at pulmonary and extrapulmonary levels
- Evaluate the comprehensive care received by patients with infections in patients with co-infection and therapeutic considerations
- Consider other antituberculosis treatments in patients with tuberculosis/HIV/ AIDS co infection

Module 11. Viral Haemorrhagic Diseases and Arboviruses

- Quickly identify viral hemorrhagic diseases and the vaccines that target these diseases
- Be able to understand the diagnostic approach to hemorrhagic diseases
- Get an overview of the types of hemorrhagic infections that concern the world, such as dengue, chikungunya, zika, etc

Module 12. Central Nervous System Infections

- Quickly identify the defense mechanisms of the CNS immune system, as well as the epidemiology of the infections that affect it
- Diagnose possible microbes that cause CNS infections by studying cerebrospinal fluid
- Identify basic CNS infections by means of their most relevant characteristics such as etiology and clinical picture In addition to the correct diagnosis and treatment
- Gain a clear understanding of antibiotics and how the blood-brain barrier works

Module 13. Zoonotic

- Know the generalities of zoonoses such as their origin and prion causes
- Identify and analyze the main control measures for zoonoses of concern to global public health systems
- Be able to establish an accurate diagnostic picture of some of the infections transmitted by animals, as well as their treatments and clinical pictures

Module 14. Mycobacteriosis and anaerobic infections

- Acquire the skills required to analyze the microbiological characteristics of mycobacteria
- Analyze the microbiological methods for the diagnosis of mycobacterial infections
- Know and identify the symptoms, infectious agents and clinical picture of mycobacterial infections
- Know in detail the main antimicrobials used against anaerobic germs

Module 15. Mycoses and Parasitosis in Infectiology

- Be able to identify the etiology of the most common mycosis infections
- Understand, in detail, the generalities of parasitosis, as well as the body's immune response to parasites, protozoa and helminths
- Correctly manage the different direct and indirect diagnostic methods for mycoses
- Know the latest updates in antiparasitics and their pharmacological elements

Module 16. Multi-Resistance and Vaccines

- Identify the acquired genetic mechanisms that lead to antimicrobial resistance
- Further understanding of the different infections that have developed resistance to antiviral drugs
- Know the general aspects of vaccination, as well as its immunological basis, its production process and the risk for people
- Establish the correct method for the use of vaccines

Module 17. Rare Infectious Diseases and Other Challenges in Infectiology

- Know the general aspects of the most common infectious diseases in the world
- Identify the etiology, clinical picture and diagnosis of the most common diseases in the world
- Develop the skills required to identify new emerging infectious diseases as well as the development of new antibiotics

03

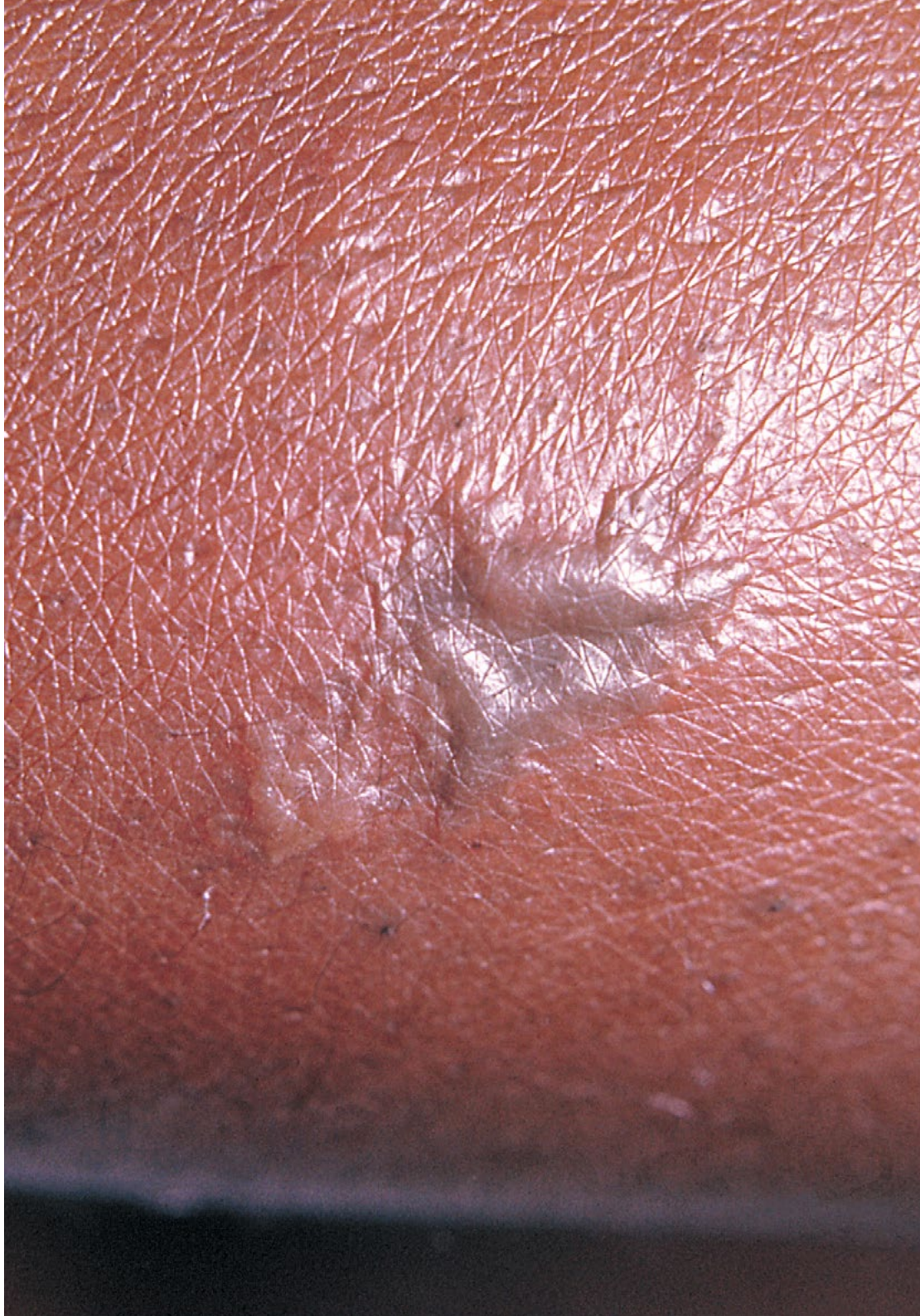
Skills

In the course of this university degree, the professional will be able to enhance their diagnostic and therapeutic capabilities in infectious diseases, as well as expand their skills to advise both multidisciplinary teams responsible for the study of clinical infectious diseases, as well as patients. In addition, by having a more up-to-date knowledge, they will be able to transfer this information in a reliable manner to a general population that has become much more interested in vaccines in recent years.

With this program you will be up-to-date on new diagnostic and therapeutic procedures for infectious diseases from a pharmaceutical point of view"

General Skills

- Increase their diagnostic and therapeutic capabilities for infectious diseases and overall patient care through the in-depth study of epidemiological, clinical, pathophysiological, diagnostic and therapeutic elements of these diseases
- Refine skills to manage, advise or lead multidisciplinary teams for the study of infectious diseases in communities or individual patients, as well as scientific research teams
- Develop skills for self-improvement, in addition to being able to provide training and professional improvement activities due to the high level of scientific and professional preparation acquired with this program
- Educate the population in the field of infectious diseases in order to acquire and develop a culture of prevention among the population, based on healthy lifestyles
- Apply the epidemiological and clinical method in collective or individual care to solve the main health problems related to infectious diseases
- Perform a critical reading of the scientific literature on these diseases and at the same time have the tools to communicate research results
- Collect, process, and analyse in very diverse clinical and epidemiological contexts, any scientific information for diagnostic and therapeutic decision-making in the field of clinical infectious diseases specifically and health in general
- Develop learning to learn as one of the most important skills for any professional nowadays, who is obliged to constantly train and improve his or her professional skills due to the dizzying and accelerated process of scientific knowledge production



Specific Skills

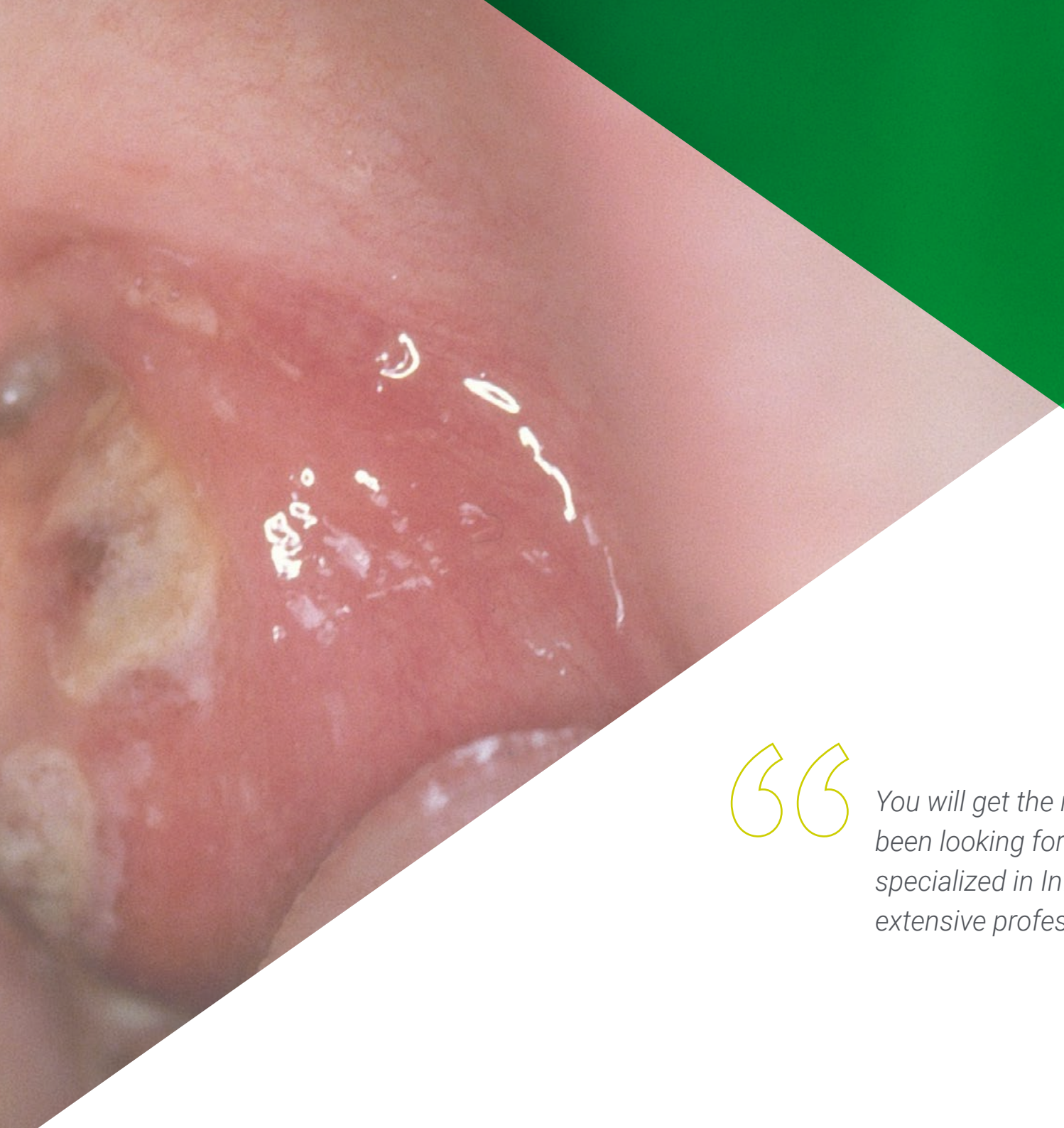
- Master the biological, epidemiological, and social determinants that favour the development of diseases and their impact on morbidity and mortality
- Identify and analyse the latest scientific information in infectious diseases, in order to design plans and programs to control it
- Apply existing control measures to prevent the transmission of these diseases between countries, in real and/or simulated
- Evaluate the epidemiological aspects related to chronic diseases that will allow them to implement actions for their control in the community, in real and/or simulated conditions.
- Identify, in a timely manner, the appearance of new diseases or the rise of emerging or re-emerging diseases, based on the application of the scientific method of the profession
- Timely diagnosis of the most frequent or new infections based on clinical manifestations for their correct treatment, rehabilitation, and control
- Justify the importance of vaccination as an important public health measure for the control of communicable diseases
- Identify the occupational, social, and environmental risk factors that favor the development of these diseases in the community
- Identify the main opportunistic infections in patients with different types and degrees of immunosuppression
- Apply prevention and control measures to reduce morbidity and mortality in chronic diseases
- Master the clinical, epidemiological, diagnostic and therapeutic elements for the main epidemiological threats in the world population such as arbovirosis, HIV/AIDS infection, parasitosis, TB and hemorrhagic diseases
- Educate the community in the prevention of the infection- disease process
- Identify the fundamental aspects of the pathogenesis and the main clinical features of the diseases studied
- Halt the progression of antibiotic resistance, based on reasoned treatment and supported by the best scientific evidence
- Develop skills to provide care for international travelers, based on the mastery of the main risks and diseases in this vulnerable group
- Correctly use and interpret all microbiological studies and other diagnostic resources in the care of their patients

Delve deeper with this degree into progress in the development of vaccines for viral hemorrhagic diseases"

04

Course Management

TECH has created this Master's Degree with a team of leading professionals in the field of Clinical Infectious Diseases and Advanced Antibiotic Therapeutics. Their high quality and wide experience in leading hospital centers, have been crucial for their integration into this degree program. Thanks to their extensive knowledge in this field, pharmacists will be able to obtain the refresher program they have been looking for. In addition, the human quality and proximity of the teaching staff will allow students to resolve any doubts that may arise regarding the program's syllabus.



You will get the refresher program you have been looking for from a teaching team specialized in Infectious Diseases and with extensive professional experience"

Management

Dr. Díaz Pollán, Beatriz

- Specialist in Internal Medicine expert in Infectious Diseases
- FEA of Internal Medicine in the Department of Infectious Diseases of the La Paz University Hospital.
- Assistant Physician of Internal Medicine in the Infectious Diseases Department of the San Carlos Clinical Hospital.
- Sub-investigator in several research projects.
- Author of dozens of scientific publications on Infectious Diseases.
- Master's Degree in Infectious Diseases and Antimicrobial Treatment from CEU Cardenal Herrera University.
- University Expert in Community and Nosocomial Infections from CEU Cardenal Herrera University
- University Expert in Chronic Infectious Diseases and Imported Infections from CEU Cardenal Herrera University
- Member of the Spanish Society of Infectious Diseases and Clinical Microbiology.

Professors

Dr. Rico Nieto, Alicia

- Specialist in Microbiology and Parasitology with expertise in Infectious Diseases.
- Assistant Physician in the Infectious Diseases Unit of the La Paz University Hospital.
- Area Specialist in Microbiology at the La Paz University Hospital.
- Researcher at the Research Institute of the La Paz University Hospital.
- Author of numerous scientific publications
- Member of the Board of Directors of the Osteoarticular Infection Study Group.
- Member of the Spanish Society of Infectious Diseases and Clinical Microbiology.

Dr. Ramos Ramos, Juan Carlos

- Specialist in Internal Medicine
- Assistant Physician at the Infectious Diseases Unit of the La Paz University Hospital.
- Internist at Sanitas La Zarzuela University Hospital.
- Doctor in Medicine and Surgery by the University of Alcalá of Henares.
- Master in Infectious Diseases in Intensive Care, Valencia University-Business Foundation.

Dr. Loeches Yagüe, María Belén

- Associate Physician in the Infectious Diseases Unit at the Department of Infectious Diseases at HGU La Paz
- Doctorate in Medicine from the Autonomous University Madrid
- Degree in Medicine from the Complutense University of Madrid
- Master in Theoretical and Practical Learning in Infectious Diseases, Complutense University of Madrid
- Specialized training in Microbiology and Infectious Diseases, Gregorio Marañón General University Hospital
- Professor of Infectious Diseases, Infanta Sofía University Hospital, Madrid

Dr. Arribas López, José Ramón

- Department Head of the Infectious Diseases and Clinical Microbiology Unit at the Hospital Universitario La Paz
- Coordinator of the High Level Isolation Unit at the Hospital La Paz - Carlos III
- Director of the Research Institute of La Paz University Hospital (IdiPAZ)
- Director of the Foundation of the La Paz University Hospital
- Physician at the Infectious Diseases Unit of Barnes Hospital in the USA
- Doctor of Medicine, UAM
- Member of: Inter-Ministerial Committee for the Management of the Ebola Crisis

Dr. Mora Rillo, Marta

- Specialist in Internal Medicine at the La Paz Hospital.
- Researcher on Infectious Diseases
- Author of several scientific articles on Infectious Diseases.
- Teaching collaborator in university studies of Medicine
- Doctorate in Medicine from the Autonomous University Madrid
- Master's Degree in Infectious Diseases in Intensive Care from the University of Valencia
- Master's Degree in Tropical and Health Medicine from the Autonomous University of Madrid
- Expert in Emerging and High Risk Virus Pathology, Autonomous University of Madrid.

A unique, key, and decisive educational experience to boost your professional development"

05

Structure and Content

This progam's syllabus has been developed by a team of professors specialized in infectious diseases, who have poured their extensive knowledge in this field into its content. This will allow students taking this program to obtain the latest information on epidemiology, new infectious diseases depending on continents, as well as studies that delve into vaccines and human resistance to antibiotics. In addition, the *Relearning* system used by TECH, the professional will be able to advance through the content of this teaching in a more natural way and even reduce the long hours of study.

In this program you will find clinical case studies, contributed by specialists, that you will be able to integrate into your daily practice"

Module 1. Epidemiology of Infectious Diseases

1.1. Epidemiological, Economic and Social Conditions in Each Continent that Favor Infectious Disease Development
- 1.1.1. Africa:
- 1.1.2. America:
- 1.1.3. Europe and Asia

1.2. New and Emerging Diseases By Continent
- 1.2.1. Morbidity and Mortality From Infectious Diseases in Africa
- 1.2.2. Morbidity and Mortality From Infectious Diseases in the Americas
- 1.2.3. Infectious Disease Morbidity and Mortality in Asia
- 1.2.4. Morbidity and Mortality From Infectious Diseases in Europe

1.3. The Taxonomy Of Infectious Agents
- 1.3.1. Viruses
- 1.3.2. Bacteria
- 1.3.3. Fungus
- 1.3.4. Parasites

1.4. Disease-producing Properties of Micro-organisms
- 1.4.1. Mechanisms of Pathogenicity
- 1.4.2. Mechanisms of Adhesion and Multiplication
- 1.4.3. Mechanisms Enabling the Acquisition of Nutrients From The Host
- 1.4.4. Mechanisms Inhibiting The Phagocytic Process
- 1.4.5. Mechanisms For Evading The Immune Response

1.5. Microscopy and Staining
- 1.5.1. Microscopes and Types of Microscopes
- 1.5.2. Composite Stains
- 1.5.3. Acid-fast Micro-organism Stainings
- 1.5.4. Staining to Demonstrate Cellular Structures

1.6. Cultures and Growth of Micro-organisms
- 1.6.1. General Culture Mediums
- 1.6.2. Specific Culture Methods

1.7. Effect of Chemical and Physical Agents on Micro-organisms
- 1.7.1. Sterilisation and Disinfection
- 1.7.2. Disinfectants and Antiseptics Used in Practice.

1.8. Molecular Biology and its Importance for the Infectologist
- 1.8.1. Bacterial Genetics
- 1.8.2. Polymerase Chain Reaction Tests

1.9. Indication and Interpretation of Microbiological Studies

Module 2. Cancer and Immunosuppression

2.1. The Innate and Adaptive Immune Response
- 2.1.1. Cells and Cytokines in Response to Infectious Agents
- 2.1.2. Characteristics of the Innate Immune Response

2.2. Immunosuppression in Different Conditions in Patients with Sepsis
- 2.2.1. The role of Cytotoxics in Immunosuppression
- 2.2.2. The role of Cytotoxics in Immunosuppression
- 2.2.3. Infection in Transplant Patients

2.3. The Oncohematological Patient with Sepsis
- 2.3.1. Medullary Aplasia
- 2.3.2. Neutropenia
- 2.3.3. Infections in Patients with Cancer

2.4. The Diabetic Patient with Sepsis
- 2.4.1. The Immune System in Diabetes Mellitus
- 2.4.2. Main Infections in the Diabetic Patient

2.5. Comprehensive Approach to the Immuno-Compromised Patient with Sepsis
- 2.5.1. Diagnostic Considerations
- 2.5.2. Therapeutic Measures

2.6. The Link Between Cancer and Micro-organisms
- 2.6.1. Oncogenesis and Infection
- 2.6.2. Virus and Cancer
  - 2.6.2.1. EpsteinBarr Virus
  - 2.6.2.2. Hepatitis B and C Viruses
  - 2.6.2.3. Human Immunodeficiency Virus
  - 2.6.2.4. T-cell Lymphoma/Leukaemia Viruses
  - 2.6.2.5. Kaposi's Sarcoma-Associated Herpesvirus

2.7. Bacterias and Cancer
  2.7.1. *Helicobacter Pylori*
2.8. Parasites and Cancer
  2.8.1. *Schistosoma Haematobium*
  2.8.2. *Opisthorchis Viverrini*
2.9. Bacteria Allies Against Cancer

Module 3. Occupational Accident and Blood-borne Pathogens

3.1. Epidemiology of Blood Borne Pathogen Infections
3.2. Main Blood-Borne Infections
  3.2.1. Hepatitis B Virus Infection
  3.2.2. Hepatitis C Virus Infection
  3.2.3. VIH/AIDS
3.3. Diagnostic and Therapeutic approach to Accidents Involving Blood
  3.3.1. Diagnostic Follow-up of Cases
  3.3.2. Treatment
3.4. Universal Precautions in the Prevention of Accidents in the Workplace
3.5. Biosafety Measures and the Role of the Epidemiologist in Reducing Biohazards
  3.5.1. Biological Risk
  3.5.2. Biosecurity
3.6. Biosecurity Plans for Biological Protection

Module 4. International Traveler's Infectious Diseases

4.1. Vaccines in the International Traveller
  4.1.1. Vaccines in the International Traveller
  4.1.2. Vaccination Against Yellow Fever
4.2. Prophylaxis for Travellers to Tropical Areas
  4.2.1. Pharmacological Treatment According to the Geographical Area to be visited
  4.2.2. Glucose-6-Phosphate Dehydrogenase Deficiency and Antimalarial Drugs
  4.2.3. Preventive Measures for Travellers in Tropical Areas
4.3. Traveller's Diarrhoea
  4.3.1. Epidemiology
  4.3.2. Etiology
  4.3.3. Clinical Manifestations
  4.3.4. Diagnosis
  4.3.5. Treatment
4.4. Health Screening of International Travellers
4.5. Fever on Return from International Travel
  4.5.1. Main Aetiologies
  4.5.2. Diagnostic Approach.
  4.5.3. Imported Infectious Pathology in the International Traveller

Module 5. Chronic Non-Communicable Diseases and Infections

5.1. Infections and the Chronic Inflammatory Response
  5.1.1. Immune System Cells of the Chronic Inflammatory Response to Infections
  5.1.2. The Granulomatous Response and Delayed-type Hypersensitivity
  5.1.3. The Role of Chemical Mediators of the Chronic Inflammatory Response
5.2. Stress, Immunity and Infectious Agents
  5.2.1. Neurological, Endocrine and Immune Interrelationships
  5.2.2. Stress and the Immune Response
  5.2.3. Chronic Fatigue Syndrome and Infections
5.3. Atherosclerosis, Cardiovascular Disease and the Role of Infectious Agents
  5.3.1. The Role of Infectious Agents in Atherosclerosis
  5.3.2. Cardiovascular Disease Mortality and its Association with Infectious Agents
  5.3.3. Cardiovascular Mortality in Patients with Pneumonia
5.4. Digestive Diseases Associated with Infectious Microorganisms
  5.4.1. Gut Flora and its Important Functions
  5.4.2. Gastroduodenal Peptic and Helicobacter Pylori Disease
  5.4.3. Inflammatory Bowel Disease and Infections
  5.4.4. Whipple's Disease
5.5. Neurological Diseases and Infections
  5.5.1. Dementia and Infections
  5.5.2. Multiple Sclerosis and its Relationship to Certain Infectious Agents
  5.5.3. Guillain-Barré Syndrome, Immunity and Viral Infections
  5.5.4. Parkinson's Disease and its Association With Infections

5.6. Endocrinopathies and Infections
- 5.6.1. Mellitus Diabetes and Infections
- 5.6.2. Chronic Thyroiditis and Infections

5.7. The Infectious Theory of Rheumatic Diseases
- 5.7.1. Rheumatoid Arthritis.
- 5.7.2. Systemic Lupus Erythematosus
- 5.7.3. Seronegative Spondyloarthropathies
- 5.7.4. Wegener's Granulomatosis
- 5.7.5. Polymyalgia Rheumatica

Module 6. The Most Lethal Respiratory Infections

6.1. Immunology and Defence Mechanisms of the Respiratory System

6.2. Influenza and Other Lethal Viral Infections
- 6.2.1. Influenza Epidemics
- 6.2.2. H1N1 Influenza
- 6.2.3. Vaccine Against Influenza and the Prevention of Mortality

6.3. Bacterial Pneumonia: The Captain of the Armies of Death
- 6.3.1. Community-Acquired Pneumonia (CAP)
- 6.3.2. Intrahospital Pneumonia
- 6.3.3. Pneumonia Associated With Healthcare

6.4. Tuberculosis
- 6.4.1. Epidemiology
- 6.4.2. Pathobiology.
- 6.4.3. Classification
- 6.4.4. Clinical Picture
- 6.4.5. Diagnosis
- 6.4.6. Treatment

6.5. Loeffler's Syndrome and Eosinophilic Syndromes
- 6.5.1. Pulmonary Parasite Phases
- 6.5.2. Clinical and Radiological Manifestations
- 6.5.3. Other Eosinophilic Pneumonias

6.6. Antimicrobials and the Respiratory System
- 6.6.1. Antimicrobials Effective in the Respiratory System
- 6.6.2. The Immunomodulatory Role of Macrolides in Pneumonia

Module 7. Update on Coronavirus Infections

7.1. Discovery and Evolution of Coronaviruses.
- 7.1.1. Discovery of Coronaviruses.
- 7.1.2. Global Trends in Coronavirus Infections.

7.2. Main Microbiological Characteristics and Members of the Coronavirus Family.
- 7.2.1. General Microbiological Characteristics of Coronaviruses.
- 7.2.2. Viral Genome.
- 7.2.3. Principal Virulence Factors.

7.3. Epidemiological Changes in Coronavirus Infections since its Discovery to Present Day
- 7.3.1. Morbidity and Mortality of Coronavirus Infections from their Emergence to the Present.

7.4. The Immune System and Coronavirus Infections.
- 7.4.1. Immunological Mechanisms Involved in the Immune Response to Coronaviruses.
- 7.4.2. Cytokine Storm in Coronavirus Infections and Immunopathology.
- 7.4.3. Modulation of the Immune System in Coronavirus Infections.

7.5. Pathogenesis and Pathophysiology of Coronavirus Infections.
- 7.5.1. Pathophysiological and Pathogenic Alterations in Coronavirus Infections.
- 7.5.2. Clinical Implications of the Main Pathophysiological Alterations

7.6. Risk Groups and Transmission Mechanisms of Coronaviruses.
- 7.6.1. Main Sociodemographic and Epidemiological Characteristics of Risk Groups Affected by Coronavirus
- 7.6.2. Coronavirus Mechanisms of Transmission.

7.7. Natural History of Coronavirus Infections.
- 7.7.1. Stages of Coronavirus Infection.

7.8. Latest Information on Microbiological Diagnosis of Coronavirus Infections.
- 7.8.1. Sample Collection and Shipment.
- 7.8.2. PCR and Sequencing.
- 7.8.3. Serology Testing.
- 7.8.4. Virus Isolation.

7.9. Current Biosafety Measures in Microbiology Laboratories for Coronavirus Sample Handling
- 7.9.1. Biosafety Measures for Coronavirus Sample Handling.

7.10. Up-to-Date Management of Coronavirus Infections.

7.10.1. Prevention Measures.
7.10.2. Symptomatic Treatment.
7.10.3. Antiviral and Antimicrobial Treatment in Coronavirus Infections.
7.10.4. Treatment of Severe Clinical Forms.
7.11. Future Challenges in the Prevention, Diagnosis, and Treatment of Coronavirus.
7.11.1. Global Challenges for the Development of Prevention, Diagnostic, and Treatment Strategies for Coronavirus Infections.

Module 8. Urinary Tract and Sexually Transmitted Infections

8.1. Epidemiology of Urinary Tract Infection
8.1.1. Factors Explaining the Increased Morbidity of Urinary Tract Infection in Women
8.2. Immunology of the Urinary System
8.3. Classification of Urinary Tract Infection
8.4. Urinary Infection
8.4.1. Etiology
8.4.2. Clinical Picture
8.4.3. Diagnosis
8.4.4. Treatment
8.5. Urinary Tract Infection in the Bladder Catheterised, Prostatic and Elderly Patient
8.6. Most commonly used antimicrobials in urinary tract infections
8.6.1. Pharmacological Elements
8.6.2. Antimicrobial Resistance of the Main Bacteria Affecting the Urinary Tract
8.7. Epidemiological Update on Major STIs
8.8. Viral STIs
8.8.1. Perinatal Herpes Simplex
8.8.2. Viral Hepatitis
8.8.3. Human papillomavirus
8.8.4. HIV
8.9. Bacterial STIs
8.9.1. Gonorrhoea
8.9.2. Syphilis
8.9.3. Soft Chancre
8.9.4. Lymphogranuloma Venereum
8.10. Trichomoniasis and Genital Candidiasis
8.11. Trichomoniasis: Epidemiology, Aetiology, Clinical Picture, Diagnosis and Treatment
8.12. Genital Candidiasis: Epidemiology, Etiology, Clinical Picture, Diagnosis and Treatment
8.13. The syndromic Approach to STIs and Control Measures
8.13.1. Main Clinical Framework
8.13.2. STI Control Measures
8.14. Multidrug-Resistant Gonococcus: Treatment Alternatives
8.14.1. Global Situation
8.14.2. Alternative Treatments.
8.15. Current Management of Recurrent Herpes Infection
8.15.1. Focus Latest Information of Recurrent Herpes Infection

Module 9. Food-Borne Infections

9.1. Food-Borne Diseases, a Modern Day Health Problem
9.1.1. Epidemiology
9.1.2. Causes of Foodborne Infections
9.2. Classification of Foodborne Infections
9.2.1. Intoxications
9.2.2. Infections
9.2.3. Toxi-infections
9.3. Main Aetiological Agents
9.3.1. *Salmonella*
9.3.2. Staphylococci
9.3.3. *Listeria monocytogenes*
9.3.4. *Escherichia Coli*, 0157;H7
9.3.5. *Clostridium botulinum*
9.4. Foodborne Diseases and their Socio-Economic Impact
9.4.1. Socio-Economic Consequences of the ATS
9.5. Main Measures for the Control of Food-Borne Infections
9.5.1. Primary Prevention of ATS
9.5.2. Health Education
9.5.3. State Health Control and ATS

Module 10. Hepatitis, HIV/ AIDS and Tuberculosis Co-Infection

10.1. Viral Hepatitis A
- 10.1.1. Virus Characteristics and Replication Cycle
- 10.1.2. Clinical Picture
- 10.1.3. Viral Markers
- 10.1.4. Evolution and Prognosis
- 10.1.5. Treatment

10.2. Viral Hepatitis B and C
- 10.2.1. Virus Characteristics and Replication Cycle
- 10.2.2. Clinical Picture
- 10.2.3. Viral Markers
- 10.2.4. Evolution and Prognosis
- 10.2.5. Treatment

10.3. Viral Hepatitis D and E
- 10.3.1. Virus Characteristics and Replication Cycle
- 10.3.2. Clinical Picture
- 10.3.3. Viral Markers
- 10.3.4. Evolution and Prognosis
- 10.3.5. Treatment

10.4. Epidemiology of Morbidity and Mortality from TB/HIV/ AIDS Coinfection
- 10.4.1. Incidence
- 10.4.2. Prevalence
- 10.4.3. Mortality

10.5. Pathobiology from TB/HIV/ AIDS Coinfection
- 10.5.1. Pathophysiological Alterations in Co-Infection
- 10.5.2. Pathological Alterations

10.6. Clinical Manifestations of Co-Infection
- 10.6.1. Clinical Manifestations of Pulmonary TB
- 10.6.2. Clinical Manifestations of Extrapulmonary TB

10.7. Diagnosis of Tuberculosis in Patients Living with HIV/ AIDS
- 10.7.1. Diagnostic Studies in Pulmonary TB in HIV/ AIDS Patients
- 10.7.2. Diagnostic Studies in Pulmonary TB in HIV/ AIDS Patients

10.8. Integral Care of Patients with Co-infection TB and HIV/ AIDS and Therapeutic

Considerations

10.8.1. The System of Comprehensive Care for TB/HIV/ AIDS Patients

10.8.2. Anti-tuberculosis Treatment Considerations in Patients with Tuberculosis and HIV/ AIDS Coinfection

10.8.3. AntiTuberculosis Treatment Considerations in Patients with TB/HIV/ AIDS Co-Infection

10.8.4. The Issue of Anti-Tuberculosis and Anti-Retroviral Resistance in These Patients

Module 11. Viral Haemorrhagic Diseases and Arboviruses

11.1. Viral Hemorrhagic Diseases

11.1.1. Epidemiology

11.1.2. Classification

11.1.3. Diagnostic Approach to Viral Haemorrhagic Diseases

11.1.4. The Development of Vaccines for New Diseases

11.1.5. Measures for the Control of Viral Haemorrhagic Diseases

11.2. Ebola Haemorrhagic Fever

11.2.1. Characteristics and Replicative Cycle of the Virus

11.2.2. Clinical Picture

11.2.3. Diagnosis

11.2.4. Treatment

11.3. South American Hemorrhagic Fevers

11.3.1. Characteristics and Replicative Cycle of the Virus

11.3.2. Clinical Picture

11.3.3. Diagnosis

11.3.4. Treatment

11.4. Arbovirus:

11.4.1. Epidemiology

11.4.2. Vector Control

11.4.3. Other Arboviruses

11.5. Yellow fever.

11.5.1. Concept

11.5.2. Replicative Cycle of the Virus

11.5.3. Clinical Manifestations

11.5.4. Diagnosis

11.5.5. Treatment

11.6. Dengue.
- 11.6.1. Concept
- 11.6.2. Replicative Cycle of the Virus
- 11.6.3. Clinical Manifestations
- 11.6.4. Diagnosis
- 11.6.5. Treatment

11.7. Chikungunya
- 11.7.1. Concept
- 11.7.2. Replicative Cycle of the Virus
- 11.7.3. Clinical Manifestations
- 11.7.4. Diagnosis
- 11.7.5. Treatment

11.8. Zika
- 11.8.1. Concept
- 11.8.2. Replicative Cycle of the Virus
- 11.8.3. Clinical Manifestations
- 11.8.4. Diagnosis
- 11.8.5. Treatment

Module 12. Central Nervous System Infections

12.1. The Immune Defence Mechanisms of the CNS
- 12.1.1. Defence Mechanisms of the CNS
- 12.1.2. The Immune Response in the CNS

12.2. Epidemiology of the CNS Infection
- 12.2.1. Morbidity
- 12.2.2. Mortality
- 12.2.3. Risk Factors

12.3. Microbiological Diagnosis of the CNS Infection
- 12.3.1. The Study of Cerebrospinal Fluid

12.4. Meningitis
- 12.4.1. Etiology
- 12.4.2. Clinical Picture
- 12.4.3. Diagnosis
- 12.4.4. Treatment

12.5. Encephalitis
- 12.5.1. Etiology
- 12.5.2. Clinical Picture
- 12.5.3. Diagnosis
- 12.5.4. Treatment

12.6. Myelitis
- 12.6.1. Etiology
- 12.6.2. Clinical Picture
- 12.6.3. Diagnosis
- 12.6.4. Treatment

12.7. Antibiotics and the Blood-Brain Barrier
- 12.7.1. The Role of the Blood-Brain Barrier
- 12.7.2. The Crossing of the Blood-Brain Barrier by Antibiotics

Module 13. Zoonotic

13.1. Overview of Zoonosis
- 13.1.1. General Concepts and Epidemiology of Zoonoses
- 13.1.2. Main Zoonotic Diseases on an International Level
- 13.1.3. Prion Zoonosis
- 13.1.4. Prions in the Aetiology of Diseases
- 13.1.5. Bovine Spongiform Encephalopathy (or mad cow disease)
- 13.1.6. Main Zoonosis Control Measures

13.2. Rabies
- 13.2.1. Epidemiology
- 13.2.2. Infectious Agents
- 13.2.3. Pathobiology.
- 13.2.4. Clinical Picture
- 13.2.5. Diagnosis
- 13.2.6. Treatment

13.3. Bird Flue
- 13.3.1. Epidemiology
- 13.3.2. Infectious Agents
- 13.3.3. Pathobiology.
- 13.3.4. Clinical Picture
- 13.3.5. Diagnosis
- 13.3.6. Treatment

13.4. Leptospirosis.
- 13.4.1. Epidemiology
- 13.4.2. Infectious Agents
- 13.4.3. Pathobiology.
- 13.4.4. Clinical Picture
- 13.4.5. Diagnosis
- 13.4.6. Treatment

13.5. Brucellosis
- 13.5.1. Epidemiology
- 13.5.2. Infectious Agents
- 13.5.3. Pathobiology.
- 13.5.4. Clinical Picture
- 13.5.5. Diagnosis
- 13.5.6. Treatment

13.6. Toxoplasmosis
- 13.6.1. Epidemiology
- 13.6.2. Infectious Agents
- 13.6.3. Pathobiology.
- 13.6.4. Clinical Picture
- 13.6.5. Diagnosis
- 13.6.6. Treatment

Module 14. Mycobacteriosis and anaerobic infections

14.1. General Overview of Mycobacteriosis
- 14.1.1. Microbiological Characteristics of Mycobacteria
- 14.1.2. Immune Response to Mycobacterial Infection
- 14.1.3. Epidemiology of Major Nontuberculous Mycobacteria Infections

14.2. Microbiological Methods for the Diagnosis of Mycobacterioses
- 14.2.1. Direct Methods.
- 14.2.2. Indirect Methods.

14.3. *Mycobacterium Avium Intracellulare* Infection
- 14.3.1. Epidemiology
- 14.3.2. Infectious Agents
- 14.3.3. Pathobiology.
- 14.3.4. Clinical Picture
- 14.3.5. Diagnosis
- 14.3.6. Treatment

14.4. *Mycobacterium Kansasii* Infection
- 14.4.1. Epidemiology
- 14.4.2. Infectious Agents
- 14.4.3. Pathobiology.
- 14.4.4. Clinical Picture
- 14.4.5. Diagnosis
- 14.4.6. Treatment

14.5. Leprosy
- 14.5.1. Epidemiology
- 14.5.2. Infectious Agents
- 14.5.3. Pathobiology.
- 14.5.4. Clinical Picture
- 14.5.5. Diagnosis
- 14.5.6. Treatment

14.6. Other Mycobacteriosis

14.7. Antimycobacterials
- 14.7.1. Pharmacological Characteristics
- 14.7.2. Clinical Use

14.8. Microbiological Characteristics of Anaerobic Germs
- 14.8.1. Microbiological Characteristics of Anaerobic Germs
- 14.8.2. Microbiological Studies.

14.9. Pulmonary Abscess
- 14.9.1. Definition
- 14.9.2. Etiology
- 14.9.3. Clinical Picture
- 14.9.4. Diagnosis
- 14.9.5. Treatment

14.10. Intra-Abdominal and Ovarian Tube Abscesses
- 14.10.1. Definition
- 14.10.2. Etiology
- 14.10.3. Clinical Picture
- 14.10.4. Diagnosis
- 14.10.5. Treatment

14.11. Intracerebral Abscess
- 14.11.1. Definition
- 14.11.2. Etiology
- 14.11.3. Clinical Picture
- 14.11.4. Diagnosis
- 14.11.5. Treatment

14.12. Tetanus and Gangrene
- 14.12.1. Tetanus: Neonatal and Adult
- 14.12.2. Gangrene: Definition, Aetiology, Clinical picture, Diagnosis, Treatment

14.13. Main Antimicrobials against Anaerobic Germs
- 14.13.1. Mechanism of Action
- 14.13.2. Pharmacokinetics
- 14.13.3. Dose
- 14.13.4. Introduction
- 14.13.5. Adverse Effects

Module 15. Mycoses and Parasitosis in Infectiology

15.1. General Information on Fungi
- 15.1.1. General Features of Fungi
- 15.1.2. Immune Response to Fungi

15.2. Diagnostic Methods for Mycoses
- 15.2.1. Direct Methods.
- 15.2.2. Indirect Methods.

15.3. Superficial Mycosis: Tinea and Epidermatophytosis
- 15.3.1. Definition
- 15.3.2. Etiology
- 15.3.3. Clinical Picture
- 15.3.4. Diagnosis
- 15.3.5. Treatment

15.4. Deep Mycosis.
- 15.4.1. Cryptococcosis
- 15.4.2. Histoplasmosis
- 15.4.3. Aspergillosis
- 15.4.4. Other Mycosis

15.5. Update on Antifungals
- 15.5.1. Pharmacological Elements
- 15.5.2. Clinical Use

15.6. General overview of parasitic diseases
- 15.6.1. General Features of Microbiological Parasites
- 15.6.2. Immune Response to Parasites
- 15.6.3. Immune Response to Protozoa
- 15.6.4. Immune Response to Helminths

15.7. Diagnostic Methods for Parasites
- 15.7.1. Diagnostic Methods for Protozoa
- 15.7.2. Diagnostic Methods for Helminths

15.8. Intestinal Parasites
- 15.8.1. Ascariasis
- 15.8.2. Oxiuriasis
- 15.8.3. Hookworm and Necatoriasis
- 15.8.4. Trichuriasis

15.9. Tissue Parasitosis
- 15.9.1. Malaria.
- 15.9.2. Trypanosomiasis
- 15.9.3. *Schistosomiasis*
- 15.9.4. *Leishmaniasis*
- 15.9.5. Filariasis

15.10. Update on Antiparasitics
- 5.10.1. Pharmacological Elements
- 5.10.2. Clinical Use

Module 16. Multi-Resistance and Vaccines

16.1. The Silent Epidemic of Antibiotic Resistance
- 16.1.1. Globalisation and Resistance
- 16.1.2. Change from Susceptible to Resistant of the Microorganisms

16.2. The Main Genetic Mechanisms of Antimicrobial Resistance
- 16.2.1. Describe the Main Mechanisms of Antimicrobial Resistance
- 16.2.2. Selective Antimicrobial Pressure on Antimicrobial Resistance

16.3. Superbugs
- 16.3.1. Pneumococcus Resistant to Penicillin and Macrolides
- 16.3.2. Multidrug-Resistant Staphylococci
- 16.3.3. Resistant Infections in Intensive Care Units (ICUs)
- 16.3.4. Resistant Urinary Tract Infections
- 16.3.5. Other Multi-Resistant Microorganisms

16.4. Resistant Viruses
- 16.4.1. HIV
- 16.4.2. Influenza
- 16.4.3. Hepatitis Viruses

16.5. Multidrug-Resistant Malaria.
- 16.5.1. Chloroquine Resistance
- 16.5.2. Resistance to Other Antimalarials

16.6. The Main Genetic Studies of Antimicrobial Resistance
- 16.6.1. Interpretation of Resistance Studies

16.7. Global Strategies for Reducing Antimicrobial Resistance
- 16.7.1. The Control of Prescribing Antibiotics
- 16.7.2. Microbiological Mapping and Clinical Practice Guidelines

16.8. Overview of Vaccines
- 16.8.1. Immunological Basis of Vaccination
- 16.8.2. The Process of Vaccination Production
- 16.8.3. Quality Control of Vaccines
- 16.8.4. Vaccine Safety and Major Adverse Events
- 16.8.5. Clinical and Epidemiological Studies for Vaccine Approval

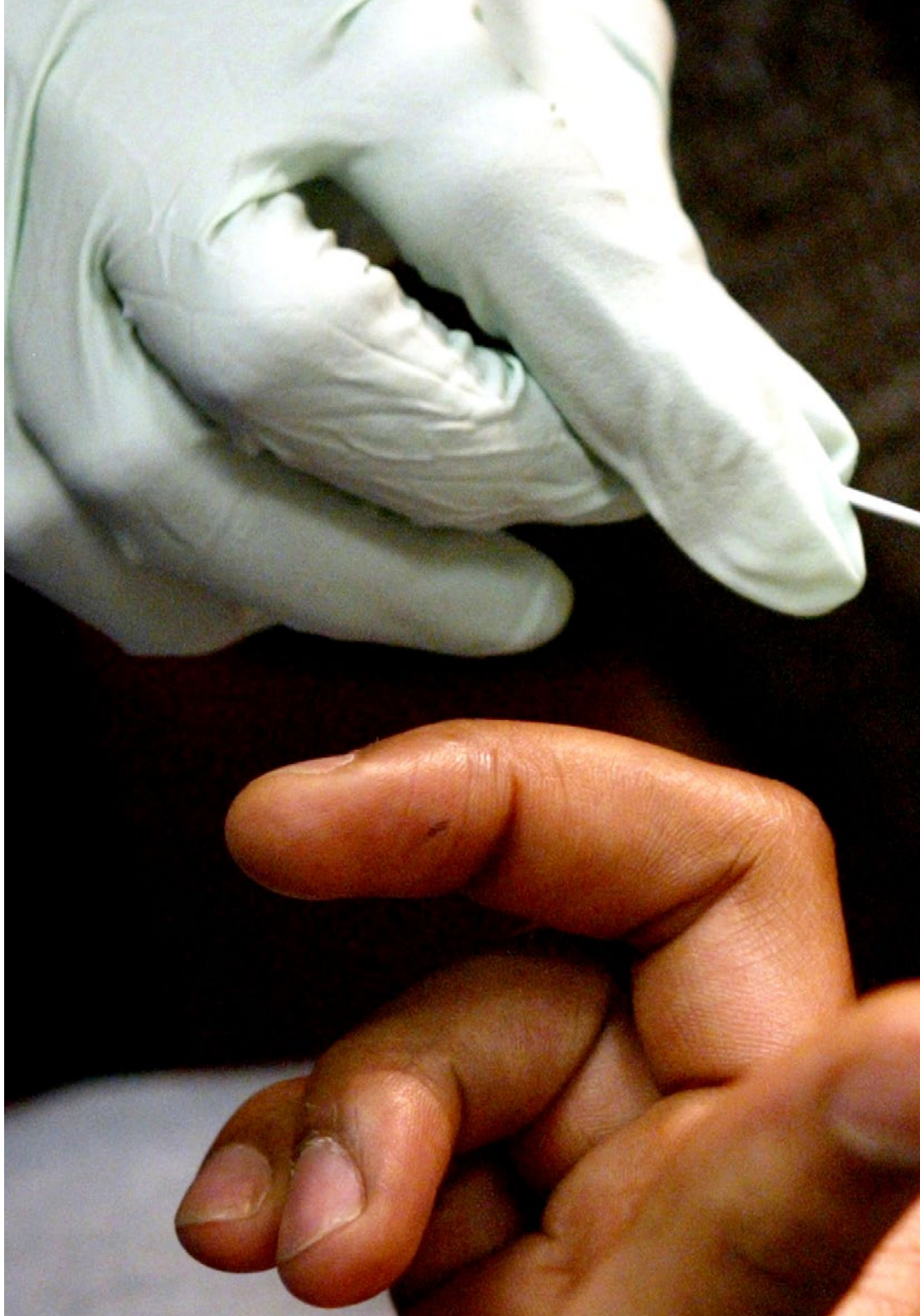
16.9. The Use of Vaccines
- 16.9.1. Vaccine-Preventable Diseases and Vaccination Programmes
- 16.9.2. Global Experiences of the Effectiveness of Vaccination Programmes
- 16.9.3. Vaccine Candidates for New Diseases

Module 17. Rare Infectious Diseases and Other Challenges in Infectiology

17.1. Overview of rare infectious diseases
- 17.1.1. General Concepts
- 17.1.2. Epidemiology of Rare or Uncommon Infectious Diseases

17.2. Bubonic Plague.
- 17.2.1. Definition
- 17.2.2. Etiology
- 17.2.3. Clinical Picture
- 17.2.4. Diagnosis
- 17.2.5. Treatment

17.3. Lyme Disease
- 17.3.1. Definition
- 17.3.2. Etiology
- 17.3.3. Clinical Picture
- 17.3.4. Diagnosis
- 17.3.5. Treatment



17.4. Babesiosis.
- 17.4.1. Definition
- 17.4.2. Etiology
- 17.4.3. Clinical Picture
- 17.4.4. Diagnosis
- 17.4.5. Treatment

17.5. Rift Valley Fever
- 17.5.1. Definition
- 17.5.2. Etiology
- 17.5.3. Clinical Picture
- 17.5.4. Diagnosis
- 17.5.5. Treatment

17.6. Diphyllobothriasis
- 17.6.1. Definition
- 17.6.2. Etiology
- 17.6.3. Clinical Picture
- 17.6.4. Diagnosis
- 17.6.5. Treatment

17.7. Zygomycosis.
- 17.7.1. Definition
- 17.7.2. Etiology
- 17.7.3. Clinical Picture
- 17.7.4. Diagnosis
- 17.7.5. Treatment

17.8. Cysticercosis
- 17.8.1. Definition
- 17.8.2. Etiology
- 17.8.3. Clinical Picture
- 17.8.4. Diagnosis
- 17.8.5. Treatment

17.9. Kuru
- 17.9.1. Definition
- 17.9.2. Etiology
- 17.9.3. Clinical Picture
- 17.9.4. Diagnosis
- 17.9.5. Treatment

17.10. The Re-emergence of Old Diseases: Causes and Effects
- 17.10.1. Emerging and New Infectious Diseases that Demand New Approaches to their Control
- 17.10.2. The Rise of Microbiological Resistance to Antimicrobial Drugs
- 17.10.3. Development of New Antibiotics

This program provides you with the most current information on the diagnosis of the possible microbes that cause infections in the CNS through cerebrospinal fluid studies"

06

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: ***Relearning***.

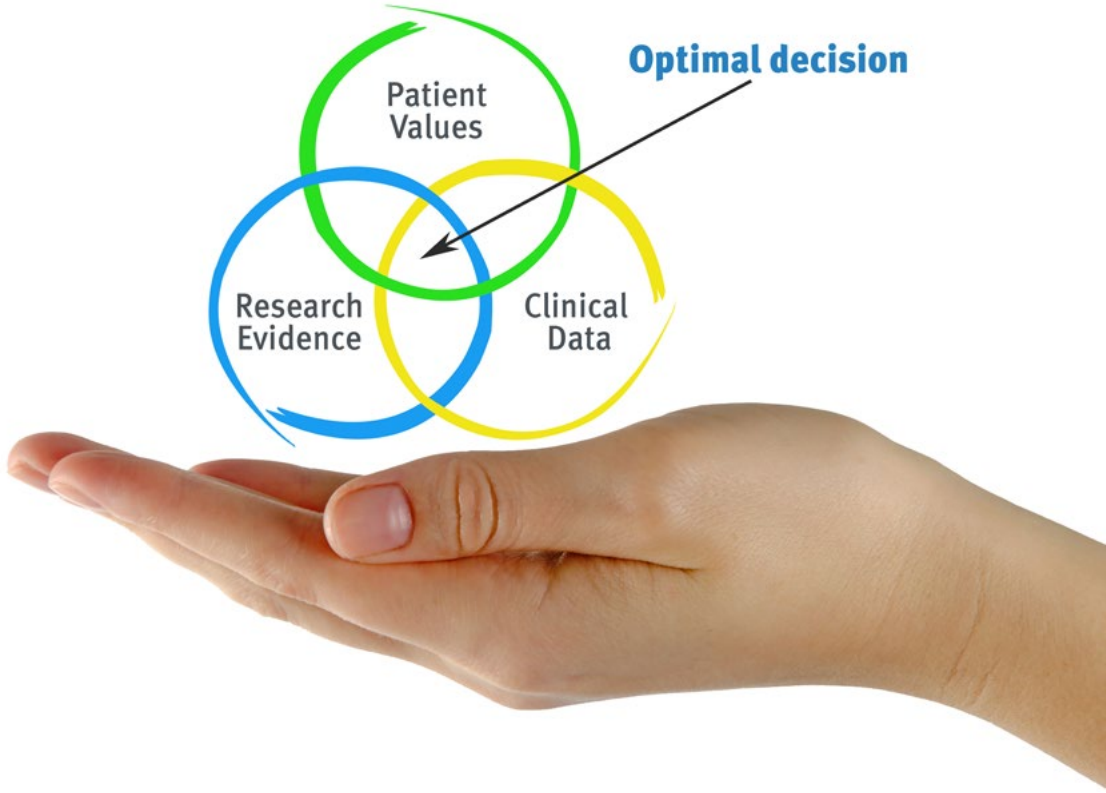
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.

Discover Relearning, a system that abandons conventional linear learning to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH, we use the Case Method

What should a professional do in a given situation? Throughout the program, students will be confronted with multiple simulated clinical cases based on real patients, in which they will have to investigate, establish hypotheses and ultimately, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Pharmacists learn better, more quickly and more sustainably over time.

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, attempting to recreate the actual conditions in a pharmacist's professional practice.

Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method.

The effectiveness of the method is justified by four fundamental achievements:

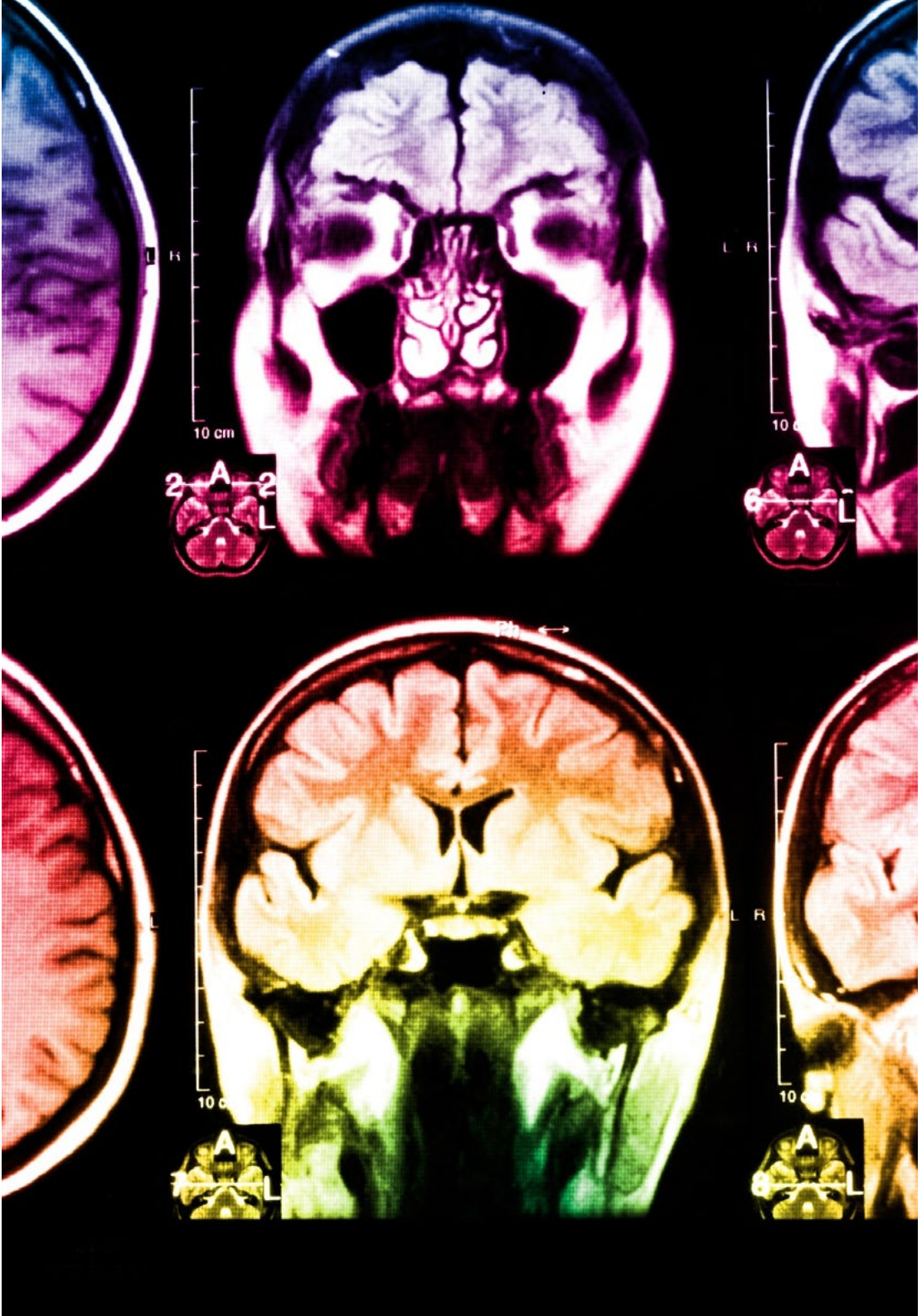
1. Pharmacists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

Pharmacists will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 115,000 pharmacists have been prepared with unprecedented success in all clinical specialties, regardless of the surgical load. This educational methodology is developed in a highly demanding environment, with a university student body with a high socioeconomic profile and an average age of 43.5 years.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is created specifically for the course by specialist pharmacists who will be teaching the course, so that educational development is highly specific and accurate.

These contents are then adapted in audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high-quality pieces in each and every one of the materials that are made available to the student.

Video Techniques and Procedures

TECH introduces students to the latest techniques, to the latest educational advances, to the forefront of current pharmaceutical care procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, students can watch them as many times as they want.

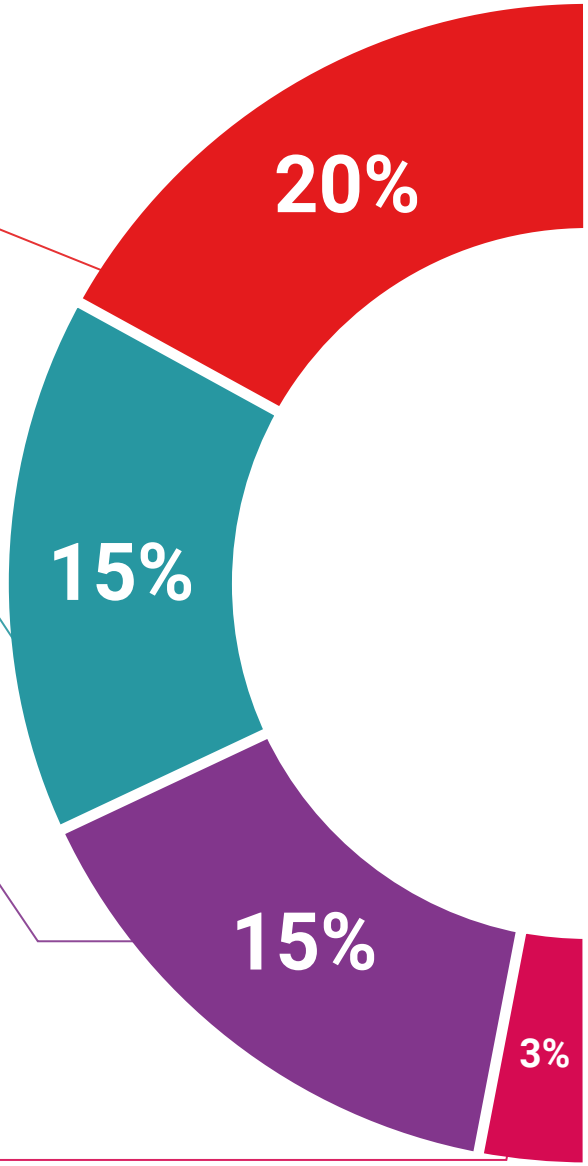
Interactive Summaries

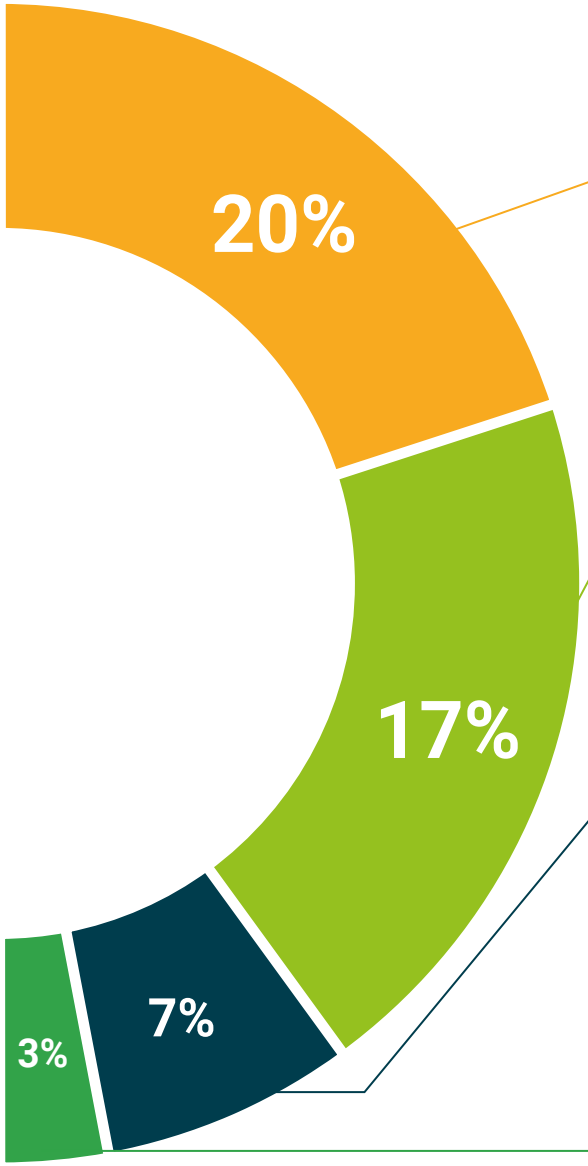
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Retesting

We periodically assess and re-assess students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

07

Certificate

The Master's Degree in Clinical Infectious Diseases and Advanced Antibiotic Therapeutics guarantees students, in addition to the most rigorous and up-to-date education, access to a Master's Degree issued by TECH Global University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This private qualification will allow you to obtain a **Master's Degree diploma in Clinical Infectious Diseases and Advanced Antibiotic Therapeutics** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Clinical Infectious Diseases and Advanced Antibiotic Therapeutics**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**


tech global university

Mr./Ms. _____ with identification document _____
has successfully passed and obtained the title of:

Master's Degree in Clinical Infectious Diseases and Advanced Antibiotic Therapeutics

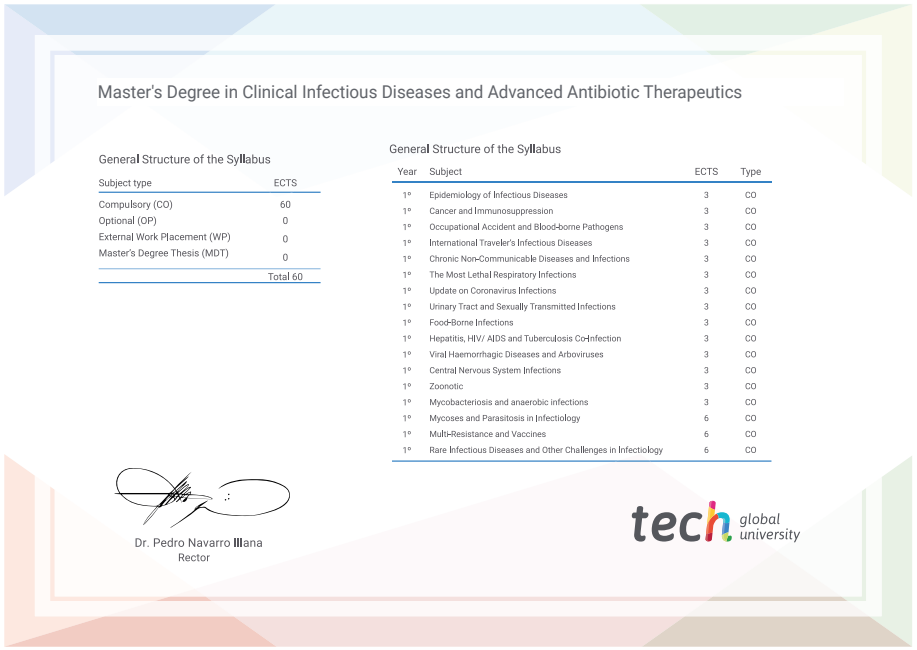
This is a private qualification of 1,800 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates


Master's Degree in Clinical Infectious Diseases and Advanced Antibiotic Therapeutics

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Epidemiology of Infectious Diseases	3	CO
1º	Cancer and Immunosuppression	3	CO
1º	Occupational Accident and Blood-borne Pathogens	3	CO
1º	International Traveler's Infectious Diseases	3	CO
1º	Chronic Non-Communicable Diseases and Infections	3	CO
1º	The Most Lethal Respiratory Infections	3	CO
1º	Update on Coronavirus Infections	3	CO
1º	Urinary Tract and Sexually Transmitted Infections	3	CO
1º	Food-Borne Infections	3	CO
1º	Hepatitis, HIV/ AIDS and Tuberculosis Co-Infection	3	CO
1º	Viral Haemorrhagic Diseases and Arboviruses	3	CO
1º	Central Nervous System Infections	3	CO
1º	Zoonotic	3	CO
1º	Mycobacteriosis and anaerobic infections	3	CO
1º	Mycoses and Parasitosis in Infectiology	6	CO
1º	Multi-Resistance and Vaccines	6	CO
1º	Rare Infectious Diseases and Other Challenges in Infectiology	6	CO

Dr. Pedro Navarro Illana
Rector

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*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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Master's Degree

Clinical Infectious Diseases and Advanced Antibiotic Therapeutics

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Credits: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Master's Degree

Clinical Infectious Diseases and Advanced Antibiotic Therapeutics

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