Advanced Master's Degree
Clinical Infectious Diseases

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Advanced Master's Degree
Clinical Infectious Diseases

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/in/medicine/advanced-master-degree/advanced-master-degree-clinical-infectious-diseases

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01

Introduction

Infectious diseases are the main cause of death and the reduction of life expectancy in the world. In this way, with the spread of COVID, it has resulted in greater infection control. As a result, professionals face an additional complication of the utmost importance: bacterial resistance to antibiotics. The emergence of penicillin-resistant pneumococci, vancomycin-resistant enterococci, methicillin-resistant and even vancomycin-resistant staphylococci, quinolone-resistant enterobacteria and multi-resistant strains, among other problems, have also raised the alarm about a possible global antibiotic crisis. That is why TECH offers you this program in order to allow professionals to access the best and most complete collection of knowledge and advances. A program designed for those who need an intensive system that is compatible with daily life, flexible and effective.

TECH's Advanced Master's Degree in Clinical Infectious Diseases will allow you to acquire the most up-to-date knowledge in all areas of this specialty; a special program, of greater intensity, duration and formative impact, created to provide a highly qualified response to the most demanding professionals"

2020 will always be known as the year of Covid-19. The outbreak of the new coronavirus, with the large number of victims worldwide, has only highlighted the vulnerability of weak health systems to the infectious disease.

Looking at the figures, we can see that around 17.3 million people died from infections in 2016, with the most common causes of death being from lower respiratory infections (3.7 million), malaria (2.2 million), tuberculosis (1.3 million), diarhhea (1.3 million) and HIV/AIDS (1.1 million).

The most important factors to take into consideration in relation to infectious diseases are demographics and human behavior, technological and industrial development, economic development and variations in land use, intercontinental travelling and commerce, climate change, microbiotic adaptation and finally the disapperance or reduction of efficient public health measures.

When several of these conditions are combined, not one area of the planet goes untouched. And the spread of imported or apparently eradicated infectious diseases becomes more than possible. The recent Covid-19 pandemic has proved just that.

The complex international epidemiological situation so far this century, exemplified by the deliberate release of bacillus anthracis spores as a weapon of bioterrorism to cause pulmonary anthrax in victims who inhaled them, the emergence of West Nile virus as a pathogen in the United States, the epidemic of severe acute respiratory syndrome (SARS), the zoonotic spread of monkeypox in the United States, the threat of pandemic influenza, the Ebola epidemic in Africa, the emergence of yellow fever cases in Angola, coupled with the re-emergence of Dengue and Cholera, the emergence of new arboviruses in the Americas region, such as Chikingunya and more recently Zika, together with morbidity from other endemic infectious diseases, such as HIV/AIDS infection, leptospirosis, tuberculosis, community-acquired pneumonia and the increase in antibiotic resistance with the development of multidrug-resistant bacteria, and, of course, Covid-19, put the burden of disease on the region, Covid-19, of course, highlight the unprecedented need to improve the process of qualification and improvement of human capital in order to increase the competence and performance of all the personnel necessary to face the challenges involved in the control and confrontation of biological, hospital and public health emergencies that guarantee the quality and safety of healthcare for the population in any part of the world.

This **Advanced Master's Degree in Clinical Infectious Diseases** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Clinical cases presented by experts in the different specialties. 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
- Latest innovations on diagnosis, intervention, treatment and new materials
- Presentation of practical workshops on techniques and procedures
- Real high-resolution images in demonstrations
- Practical Exercises where the Self-assessment Process can be carried out in order to improve learning
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- All of this will be complemented by 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

An Advanced Master's Degree in Clinical Infectious Diseases which provides the professional with all the advances from across the world related to Clinical Infectious Diseases with the objective of boosting healthcare competencies in dealing with these types of diseases"

This Advanced Master's Degree is an exceptional opportunity to specialize in this area. The most comprehensive program in the online teaching market, with an exhaustive journey through each and every aspect of Clinical Infectious Diseases Intervention and the quality provided by TECH, the world's largest online university"

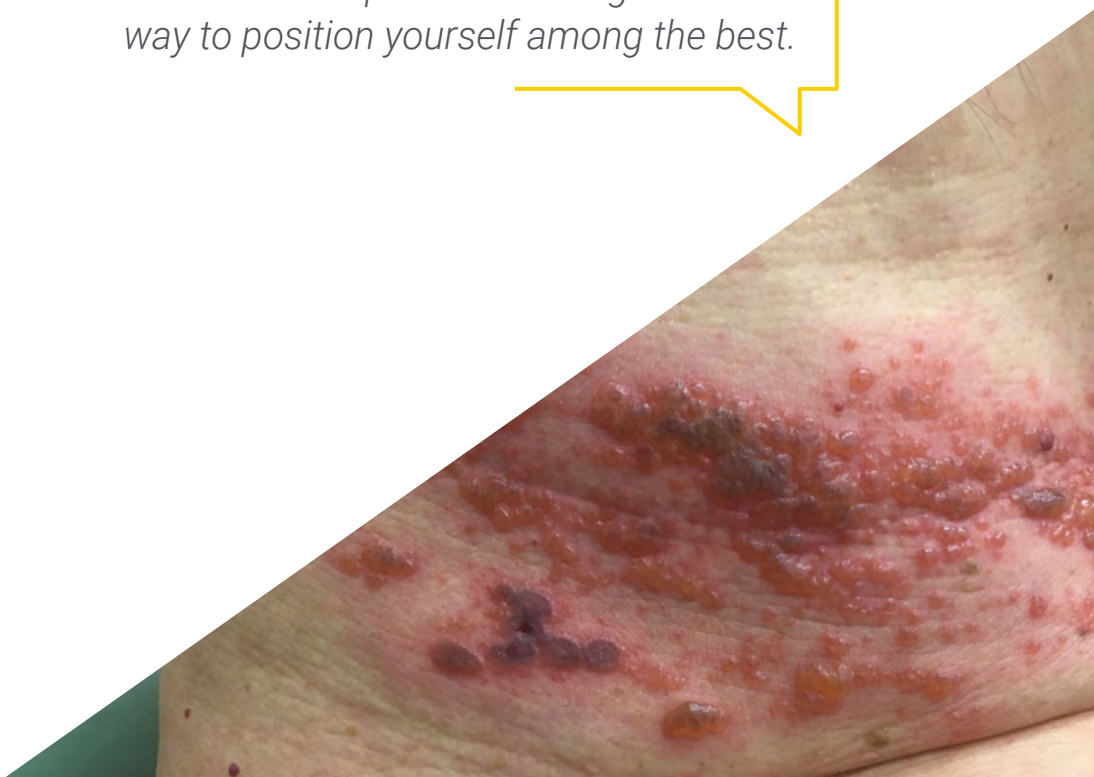
Increase your decision-making confidence by updating your knowledge through this Advanced Master's Degree program created to specialize the best professionals.

Make the most of this opportunity and learn about the latest advances in Clinical Infectious Diseases and improve your patient care, offering them the latest treatments and most innovative techniques: the most guaranteed way to position yourself among the best.

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

The 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 immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.



02

Objectives

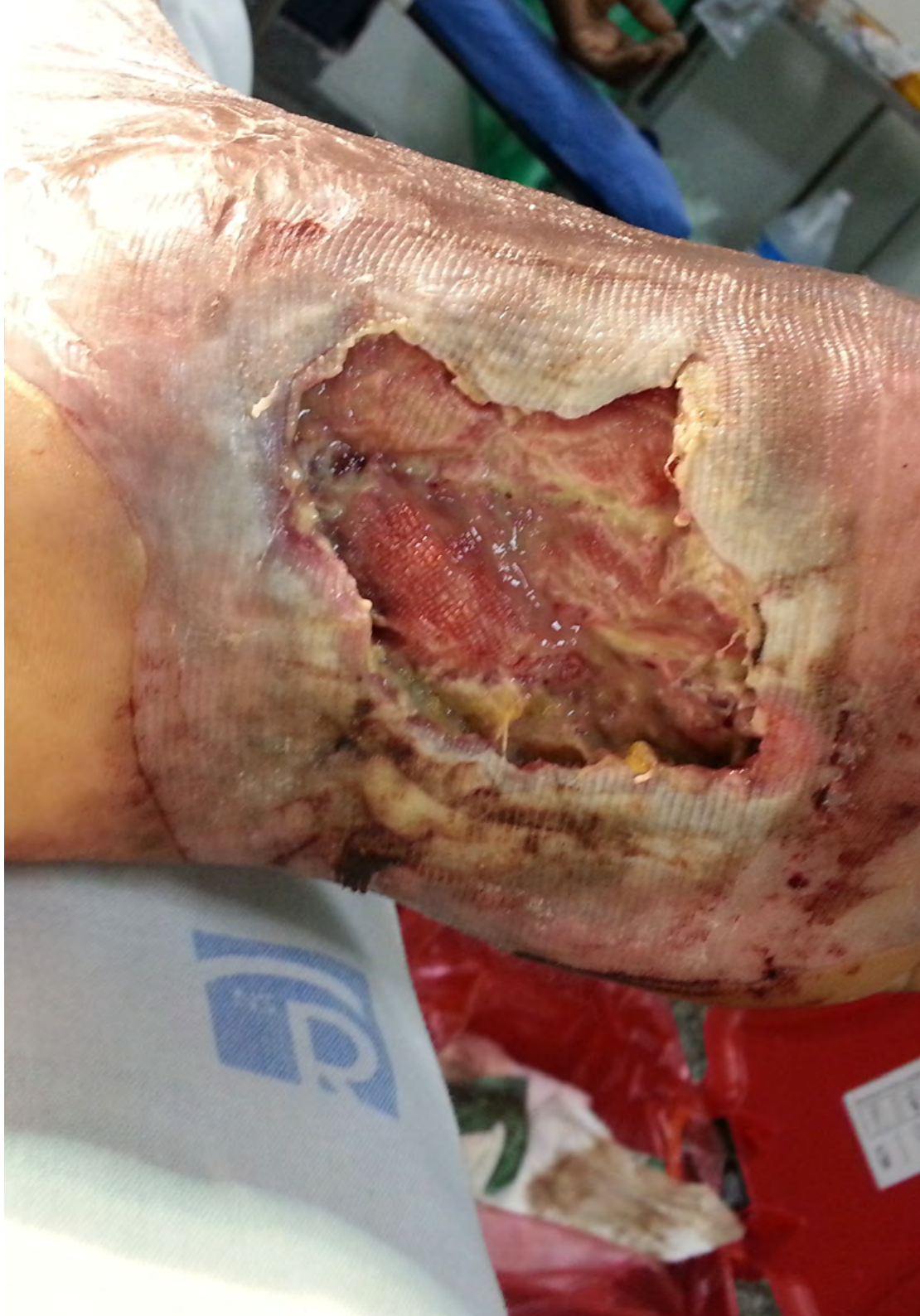
This Advanced Master's Degree in Clinical Infectious Diseases is aimed at offering a complete, detailed and up-to-date vision of Clinical Infectious Diseases, incorporating all the advances on a global level, both in the field of technology and in action protocols and new lines of investigation. With a special focus on the area of antibiotic therapy in the treatment of infectious diseases.

This Advanced Master's Degree has been designed so that you can acquire or update your knowledge of Clinical Infectious Diseases fluently, efficiently and confidently, allowing you to work with the most state-of-the-art techniques in any situation and with any type of patient"

General Objectives

- Update and gain in-depth knowledge and develop your skills for daily clinical practice in healthcare, teaching or research roles in the field of infectious diseases in order to provide individual or group population care that allows for the improvement of health indicators
- Improve the medical attention and the overall health of patients with infectious diseases based on integral care, the application of the epidemiological clinical method and the correct use of antimicrobials in correspondence with the most up to date scientific evidence

Our goal is to help you achieve yours, through a very unique program that will become an unparalleled professional growth experience"



Specific Objectives

Module 1. Clinical Research in Infectious Diseases

- Know the principles of the clinical method in the process of the diagnosis of infectious diseases
- Manage epidemiology in the study of infectious diseases
- Know how to deal with epidemic outbreaks

Module 2. Microbiological Diagnosis and Other Examinations for Infectious Diseases

- Understand the organization, structure and operation of the microbiology laboratory
- Integrate the principles of the use of microbiological examinations in patients with infectious pathologies
- Correctly perform protocols for virological, bacteriological, mycological and parasitological studies
- Properly interpret microbiological studies

Module 3. The Immune System in Infections in the Immunosuppressed Host

- Comprehend the structure and development of the immune system, its composition, which organs compose it and its chemical mediators
- Master the immune response to viral and bacterial infections
- Identify the most frequent clinical manifestations of immunosuppression and febrile syndrome in neutropenic patients

Module 4. Main Elements of Infectious Diseases

- Update the main and basic concepts of the infectious health-disease process, as well as the stages of the infectious process
- Identify the most frequent symptoms and signs in patients with infectious diseases
- Manage the types of fever that can occur in different situations and their most frequent complications
- Describe septic shock based on its clinical manifestations and differential features

Module 5. Viral and Antiviral Diseases

- Develop the principles of virology and understand the epidemiology of viral infections
- Study the different types of viral hemorrhagic diseases, arbovirosis, herpetic or exanthematous viral
- Detect the main antivirals for respiratory infections and understand how their mechanism of action works

Module 6. Latest Information on Coronavirus Infections

- In-depth and detailed study of latest scientific evidence on the development and expansion of SARS-CoV-2
- Justify the importance of controlling coronavirus diseases to reduce global morbidity and mortality
- Highlight the role of immunity in Coronavirus infections and their complications
- Highlight the role of Zoonoses by Coronavirus as a major global health problem

- Highlight the development of vaccines for the prevention of coronavirus infections
- Emphasize the development of future antivirals and other therapeutic modalities for coronavirus infections
- Emphasize the future challenges of infectious diseases in reducing infectious morbidity and mortality caused by coronavirus

Module 7. HIV/AIDS Infection

- Determine the epidemiology of HIV and its morbidity globally and by geographic region
- Identify the main groups vulnerable to this infection
- Associate major and minor opportunistic diseases and to know the application for their prophylaxis
- Provide comprehensive care for people living with HIV/AIDS based on the Cuban Model

Module 8. Bacterial Diseases and Antimicrobials

- Manage the fundamental concepts of use in Bacteriology
- Treat different types of bacterial skin infections
- Describe the clinical features of community-acquired pneumonia, its diagnosis, and treatment
- Know the clinical characteristics of tuberculosis, its diagnosis and treatment
- Point out the clinical characteristics of urinary tract and gynecological infections in women, their diagnosis and treatment
- Learn in depth the structure and therapeutic uses of penicillins and beta-lactamase inhibitors

Module 9. Fungal Diseases

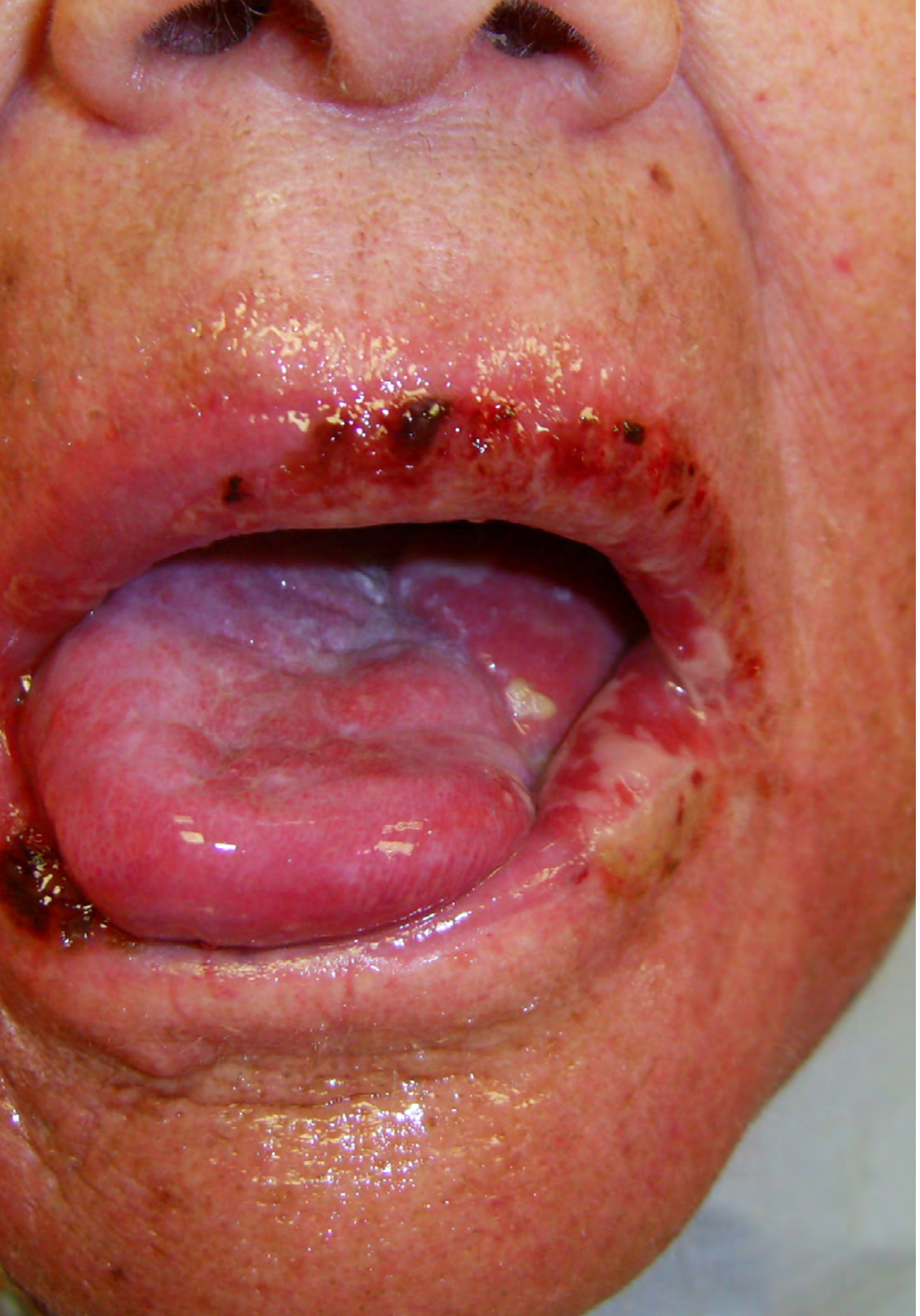
- Review general concepts in mycology and superficial fungal infections
- Incorporate knowledge of deep and frequent fungal infections
- Understand the most frequent fungal infections such as cryptococcosis, histoplasmosis, aspergillosis, among others
- Describe in each case the epidemiology, pathogenesis, complications and treatment of the most frequent mycotic infections

Module 10. Parasitic and Tropical Diseases

- Understand the general concepts used in parasitology and the classification of parasites
- Identify the diagnosis, pathogenesis, diagnosis and treatment of diseases such as malaria or intestinal protozoan diseases
- Assess the epidemiology and global situation of filarial diseases, describing their main types
- Apply pharmacokinetics and pharmacodynamics to different parasitic and tropical diseases such as antiprotozoal or helminth antiparasitic drugs

Module 11. Nosocomial Infections Associated with Healthcare and Patient Safety

- Recognize surgical site infection through in-depth knowledge of its definition, epidemiology, most frequent germs and therapeutic conduct
- Identify nosocomial pneumonia associated with mechanical ventilation, establishing the general concepts, epidemiology, risk factors, etiology, diagnosis, prevention and most commonly used antibiotics
- Understand the Infection Associated with Non-Tunneled Peripheral and Central Venous Catheters and Urinary Catheters
- Know how to apply the main internationally recommended universal measures for nosocomial infection control



Module 12. Antimicrobial Resistance

- Establish epidemiology from the molecular to the socioeconomic level
- Gain an in-depth understanding of the genetic and acquired mechanisms of antimicrobial resistance
- Identify viral, fungal and parasitic resistance and their therapeutic alternatives
- Gain up-to-date knowledge based on the global program for the control of antimicrobial resistance and research on new antibiotics
- Assess the objectives and actions of the global program for the control of antimicrobial resistance

Module 13. The Correct Use of Antimicrobials

- Apply the use of antimicrobials in special host situations
- Describe the role of rational antibiotic utilization policies and programs and their impact on antimicrobial resistance and the cost of medical care
- Know the functioning of pharmacotherapeutic committees as tools for the control and evaluation of the use of antibiotics

Module 14. The Role of Infectologists in Health Services

- Describe Infectious Diseases and its importance for medical care in the area of any specialty
- Acquire the infectologist competencies and skills necessary for higher qualification
- Contextualize the functions of the infectologist in the health team at the different levels of the health system

Module 15. Epidemiology and Microbiology 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 16. Cancer and Immunosuppression

- Identify the general structures of the immune system
- Establish the common responses of the immunological system when faced with viral and bacterial infections
- Explain the complex interrelationships between infections and different types of immunosuppression

Module 17. 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 18. Infections in the International Traveller

- Highlight the importance of morbidity and mortality due to infections in international travelers
- Explain the health controls for international travellers
- Know and identify the most common infections for international travellers such, as “fever on returning from a trip ” or “traveller’s diarrhea”

Module 19. 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 system in the body
- Gain in-depth knowledge on the infectious theory of rheumatic diseases

Module 20. 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 21. Urinary Tract and Sexually Transmitted Infections

- Assess the extent of urinary tract infections and immune response in the genitourinary system
- Know in detail the urinary tract infections in patients with bladder catheter, prostate and elderly
- 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 22. 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 23. Hepatitis and 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, patients with co-infection, and therapeutic considerations
- Consider other antituberculosis treatments in patients with tuberculosis/ HIV/AIDS coinfection

Module 24. 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, among others

Module 25. Central Nervous System Infections

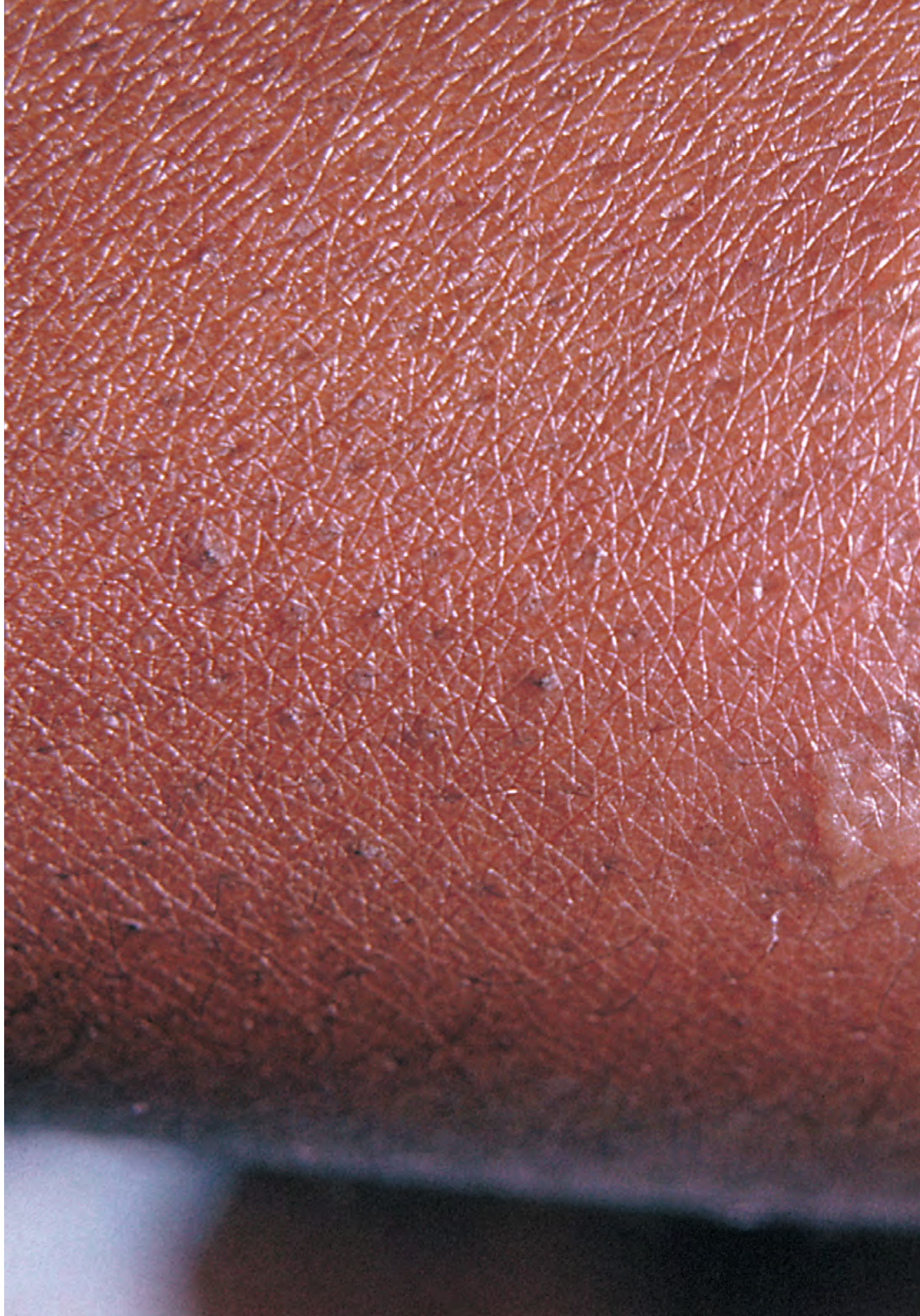
- Quickly identify the defense mechanisms of the CNS immune system, as well as the epidemiology of the infections that affect it
- Diagnose possible microbes that cause CNS infections by studying cerebrospinal fluid
- Identify the basic infections of the CNS by means of their most relevant characteristics,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

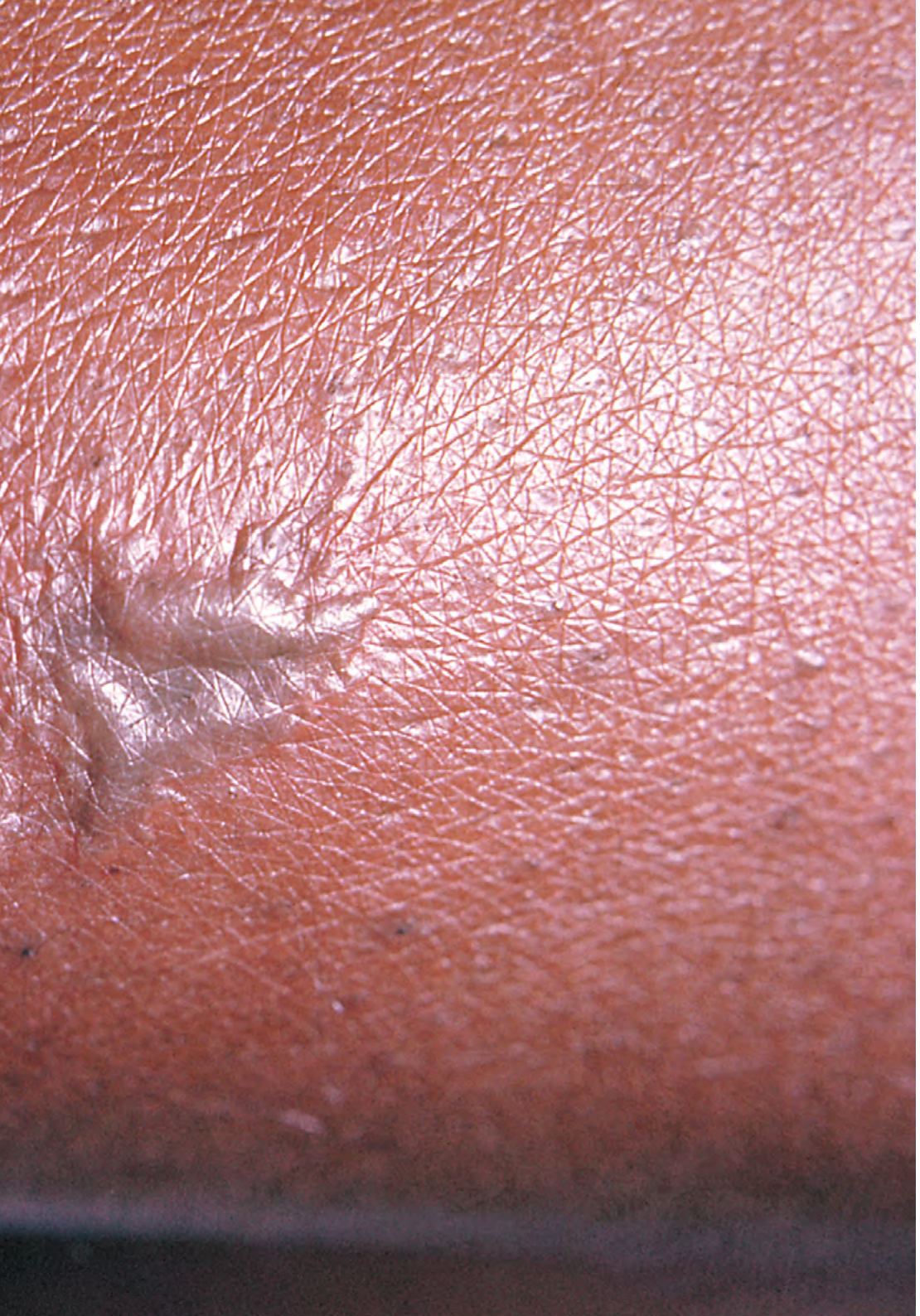
Module 26. Zoonotic

- Understand the most important aspects of zoonoses, such as their origin and prion causes
- Identify and analyze the main control measures for zoonoses of concern to public health systems worldwide
- 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 27. Mycobacteriosis and Anaerobic Infections

- Acquire the skills required to analyze the microbiological characteristics of mycobacteria
- Analyze microbiological methods to diagnose 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 28. Mycoses and Parasitosis in Infectious Diseases

- Be able to identify the etiology of the most common mycosis infections
- Understand, in detail, the most important aspects 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 on antiparasitics and their pharmacological components

Module 29. 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

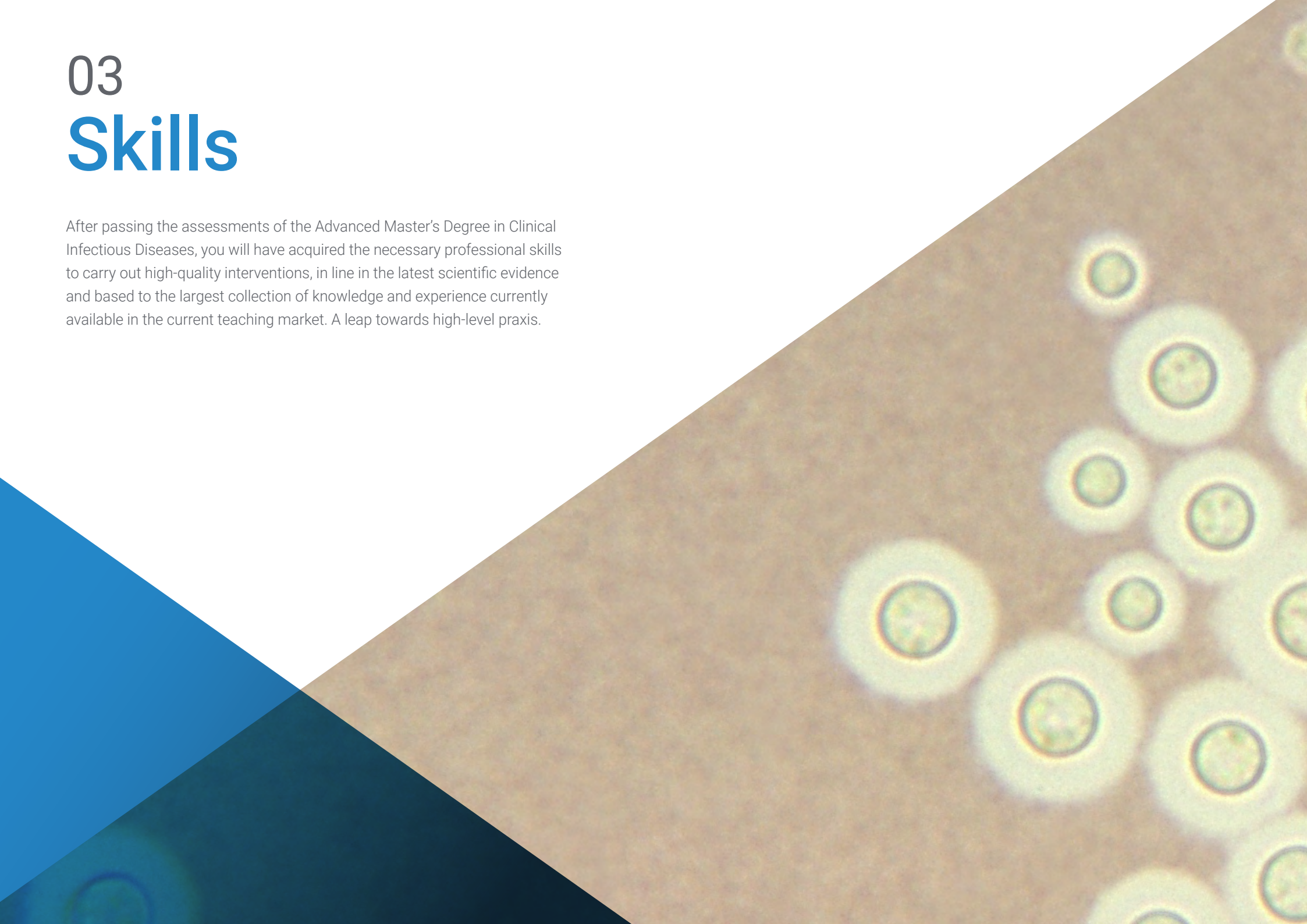
Module 30. Rare Infectious Diseases and Other Challenges in Infectious Diseases

- 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

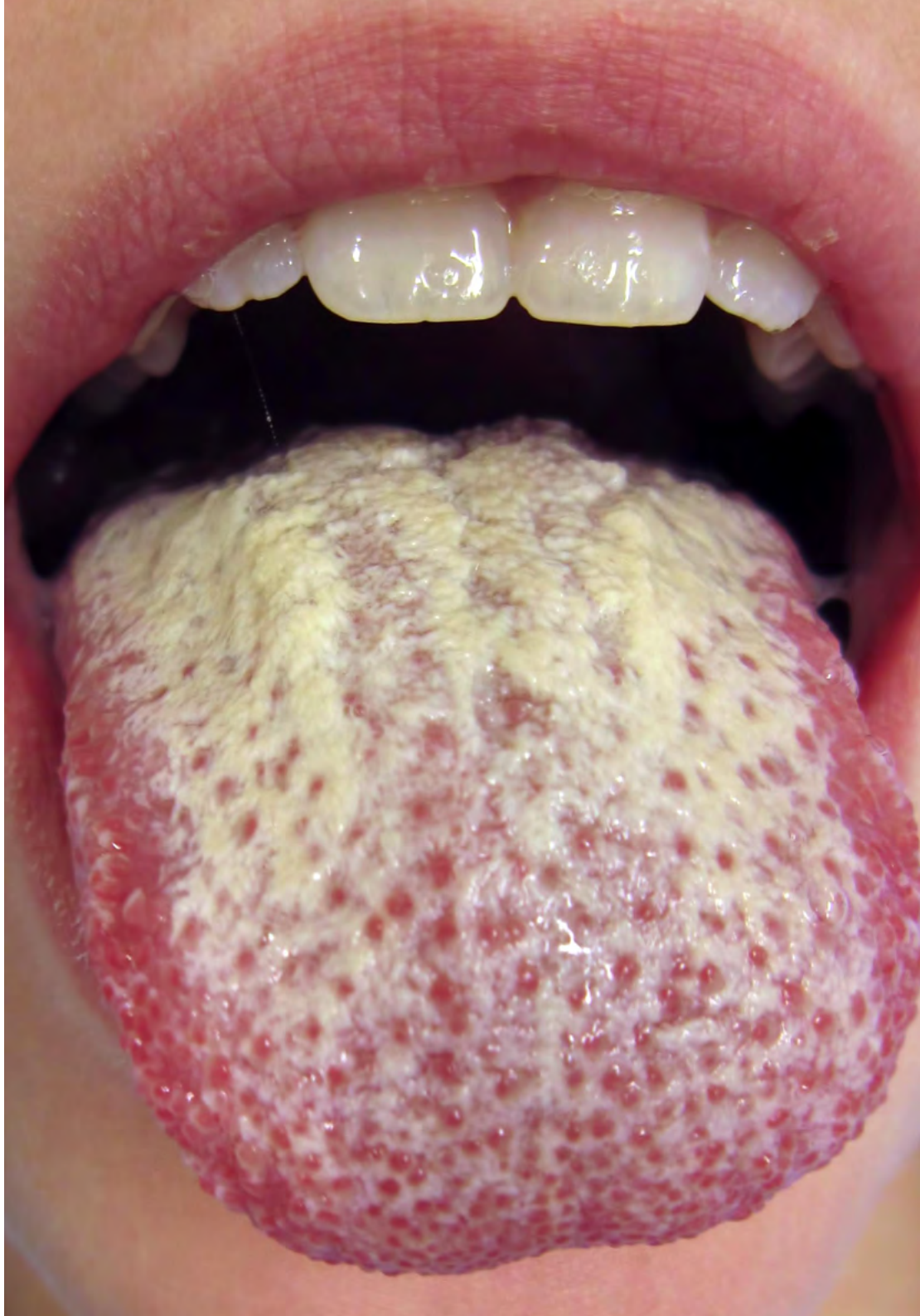
After passing the assessments of the Advanced Master's Degree in Clinical Infectious Diseases, you will have acquired the necessary professional skills to carry out high-quality interventions, in line in the latest scientific evidence and based to the largest collection of knowledge and experience currently available in the current teaching market. A leap towards high-level praxis.



This Advanced Master's Degree in Clinical Infectious Diseases will propel you to the highest positions in this field, with the most up-to-date expert qualifications and skills and the mastery of new techniques, procedures and quality materials in Clinical Infectious Diseases"

General Skills

- Increase their diagnostic and therapeutic capabilities for infectious diseases and their patients' health care in general, through the in-depth study of the 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 specialization 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 in the population, based on healthy styles and ways of life



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

Get a head start in excellence by receiving an education from today's most qualified experts and boost your competitiveness to the top positions with an unbeatable CV"

04

Course Management

The program has been developed by leading specialists in Clinical Infectious Diseases, who bring to this program their work experience. In addition, various experts of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary manner. The teaching staff is made up of outstanding health professionals of the highest scientific category, recognized by the WHO and the UN. A teaching staff of specialists chosen for their professional trajectory and teaching capacity that will allow you to learn from the direct experience of the best in the sector.

Learn from the best with this exceptional and extensive teaching staff made up of the best professionals in the sector, which will allow you to learn from the direct experience of the most renowned specialists in all areas of Clinical Infectious Diseases"

Management

Dr. Díaz Pollán, Beatriz

- Area Specialist, Department of Internal Medicine, Infectious Diseases Unit, La Paz University Hospital
- Associate Physician, Department of Internal Medicine, Infectious Diseases Unit, San Carlos Hospital
- Associate Researcher in several research projects
- Author of dozens of scientific articles on Infectious Diseases
- Master's Degree in Infectious Diseases and Antimicrobial Therapy from CEU Cardenal Herrera University
- Specialist in community and non-transmissible infections from the CEU Cardenal Herrera University
- Specialist in Infectious Diseases and Chronic and Imported Infectious Diseases from CEU Cardenal Herrera University
- Member of the Spanish Society of Infectious Diseases and Clinical Microbiology

Professors

Dr. Branches Ramos, Juan Carlos

- Internal Medicine Specialist
- Attending Physician in the Infectious Diseases Unit at La Paz University Hospital,
- Intern at the University Hospital Sanitas La Zarzuela Madrid
- PhD in Medicine and Surgery from the University of Alcalá de Henares
- Master's Degree in Infectious Diseases in Intensive Care from the Universidad-Empresa Foundation from the University of Valencia

Dr. Arribas López, José Ramón

- Section Chief of the Infectious Diseases and Clinical Microbiology Unit of the Internal Medicine Department of the La Paz University Hospital
- Coordinator of the High Level Isolation Unit at the Hospital La Paz - Carlos III
- Director of the the Research Institute of La Paz University Hospital (IdiPAZ)
- Director of La Paz University Hospital's Foundation
- Doctor in the Infectious Diseases Unit at Barnes Hospital in the USA
- Doctor of Medicine, UAM
- Member of: Interministerial Committee for the management of the Ebola crisis

Dr. Rico Nieto, Alicia

- Microbiology and Parasitology Specialist and Infectious Diseases Expert
- Attending Physician in the Infectious Diseases Unit at La Paz University Hospital,
- Faculty Specialist in Microbiology Medicine, La Paz University Hospital, Madrid
- Researcher at the Research Institute of La Paz University Hospital, Madrid
- Author of numerous scientific publications
- Member of: Board of Directors of the Osteoarticular Infection Study Group and the Spanish Society of Infectious Diseases and Clinical Microbiology

Dr. Loeches Yagüe, María Belén

- Assistant Physician, Infectious Diseases Unit, Department of Infectious Diseases, La Paz General University Hospital, Madrid
- Doctorate in Medicine from the Autonomous University Madrid
- Degree in Medicine from the Complutense University of Madrid
- Master's Degree in Theoretical and Practical Learning in Infectious Diseases from the 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. Mora Rillo, Marta

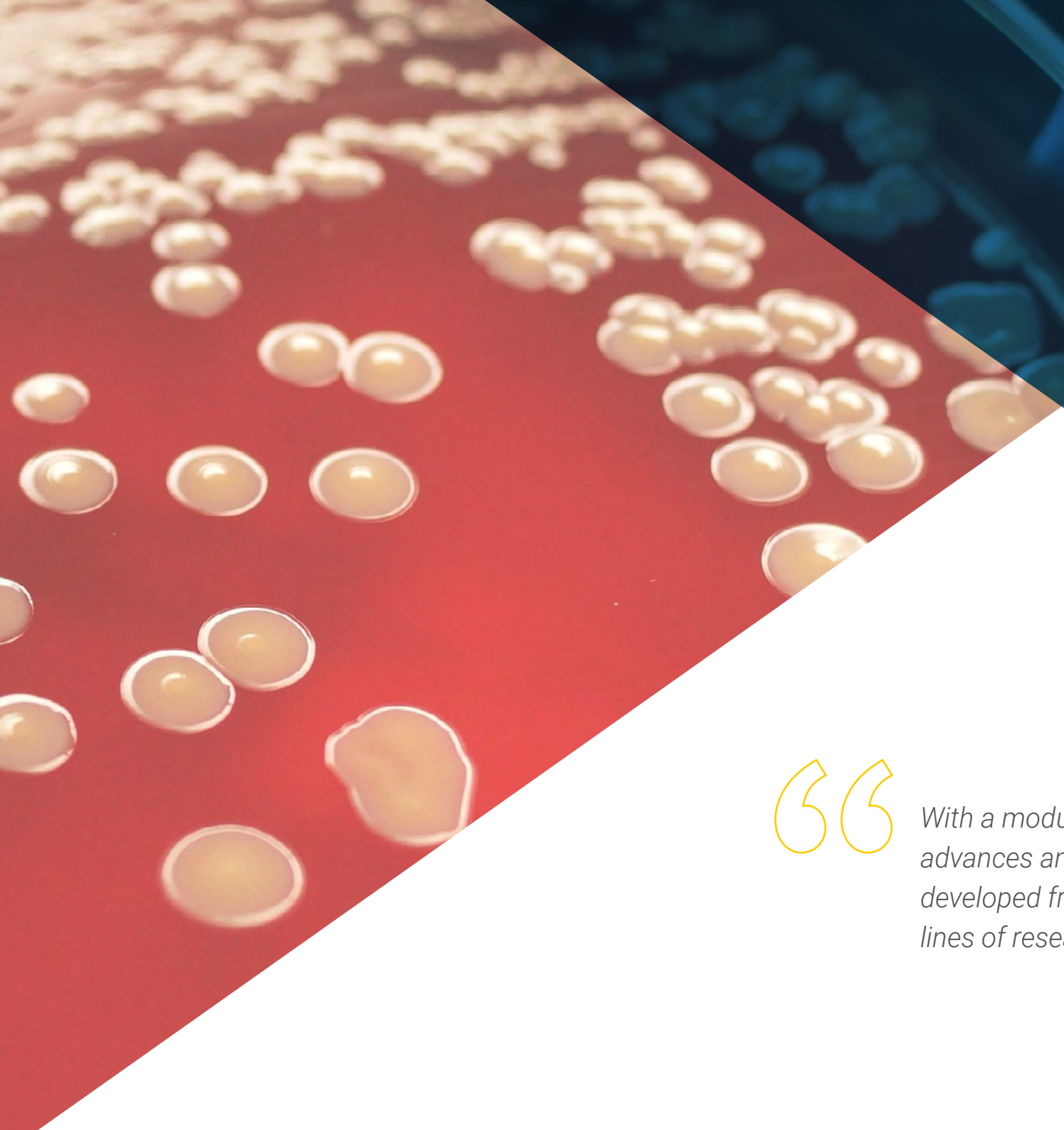
- Faculty Specialist of Internal Medicine, La Paz University Hospital, Madrid
- Clinical Researcher in Infectious Diseases
- Author of several scientific articles on Infectious Diseases. Collaborating Professor in university studies of Medicine
- Doctorate in Medicine from the Autonomous University Madrid
- Master's Degree in Infectious Diseases in Intensive Care by the University of Valencia
- Master's Degree in Tropical and Health Medicine from the Autonomous University of Madrid
- University 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

The structure if the contents has been designed by a team of professionals from the best research centers and universities on a national level. Aware of the current relevance of specialization and the need to support each study and its application with a solid scientific basis based on evidence, they have created a didactic path in which each topic will address one of the relevant aspects for the development of a highly competent professional. All of this makes up a high intensity and unparalleled quality syllabus, which includes state-of-the-art virtual theory and practice, and which will propel you to the most complete level of mastery in this area.



With a module dedicated to the latest advances and research in Covid-19 developed from the most up-to-date lines of research and scientific evidence"

Module 1. Clinical Research in Infectious Diseases

1.1. The Clinical Method in the Diagnostic Process of Infectious Diseases
- 1.1.1. Fundamental Concepts of the Clinical Method: Stages, Principles
- 1.1.2. The Clinical Method and its Usefulness in Infectious Diseases
- 1.1.3. Most Common Errors in the Application of the Clinical Method

1.2. Epidemiology in the Study of Infectious Diseases
- 1.2.1. Epidemiology as a Science
- 1.2.2. The Epidemiological Method
- 1.2.3. Epidemiology Tools Applies in the Study of Infectious Diseases

1.3. Clinic Epidemiology and Scientific Evidence-Based Medicine
- 1.3.1. Scientific Evidence and the Clinical Experience
- 1.3.2. The Importance of Evidence-Based Medicine in Diagnosis and Treatment
- 1.3.3. Clinical Epidemiology as a Powerful Weapon of Medical Thinking

1.4. Behavior of Infectious Diseases in the Population
- 1.4.1. Endemic
- 1.4.2. Epidemic
- 1.4.3. Pandemic

1.5. Confronting Epidemic Outbreaks
- 1.5.1. Diagnosis of Epidemic Outbreaks
- 1.5.2. Measures for the Control of Epidemic Outbreaks

1.6. Epidemiological Monitoring
- 1.6.1. Types of Epidemiological Monitoring
- 1.6.2. Designs of an Epidemiological Monitoring Systems
- 1.6.3. Usefulness and Importance of Epidemiological Monitoring

1.7. International Health Regulations
- 1.7.1. Components of International Health Regulations
- 1.7.2. Diseases Subject to International Sanitary Control
- 1.7.3. Importance of International Health Regulations

1.8. Mandatory Reporting Systems for Infectious Diseases
- 1.8.1. Characteristics of Diseases Subject to Mandatory Reporting
- 1.8.2. Role of the Doctor in Mandatory Reporting Systems for Infectious Diseases

1.9. Vaccines
- 1.9.1. Immunological Basis of Vaccination
- 1.9.2. Development and Production of Vaccines
- 1.9.3. Diseases Preventable with Vaccines
- 1.9.4. Experiences and Results of the Vaccine System in Cuba

1.10. Research Methodology in the Field of Health
- 1.10.1. The Importance of Public Health in Research Methodology as a Science
- 1.10.2. Scientific Thought in Healthcare
- 1.10.3. The Scientific Method
- 1.10.4. Stages of Scientific Research

1.11. Information Management and the Use of New Information and Communication Technologies (ICT)
- 1.11.1. The Use of New ICT in the Management of Knowledge for Healthcare Professionals in the Professional Clinical, Teaching and Research Work
- 1.11.2. Information Literacy

1.12. Design of Research Studies for Infectious Diseases
- 1.12.1. Types of Studies in Healthcare and Medical Sciences
- 1.12.2. The Design of Research Applied to Infectious Diseases

1.13. Descriptive and Inferential Statistics
- 1.13.1. Summary Measures for the Different Variables in Scientific Research
- 1.13.2. Central Tendency Measures: Mean, Mode and Median
- 1.13.3. Dispersion Measures: Variants and Standard Deviation
- 1.13.4. Statistical Estimation
- 1.13.5. Population and Sample
- 1.13.6. Tools for Inferential Statistics

1.14. Design and Use of Databases
- 1.14.1. Types of Databases
- 1.14.2. Programs and Statistical Packages for the Management of Databases

1.15. Protocol of Scientific Research
- 1.15.1. Protocol Components of Scientific Research
- 1.15.2. Usefulness of Protocol of Scientific Research

1.16. Clinical Trials and Meta Analysis
- 1.16.1. Types of Clinical Trials
- 1.16.2. The Role of a Clinical Trial in Healthcare Research
- 1.16.3. Meta Analysis: Conceptual Definitions and Their Methodological Design
- 1.16.4. Application of Meta-Analyses and Their Role in the Medical Sciences

1.17. Critical Reading of Research Results
- 1.17.1. Medical Journals, Their Role in the Dissemination of Scientific Information
- 1.17.2. Medical Journals of High-Impact on a Global Level in the Field of Infectious Diseases
- 1.17.3. Methodological Tools for Critical Reading of Scientific Literature

1.18. Publication of Scientific Research Results
- 1.18.1. The Scientific Article
- 1.18.2. Types of Scientific Articles
- 1.18.3. Methodology Requirements for the Publication of Scientific Research Results
- 1.18.4. The Process of Scientific Publications in Medical Journals

Module 2. Microbiological Diagnosis and Other Examinations for Infectious Diseases

2.1. Organization, Structure and Functioning of the Microbiology Laboratory
- 2.1.1. Organization and Structure of the Microbiology Laboratory
- 2.1.2. Functioning of a Microbiology Laboratory

2.2. Principles of the Use of Microbiological Examinations in Patients with Infectious Pathologies The Process of Collecting Specimens
- 2.2.1. The Role of Microbiological Studies in the Diagnosis of Infectious Diseases
- 2.2.2. The Microbiological Sampling Process: Preanalytical, Analytical, and Postanalytical Stages
- 2.2.3. Sampling Requirements for the Main Microbiological Studies used in Daily Clinical Practice: Blood, Urine, Stool, Sputum

2.3. Virological Studies
- 2.3.1. Types of Virus and Their General Characteristics
- 2.3.2. General Characteristics of Virological Studies
- 2.3.3. Viral Culture
- 2.3.4. Viral Genome Studies
- 2.3.5. Studies of Antigens and Antibodies Against the Virus

2.4. Bacteriological Studies
- 2.4.1. Classification of Bacteria
- 2.4.2. General Characteristics of Bacteriological Studies
- 2.4.3. Stains for Bacterial Identification
- 2.4.4. The Study of Bacterial Antigens
- 2.4.5. Cultivation Methods: General and Specific
- 2.4.6. Bacteria That Need Special Study Methods

2.5. Mycological Studies
- 2.5.1. Classification
- 2.5.2. Main Mycological Studies

2.6. Parasitological Studies
- 2.6.1. Classification of Parasites
- 2.6.2. Studies for Protozoa
- 2.6.3. Studies for Helminths

2.7. Appropriate Interpretation of Microbiological Studies
- 2.7.1. The Microbiological Clinical Interrelationship for the Interpretation of Microbiological Studies

2.8. Interpreted Reading of the Antibiogram
- 2.8.1. Traditional Interpretation of the Antibiogram in Relation to the Sensitivity and Resistance to Antimicrobials
- 2.8.2. Interpreted Reading of the Antibiogram: Current Paradigm

2.9. Use of Microbial Map of an Institution
- 2.9.1. What is a Microbial Map of an Institution?
- 2.9.2. Clinical Application of the Microbial Map

2.10. Biosecurity
- 2.10.1. Conceptual Definitions of Biosafety
- 2.10.2. Importance of Biosafety for Health Services
- 2.10.3. Universal Measures of Precaution
- 2.10.4. Manage the Biological Waste in a Healthcare Institution

2.11. The Clinical Laboratory in the Study of Infectious Diseases
- 2.11.1. Reactants of the Acute Phase
- 2.11.2. Studies of Liver Function, Internal Environment, Clotting and Renal Function in Sepsis
- 2.11.3. Study of Inflammatory Liquids in the Diagnosis of Infections
- 2.11.4. Biomarkers Usefulness in Clinical Practice

2.12. Imaging Studies for the Diagnosis of Infectious Pathology
- 2.12.1. The Role of Imaging Studies in the Diagnosis of Infectious Diseases
- 2.12.2. The Role of Ultrasound in the Compehensive Assessment of a Patient with Sepsis

2.13. The Role of Genetic and Immunological Studies
- 2.13.1. Studies of Genetic Diseases and their Predisposition to Infectious Diseases
- 2.13.2. Immunological Studies on Immunosuppressed Patients

2.14. Usefulness of Pathological Anatomy Studies
- 2.14.1. Alterations in Cytological Studies According to the Type of the Biological Agent
- 2.14.2. Necropsy and Its Importance in Infectious Mortality

2.15. Assessment of the Severity of Infectious Diseases
- 2.15.1. Prognosis Scales in the Care of Patients with Infectious Pathologies Based on Laboratory Studies and Clinical Elements
- 2.15.2. SOFA Score Usefulness in the Current Day: Components of SOFA, What it Measures. Usefulness in the Assessment of a Patient
- 2.15.3. Main Complications in Infectious Diseases

2.16. Worldwide Campaign Against Sepsis
- 2.16.1. Emergence and Evolution
- 2.16.2. Objectives
- 2.16.3. Recommendations and Impact

2.17. Bioterrorism
- 2.17.1. Principle Infectious Agents Used in Bioterrorism
- 2.17.2. International Regulations on the Management of Biological Samples

Module 3. The Immune System in Infections in the Immunosuppressed Host

3.1. Structure and Development of the Immune System
- 3.1.1. Composition and Development of the Immune System
- 3.1.2. Immune System Organs
- 3.1.3. Immune System Cells
- 3.1.4. Chemical Mediators in the Immune System

3.2. The Immune Response to Viral and Bacterial Infections
- 3.2.1. Main Cells Implicated in the Immune Response to Viruses and Bacteria
- 3.2.2. Main Chemical Mediators

3.3. The Immune Response to Mycotic and Parasitic Infections
- 3.3.1. Immune Response Against Filamentous and Yeast Fungi
- 3.3.2. Immune Response Against Protozoas
- 3.3.3. Immune Response Against Helminths

3.4. Most Common Clinical Manifestations of Immunosuppression
- 3.4.1. Types of Immunosuppression
- 3.4.2. Clinical Manifestations According to the Infectious Agent
- 3.4.3. Frequent Infections According to the Type of Immunosuppression
- 3.4.4. Common Infections in Immunosuppressed Patients According to the Organ System Affected

3.5. The Fever Syndrome in Neutropenic Patients
- 3.5.1. Most Common Clinical Manifestations
- 3.5.2. Most Diagnosed Infectious Agents
- 3.5.3. Most-Used Complementary Studies in the Integral Evaluation of a Neutropenic Fever Patient
- 3.5.4. Therapeutic Recommendations

3.6. Management of an Immunosuppressed Patient with Sepsis
- 3.6.1. Evaluation of Diagnosis, Prognosis and Treatment According to the Latest International Recommendations Endorsed by Scientific Evidence

3.7. Immunomodulatory and Immunosuppressive Therapy
- 3.7.1. Immunomodulators and Their Clinical Use
- 3.7.2. Immunosuppressors and Their Relation to Sepsis

Module 4. Main Elements of Infectious Diseases

4.1. Main and Basic Concepts of the Infectious Health-Diseases Process
- 4.1.1. The Stages of the Infectious Process
- 4.1.2. The Systemic Inflammatory Response
- 4.1.3. Sepsis
- 4.1.4. Complications of Sepsis

4.2. Most Common Signs and Symptoms in Patients with Infectious Diseases
- 4.2.1. Local Signs and Symptoms of Sepsis
- 4.2.2. Systemic Signs and Symptoms of Sepsis

4.3. Main Infectious Syndromes
- 4.3.1. Systemic Syndromes
- 4.3.2. Local Syndromes

4.4. Fever of Unknown Origin (FUO)
- 4.4.1. Classis FUO
- 4.4.2. Nosocomial FUO
- 4.4.3. FUO in an Immunosuppressed Patient
- 4.4.4. FUO in HIV Infections

4.5. Fever and Rash
- 4.5.1. Types of Rashes
- 4.5.2. Main Infectious Agents Which Produce Rashes

4.6. Fever and Adenomegaly
- 4.6.1. Characteristics of Infectious Adenomegalies
- 4.6.2. Infections and Localized Adenomegalies
- 4.6.3. Infections and Generalized Adenomegalies

4.7. Sexually Transmitted Infections (STI)
- 4.7.1. Epidemiology of the STI
- 4.7.2. Main Agents in Sexual Transmission
- 4.7.3. Syndromic Approach to STIs

4.8. Septic Shock
- 4.8.1. Epidemiology
- 4.8.2. Pathophysiology
- 4.8.3. Clinical Manifestations and Differential Masks from the Other Types of Shock
- 4.8.4. Diagnosis and Evaluation of the Severity and Complications
- 4.8.5. Therapeutic Behavior

Module 5. Viral and Antiviral Diseases

5.1. Principles of Virology
- 5.1.1. Epidemiology of Viral Infections
- 5.1.2. Fundamental Concepts in the Study of Viruses and Their Diseases
- 5.1.3. Main Viruses Which Affect Humans

5.2. Hemorrhagic Viral Diseases
- 5.2.1. Epidemiology
- 5.2.2. Classification
- 5.2.3. African Hemorrhagic Fevers
- 5.2.4. South American Hemorrhagic Fevers
- 5.2.5. Other Hemorrhagic Fevers

5.3. Arbovirus
- 5.3.1. General Concepts and Epidemiology of the Arboviruses
- 5.3.2. Dengue
- 5.3.3. Yellow Fever
- 5.3.4. Chikungunya
- 5.3.5. Zika
- 5.3.6. Other Arboviruses

5.4. Herpetic Diseases
- 5.4.1. Simple Herpes
- 5.4.2. Shingles

5.5. Viral Exanthematous Diseases
- 5.5.1. Rubella
- 5.5.2. Measles
- 5.5.3. Chickenpox
- 5.5.4. Smallpox
- 5.5.5. Other Exanthematous Diseases

5.6. Viral Hepatitis
- 5.6.1. Non-Specified Viral Infections
- 5.6.2. Hepatotropic Viruses
- 5.6.3. Acute Viral Hepatitis
- 5.6.4. Chronic Viral Hepatitis

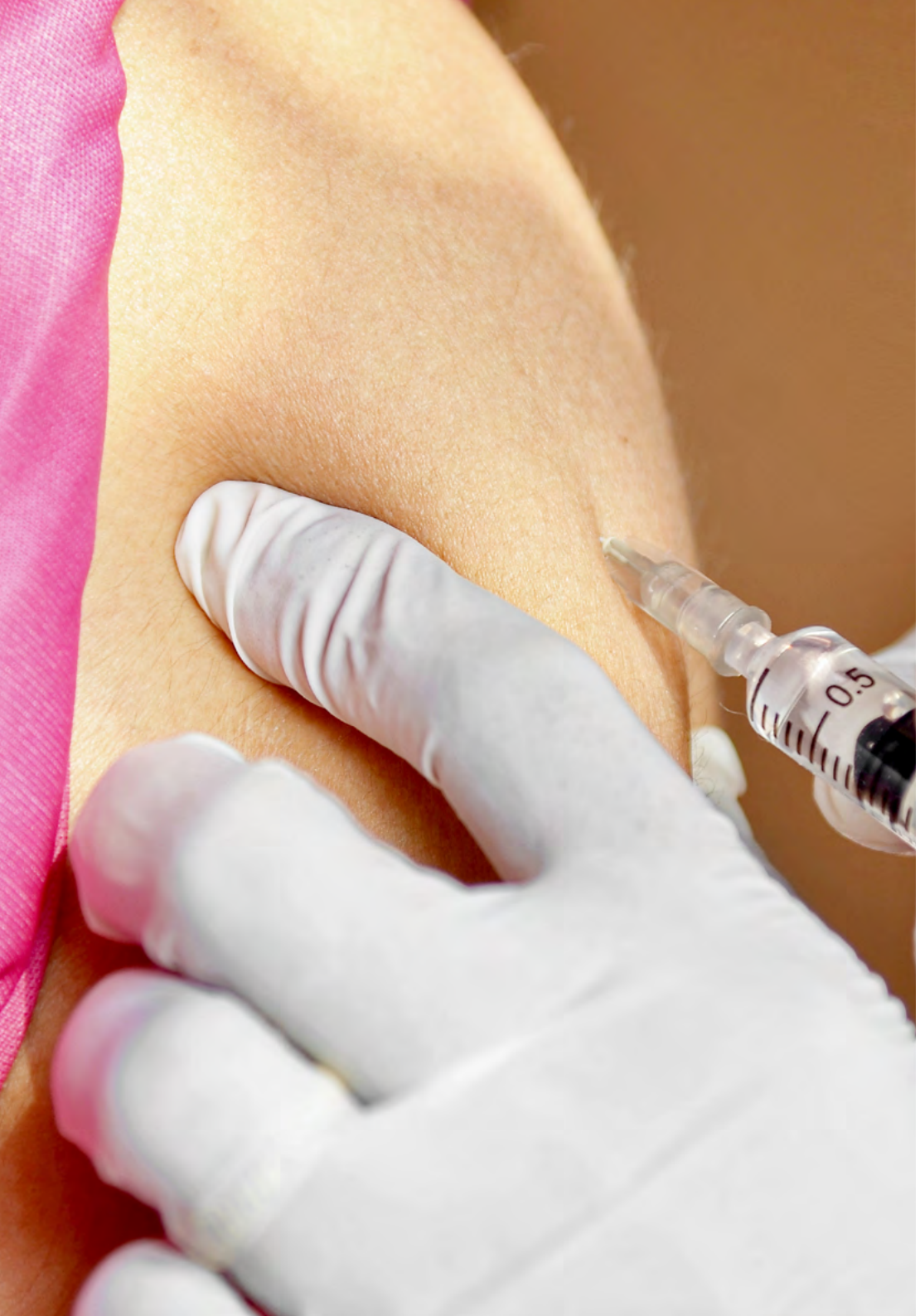
5.7. Infectious Mononucleosis
- 5.7.1. Epidemiology
- 5.7.2. Etiological Agent
- 5.7.3. Pathogenesis
- 5.7.4. Clinical Picture
- 5.7.5. Complications
- 5.7.6. Diagnosis
- 5.7.7. Treatment

5.8. Human Rabies
- 5.8.1. Epidemiology
- 5.8.2. Etiological Agent
- 5.8.3. Pathogenesis
- 5.8.4. Clinical Picture
- 5.8.5. Complications
- 5.8.6. Diagnosis
- 5.8.7. Treatment

5.9. Viral Encephalitis
- 5.9.1. Non-Herpetic Viral Encephalitis
- 5.9.2. Herpetic Viral Encephalitis
- 5.9.3. Slow Virus Encephalitis

5.10. Antivirals
- 5.10.1. General Concepts
- 5.10.2. Main Definitions Related to Antivirals
- 5.10.3. Classification
- 5.10.4. Mechanisms of Action

5.11. Main Antivirals for Herpes Viruses
- 5.11.1. Mechanisms of Action
- 5.11.2. Antiviral Spectrum
- 5.11.3. Pharmacokinetics and Pharmacodynamics
- 5.11.4. Dose and Presentation



5.12. Main Antivirals for Respiratory Infections
- 5.12.1. Mechanisms of Action
- 5.12.2. Antiviral Spectrum
- 5.12.3. Pharmacokinetics and Pharmacodynamics
- 5.12.4. Dose and Presentation

5.13. Main Antivirals for Hepatitis
- 5.13.1. Mechanisms of Action
- 5.13.2. Antiviral Spectrum
- 5.13.3. Pharmacokinetics and Pharmacodynamics
- 5.13.4. Dose and Presentation

Module 6. Latest Information on Coronavirus Infections

6.1. Discovery and Evolution of Coronaviruses
- 6.1.1. Discovery of Coronaviruses
- 6.1.2. Global Trends in Coronavirus Infections

6.2. Main Microbiological Characteristics and Members of the Coronavirus Family
- 6.2.1. General Microbiological Characteristics of Coronaviruses
- 6.2.2. Viral Genome
- 6.2.3. Principal Virulence Factors

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

6.4. The Immune System and Coronavirus Infections
- 6.4.1. Immunological Mechanisms Involved in the Immune Response to Coronaviruses
- 6.4.2. Cytokine Storm in Coronavirus Infections and Immunopathology
- 6.4.3. Modulation of the Immune System in Coronavirus Infections

6.5. Pathogenesis and Pathophysiology of Coronavirus Infections
- 6.5.1. Pathophysiological and Pathogenic Alterations in Coronavirus Infections
- 6.5.2. Clinical Implications of the Main Pathophysiological Alterations

6.6. Risk Groups and Transmission Mechanisms of Coronaviruses
- 6.6.1. Main Sociodemographic and Epidemiological Characteristics of Risk Groups Affected by Coronavirus
- 6.6.2. Coronavirus Mechanisms of Transmission

6.7. Natural History of Coronavirus Infections
  6.7.1. Stages of Coronavirus Infection
6.8. Latest Information on Microbiological Diagnosis of Coronavirus Infections
  6.8.1. Sample Collection and Shipment
  6.8.2. PCR and Sequencing
  6.8.3. Serology Testing
  6.8.4. Virus Isolation
6.9. Current Biosafety Measures in Microbiology Laboratories for Coronavirus Sample Handling
  6.9.1. Biosafety Measures for Coronavirus Sample Handling
6.10. Up-To-Date Management of Coronavirus Infections
  6.10.1. Prevention Measures
  6.10.2. Symptomatic Treatment
  6.10.3. Antiviral and Antimicrobial Treatment in Coronavirus Infections
  6.10.4. Treatment of Severe Clinical Forms
6.11. Future Challenges in the Prevention, Diagnosis, and Treatment of Coronavirus
  6.11.1. Global Challenges for the Development of Prevention, Diagnostic, and Treatment Strategies for Coronavirus Infections

Module 7. HIV/ADIS Infection

7.1. Epidemiology
  7.1.1. Worldwide Morbidity and by Geographical Region
  7.1.2. Worldwide Mortality and by Geographical Region
  7.1.3. Main Vulnerable Groups
7.2. Etiopathogenesis
  7.2.1. Viral Replication Cycle
  7.2.2. Immune Response to HIV
  7.2.3. Sanctuary Sites
7.3. Clinical Classifications of Use
  7.3.1. Clinical Stages of HIV Infection
  7.3.2. Clinical and Immunological Classification of HIV Infection
7.4. Clinical Manifestations According to the Stages of the Illness
  7.4.1. General Clinical Manifestations
  7.4.2. Clinical Manifestations By Organs and Systems
7.5. Opportunist Illnesses
  7.5.1. Minor Opportunist Illnesses
  7.5.2. Major Opportunist Illnesses
  7.5.3. Primary Prophylaxis of Opportunistic Infections
  7.5.4. Secondary Prophylaxis of Opportunistic Infections
  7.5.5. Neoplasms in the Patient with HIV Infection
7.6. Diagnosis in the HIV/AIDS Infection
  7.6.1. Direct HIV Screening Methods
  7.6.2. Tests for Antibodies Against HIV
7.7. Antiretroviral Treatment
  7.7.1. Antiretroviral Treatment Criteria
  7.7.2. Main Antiretroviral Drugs
  7.7.3. Monitoring of Antiretroviral Treatment
  7.7.4. Antiretroviral Treatment Failure
7.8. Integral Care for a Person Living With HIV/AIDS
  7.8.1. Cuban Model for Integral Care of People Living With HIV
  7.8.2. Global Experiences and WHO AIDS' Leadership in HIV/AIDS Control

Module 8. Bacterial Diseases and Antimicrobials

8.1. Principles of Bacteriology
  8.1.1. Fundamental Concepts of Use in Bacteriology
  8.1.2. Main Gram-Positive Bacteria and their Diseases
  8.1.3. Main Gram-Negative Bacteria and their Diseases
8.2. Bacterial Skin Infections
  8.2.1. Folliculitis
  8.2.2. Furunculosis
  8.2.3. Anthrax
  8.2.4. Superficial Abscesses
  8.2.5. Erysipelas

8.3. Community-Acquired Pneumonia (CAP)
- 8.3.1. Epidemiology
- 8.3.2. Etiology
- 8.3.3. Clinical Picture
- 8.3.4. Diagnosis
- 8.3.5. Prognosis Scales
- 8.3.6. Treatment

8.4. Tuberculosis
- 8.4.1. Epidemiology
- 8.4.2. Etiopathogenesis
- 8.4.3. Clinical Manifestations
- 8.4.4. Classification
- 8.4.5. Diagnosis
- 8.4.6. Treatment

8.5. Infections of Urinary Tract and Gynecologic Infections in Women
- 8.5.1. Classification
- 8.5.2. Etiology
- 8.5.3. Clinical Picture
- 8.5.4. Diagnosis
- 8.5.5. Treatment

8.6. Bacterial Meningitis
- 8.6.1. Immunology of the Subarachnoid Space
- 8.6.2. Etiology
- 8.6.3. Clinical Picture and Complications
- 8.6.4. Diagnosis
- 8.6.5. Treatment

8.7. Osteoarticular Infections
- 8.7.1. Septic Arthritis
- 8.7.2. Osteomyelitis
- 8.7.3. Infectious Myositis

8.8. Enteric and Intra-Abdominal Infections
- 8.8.1. Acute Gastroenteritis
- 8.8.2. Acute Enterocolitis
- 8.8.3. Primary Peritonitis
- 8.8.4. Secondary Peritonitis

8.9. Zoonotic
- 8.9.1. Concept
- 8.9.2. Epidemiology
- 8.9.3. Main Zoonotic Diseases
- 8.9.4. Leptospirosis

8.10. Antibacterials
- 8.10.1. General Concepts
- 8.10.2. Classification
- 8.10.3. Mechanisms of Action for Antimicrobials

8.11. Betalactams: Penicillins and Betalactamase Inhibitors
- 8.11.1. Structure of the Beta-Lactam Ring
- 8.11.2. Penicillins: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation
- 8.11.3. Beta-lactamases: Types and Action on Beta-Lactam Antibiotics
- 8.11.4. Main Beta-Lactamase Inhibitors
- 8.11.5. Uses and Therapeutic Indicators
- 8.11.6. Cephalosporins
- 8.11.7. Monobactams
- 8.11.8. Carbapenemics

8.12. Aminoglycosides, Tetracyclines and Glycopeptides
- 8.12.1. Aminoglycosides: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation
- 8.12.2. Tetracyclines: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation
- 8.12.3. Glycopeptides: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation

8.13. Lincosamines. Rifamycins, Antifolates
- 8.13.1. Lincosamines: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation
- 8.13.2. Rifampicin: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation
- 8.13.3. Antifolates: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation

8.14. Quinolones, Macrolides and Ketolides
- 8.14.1. Quinolones: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation
- 8.14.2. Macrolides: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation
- 8.14.3. Ketolides: Classification, Mechanisms of Action, Antimicrobial Spectrum, Pharmacokinetics, Pharmacodynamics, Dosage and Presentation

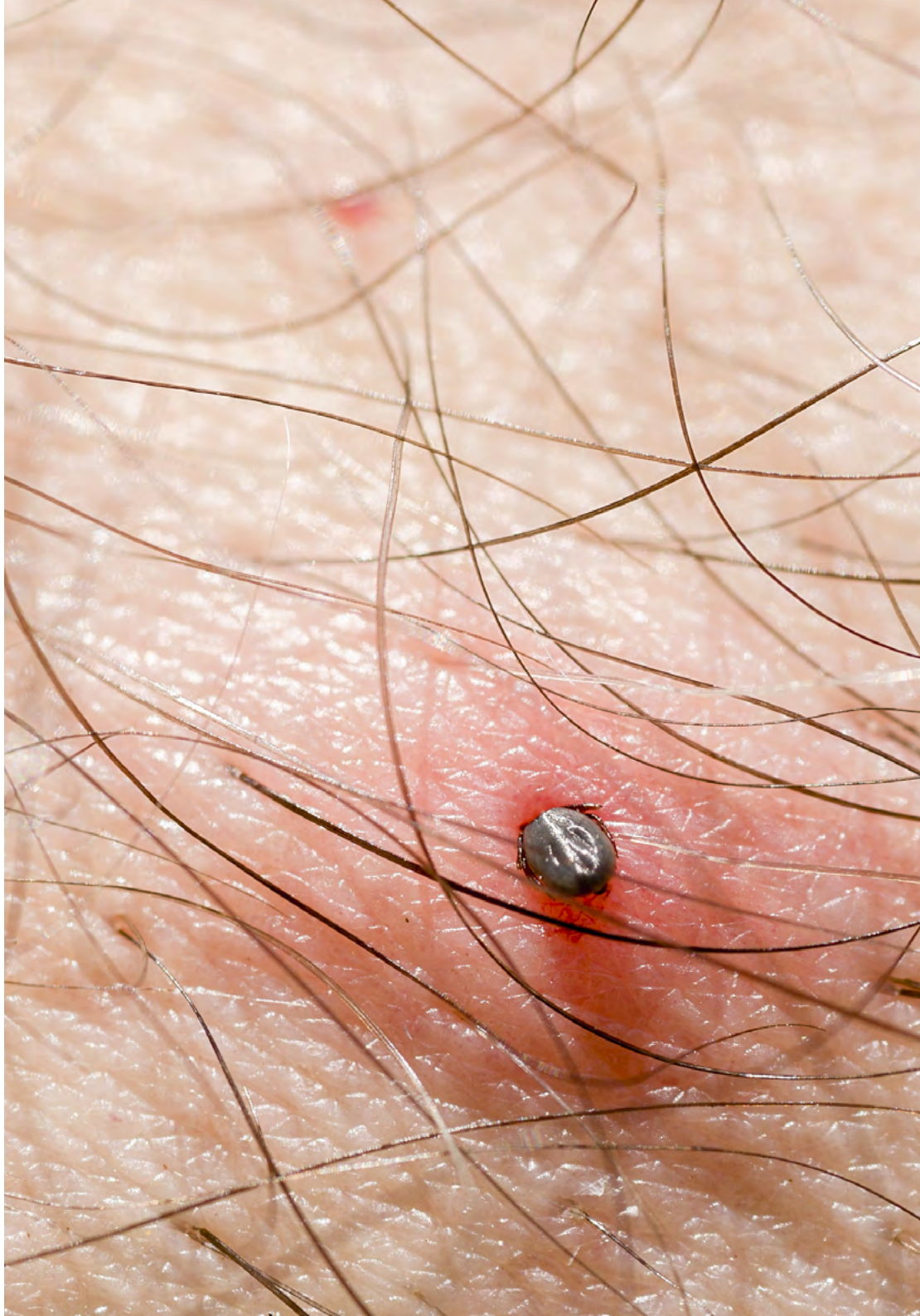
8.15. New Antibiotics for Gram-Positive Infections (Lipopeptides and Oxazolidinones)
- 8.15.1. Lipopeptides
- 8.15.2. Oxazolidinones

Module 9. Fungal Diseases

9.1. Introduction to Mycology and Superficial Mycotic Infections
- 9.1.1. General Concepts Used in Mycology
- 9.1.2. Fundamental Characteristics of Pathogenic Fungi
- 9.1.3. Superficial Fungal Infections: Epidermatophytosis. Tinea Corporis Tinea Capitis

9.2. Deep Mycotic Infections
- 9.2.1. Most Frequent Deep Mycoses
- 9.2.2. Main Clinical Manifestations of Deep Mycosis

9.3. Cryptococcosis
- 9.3.1. Epidemiology
- 9.3.2. Etiological Agent
- 9.3.3. Pathogenesis
- 9.3.4. Clinical Picture
- 9.3.5. Complications
- 9.3.6. Diagnosis
- 9.3.7. Treatment



9.4. Histoplasmosis
- 9.4.1. Epidemiology
- 9.4.2. Etiological Agent
- 9.4.3. Pathogenesis
- 9.4.4. Clinical Picture
- 9.4.5. Complications
- 9.4.6. Diagnosis
- 9.4.7. Treatment

9.5. Aspergillosis
- 9.5.1. Epidemiology
- 9.5.2. Etiological Agent
- 9.5.3. Pathogenesis
- 9.5.4. Clinical Picture
- 9.5.5. Complications
- 9.5.6. Diagnosis
- 9.5.7. Treatment

9.6. Systemic Candidiasis
- 9.6.1. Epidemiology
- 9.6.2. Etiological Agent
- 9.6.3. Pathogenesis
- 9.6.4. Clinical Picture
- 9.6.5. Complications
- 9.6.6. Diagnosis
- 9.6.7. Treatment

9.7. Coccidioidomycosis
- 9.7.1. Epidemiology
- 9.7.2. Etiological Agent
- 9.7.3. Pathogenesis
- 9.7.4. Clinical Picture
- 9.7.5. Complications
- 9.7.6. Diagnosis
- 9.7.7. Treatment

9.8. Blastomycosis
- 9.8.1. Epidemiology
- 9.8.2. Etiological Agent
- 9.8.3. Pathogenesis
- 9.8.4. Clinical Picture
- 9.8.5. Complications
- 9.8.6. Diagnosis
- 9.8.7. Treatment

9.9. Sporotrichosis
- 9.9.1. Epidemiology
- 9.9.2. Etiological Agent
- 9.9.3. Pathogenesis
- 9.9.4. Clinical Picture
- 9.9.5. Complications
- 9.9.6. Diagnosis
- 9.9.7. Treatment

Module 10. Parasitic and Tropical Diseases

10.1. Introduction to Parasitology
- 10.1.1. General Concepts Used in Parasitology
- 10.1.2. Epidemiology of the Main Parasitosis and Tropical Diseases
- 10.1.3. Classification of Parasites
- 10.1.4. Tropical Diseases and Fever Syndrome in the Tropics

10.2. Malaria
- 10.2.1. Epidemiology
- 10.2.2. Etiological Agent
- 10.2.3. Pathogenesis
- 10.2.4. Clinical Picture
- 10.2.5. Complications
- 10.2.6. Diagnosis
- 10.2.7. Treatment

10.3. Diseases from Intestinal Protozoas
- 10.3.1. Main Intestinal Protozoa
- 10.3.2. Diagnosis of Intestinal Protozoa
- 10.3.3. Amebiosis and Giardiosis

10.4. Filarial Diseases
- 10.4.1. Epidemiology and the Worldwide Situation
- 10.4.2. Clinical Syndromes
- 10.4.3. Main Filarial Diseases: Wuchereria Bancrofti, Brugia malayi, Brugia timori, Onchocerca volvulus, Loa loa, Mansonella Perstans, Mansonella Streptocerca y Mansonella Ozzardi

10.5. Leishmaniasis
- 10.5.1. Cutaneous Leishmaniasis
- 10.5.2. Deep Leishmaniasis

10.6. Trypanosomiasis
- 10.6.1. African Trypanosomiasis
- 10.6.2. American Trypanosomiasis:

10.7. Schistosomiasis
- 10.7.1. Haematobium Schistosomiasis
- 10.7.2. Schitosomiosis Mansoni
- 10.7.3. Schitosomiosis Japonicum
- 10.7.4. Schitosomiosis Intercalatum

10.8. Intestinal Parasitism
- 10.8.1. Epidemiology
- 10.8.2. Ascaridiosis
- 10.8.3. Oxyuriosis
- 10.8.4. Ancylostomiosis and Necatoriosis
- 10.8.5. Trichuriosis

10.9. Taeniasis Infections
- 10.9.1. Intestinal Tapeworms
- 10.9.2. Tissue Tapeworms

10.10. Antiparasitics II
- 10.10.1. General Concepts
- 10.10.2. Main Definitions Used in the Management of Antiparasitics
- 10.10.3. Classification: Classifications Used by Chemical Structure, Mechanism of Action or Antiparasitic Action
- 10.10.4. Mechanisms of Action

10.11. Antiprotozoals
- 10.11.1. Classification
- 10.11.2. Mechanisms of Action
- 10.11.3. Antiparasitic Spectrum
- 10.11.4. Pharmacokinetics and Pharmacodynamics
- 10.11.5. Dose and Presentation

10.12. Antiparasitic for Helminths
- 10.12.1. Classification
- 10.12.2. Mechanisms of Action
- 10.12.3. Antiparasitic Spectrum
- 10.12.4. Pharmacokinetics and Pharmacodynamics
- 10.12.5. Dose and Presentation

Module 11. Nosocomial Infections, Associated with Health Care and Patient Safety

11.1. Epidemiology of Nosocomial Infections
- 11.1.1. Operative Site Infection: Definition Epidemiology. Most Frequent Germs Therapeutic Behavior
- 11.1.2. Nosocomial Pneumonia and Associated Mechanical Ventilation: General Concepts Epidemiology. Risk Factors. Etiology. Diagnosis. Prevention
- 11.1.3. Most-Used Antibiotics

11.2. Infection Associated with Non-Tunneled Peripheral and Central Venous Catheters and Urinary Catheters
- 11.2.1. Epidemiology
- 11.2.2. Etiology
- 11.2.3. Risk Factors
- 11.2.4. Behavior for its Diagnosis and Treatment

11.3. Clostridium Difficile Infection
- 11.3.1. Epidemiology
- 11.3.2. Risk Factors
- 11.3.3. Clinical Manifestations
- 11.3.4. Diagnosis
- 11.3.5. Treatment

11.4. Global Vision of the Infection in Critical Patients in the ICU
- 11.4.1. Epidemiology
- 11.4.2. Risk Factors
- 11.4.3. Etiology
- 11.4.4. Prevention
- 11.4.5. Most-Used Antibiotics

11.5. Infections Associated With Devices Used in Medicine
- 11.5.1. Infections Associated with Biofilm
- 11.5.2. Infections From Devices Used in Orthopedics
- 11.5.3. Infection From Devices Used in Cardiovascular Surgery
- 11.5.4. Infection in Neurosurgery Devices
- 11.5.5. Infections of Implants and Prostheses

11.6. Universal Measures for Nosocomial Infection
- 11.6.1. Main Measures Internationally Recommended for the Control of Nosocomial Infection

11.7. Infections Associated With Health Care
- 11.7.1. Definition
- 11.7.2. Epidemiology
- 11.7.3. Etiology
- 11.7.4. Antimicrobials Used

Module 12. Antimicrobial Resistance

12.1. Epidemiology. From Molecular to Socioeconomic
- 12.1.1. Analysis of Molecular Evolution, Genetics, Clinical Manifestation, Epidemiology and Socioeconomics of the Resistance to Antibiotics
- 12.1.2. Mortality Due to Superbugs
- 12.1.3. Most Lethal Superbugs

12.2. Mechanisms of Antimicrobial Resistance
- 12.2.1. Genetic Mechanisms
- 12.2.2. Acquired Mechanisms

12.3. MRSA and GISA
- 12.3.1. Epidemiology
- 12.3.2. Resistance Mechanisms
- 12.3.3. Alternative Treatments

12.4. Resistant Enterobacteria
- 12.4.1. Epidemiology
- 12.4.2. Resistance Mechanisms
- 12.4.3. Alternative Treatments

12.5. Resistant Pneumococcus
- 12.5.1. Epidemiology
- 12.5.2. Resistance Mechanisms
- 12.5.3. Alternative Treatments

12.6. Viral Resistance
- 12.6.1. Epidemiology
- 12.6.2. Resistance Mechanisms
- 12.6.3. Alternative Treatments

12.7. Mycotic and Parasitic Resistance
- 12.7.1. Epidemiology
- 12.7.2. Resistance Mechanisms
- 12.7.3. Alternative Treatments

12.8. Worldwide Program for the Control of Antimicrobial Resistance and Research into New Antibiotics
- 12.8.1. Objectives and Action of the Worldwide Program for the Control of Antimicrobial Resistance
- 12.8.2. Research into New Antibiotics for Multiresistant Germs
- 12.8.3. Emergence of Other Forms of Treatment for Infection Control

Module 13. The Correct Use of Antimicrobials

13.1. Basic Principles in the Selection and Use of Antimicrobials
- 13.1.1. Elements of an Antimicrobial
- 13.1.2. Elements of a Germ
- 13.1.3. Elements of the Host

13.2. Use of Antimicrobials in Special Situations in the Host
- 13.2.1. Use in Kidney Failure
- 13.2.2. Use in Pregnancy
- 13.2.3. Use in Liver Failure

13.3. The Role of Policies and Rational Use of Antibiotics Programs and Their Impact on the Antimicrobial Resistance and The Cost of Medical Care
- 13.3.1. Situation of Programs and Policies for the Rational Use of Antibiotics
- 13.3.2. Impact of Programs and Policies in the Use of Antibiotics
- 13.3.3. Use of Clinical Practice Guides

13.4. Pharmacotherapeutic Committees as Tools for the Control and Evaluation of the Use of Antibiotics
- 13.4.1. Structure
- 13.4.2. Objectives
- 13.4.3. Functions
- 13.4.4. Impact Results

13.5. Antibiotic Prophylaxis in Surgery
- 13.5.1. Classification of Surgical Interventions
- 13.5.2. Uses of Antibiotic Prophylaxis According to the Type of Surgical Intervention
- 13.5.3. Most Commonly Used Schemes of Antibiotic Prophylaxis in Surgery

13.6. Reasoned Therapeutics in the Use of Antibiotics
- 13.6.1. Stages of Reasoned Therapeutics
- 13.6.2. Importance of Reasoned Therapeutics

13.7. The Worldwide Experience in the Control of the Use of Antibiotics
- 13.7.1. Main Worldwide Experiences in the Control of the Use of Antibiotics

Module 14. The Role of Infectologists in Health Services

14.1. Infectology and its Importance in Medical Care Within Any Specialist Field
- 14.1.1. The Universal Nature of Infectious Pathology in Medical Specialties
- 14.1.2. Mastering Antibiotic Treatment

14.2. Skills and Abilities of an Infectologist
- 14.2.1. Skills of an Infectologist
- 14.2.2. Abilities of an Infectologist

14.3. The Role of Infectologists in Health Teams
- 14.3.1. Functions of Infectologists in Healthcare Teams in the Different Levels of the Health System

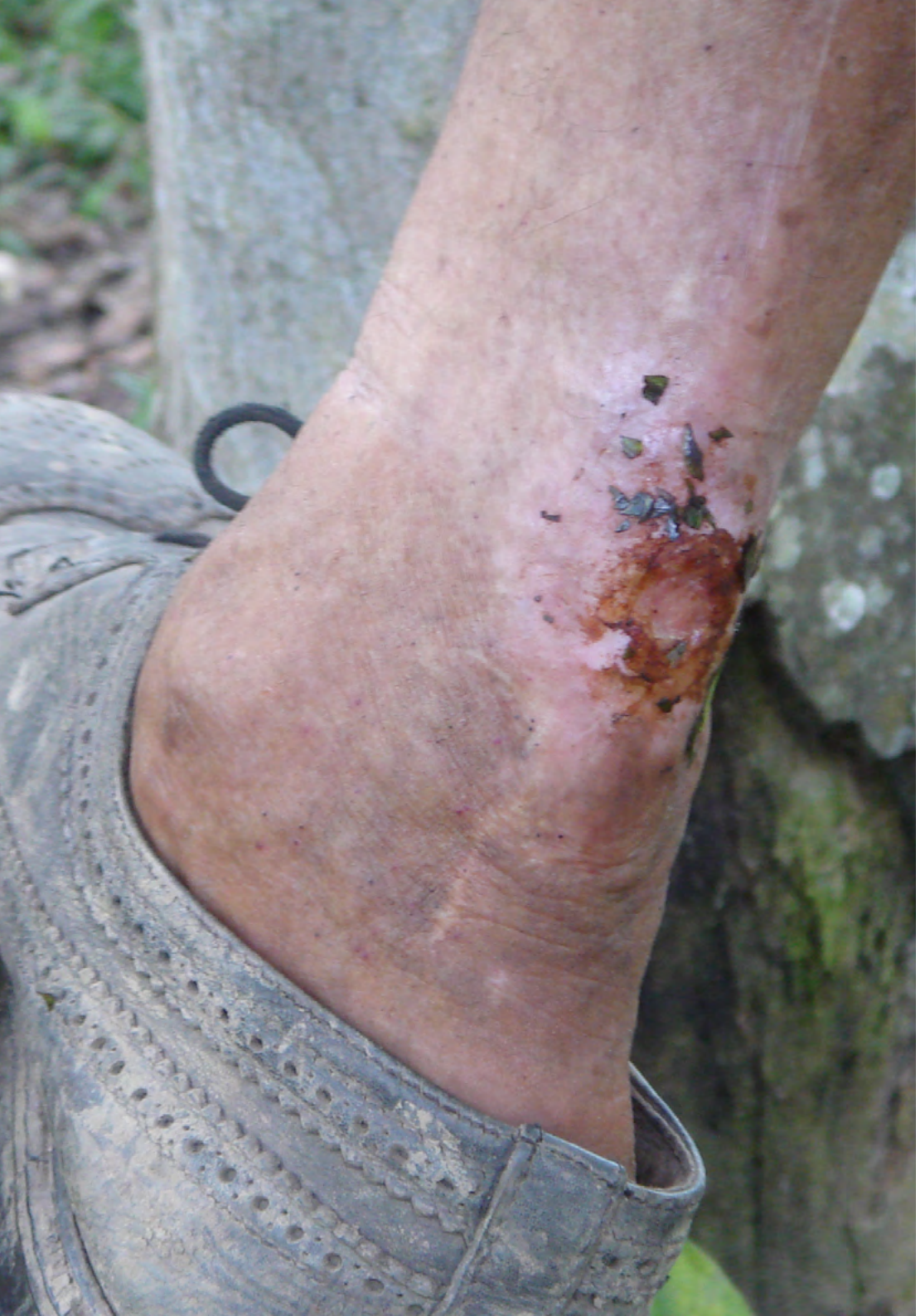
14.4. Infectious Disease Consultation
- 14.4.1. Functions of an Infectologist's Consultation
- 14.4.2. Pathologies to be Consulted

14.5. Scientific Update of the Infectologist's Medical Knowledge and the Future Challenges of Infectology
- 14.5.1. Self-Training
- 14.5.2. Training and Professional Achievement
- 14.5.3. Future Challenges for Infectology: The Emergence of New Diseases Antimicrobial Resistance and the Development of Vaccines and Antibiotics

Module 15. Epidemiology and Microbiology of Infectious Diseases

15.1. Epidemiological, Economic, Social and Political Conditions in Continents Which Favor the Development of Infectious Diseases
- 15.1.1. Africa
- 15.1.2. America
- 15.1.3. Europe and Asia

15.2. New and Emerging Diseases By Continent
- 15.2.1. Morbidity and Mortality From Infectious Diseases in Africa
- 15.2.2. Morbidity and Mortality From Infectious Diseases in the Americas
- 15.2.3. Infectious Disease Morbidity and Mortality in Asia
- 15.2.4. Morbidity and Mortality From Infectious Diseases in Europe



15.3. The Taxonomy Of Infectious Agents
- 15.3.1. Viruses
- 15.3.2. Bacteria
- 15.3.3. Fungus
- 15.3.4. Parasites

15.4. Disease-producing Properties of Micro-organisms
- 15.4.1. Mechanisms of Pathogenicity
- 15.4.2. Mechanisms of Adhesion and Multiplication
- 15.4.3. Mechanisms Enabling the Acquisition of Nutrients From The Host
- 15.4.4. Mechanisms Inhibiting The Phagocytic Process
- 15.4.5. Mechanisms For Evading The Immune Response

15.5. Microscopy and Staining
- 15.5.1. Microscopes and Types of Microscopes
- 15.5.2. Composite Stains
- 15.5.3. Acid-resistant Micro-organism Staining
- 15.5.4. Staining to Demonstrate Cellular Structures

15.6. Cultures and Growth of Micro-organisms
- 15.6.1. General Culture Mediums
- 15.6.2. Specific Culture Methods

15.7. Effect of Chemical and Physical Agents on Micro-organisms
- 15.7.1. Sterilisation and Disinfection
- 15.7.2. Disinfectants and Antiseptics Used in Practice

15.8. Molecular Biology and its Importance for the Infectologist
- 15.8.1. Bacterial Genetics
- 15.8.2. Polymerase Chain Reaction Tests

15.9. Indication and Interpretation of Microbiological Studies

Module 16. Cancer and Immunosuppression

16.1. The Innate and Adaptive Immune Response
- 16.1.1. Cells and Cytokines in Response to Infectious Agents
- 16.1.2. Characteristics of the Innate Immune Response

16.2. Immunosuppression in Different Conditions in Patients with Sepsis
- 16.2.1. The Role of Cytotoxics in Immunosuppression
- 16.2.2. The Role of Cytotoxics in Immunosuppression
- 16.2.3. Infection in Transplant Patients

16.3. The Oncohematological Patient with Sepsis
- 16.3.1. Medullary Aplasia
- 16.3.2. Neutropenia
- 16.3.3. Infections in Patients with Cancer

16.4. The Diabetic Patient with Sepsis
- 16.4.1. The Immune System in Diabetes Mellitus
- 16.4.2. Main Infections in the Diabetic Patient

16.5. Comprehensive Approach to the Immuno-Compromised Patient with Sepsis
- 16.5.1. Diagnostic Considerations
- 16.5.2. Therapeutic Measures

16.6. The Link Between Cancer and Micro-organisms
- 16.6.1. Oncogenesis and Infection
- 16.6.2. Virus and Cancer
  - 16.6.2.1. Epstein-Barr Virus
  - 16.6.2.2. Hepatitis B and C Viruses
  - 16.6.2.3. Human Immunodeficiency Virus
  - 16.6.2.4. T-cell Lymphoma/Leukaemia Viruses
  - 16.6.2.5. Kaposi's Sarcoma-Associated Herpesvirus

16.7. Bacterias and Cancer
- 16.7.1. Helicobacter Pylori

16.8. Parasites and Cancer
- 16.8.1. Schistosoma Haematobium
- 16.8.2. Opisthorchis Viverrini

16.9. Bacteria Allies Against Cancer

Module 17. Occupational Accident and Blood-Borne Pathogens

17.1. Epidemiology of Blood-Borne Pathogen Infections

17.2. Main Blood-Borne Infections
- 17.2.1. Hepatitis B Virus Infection
- 17.2.2. Hepatitis C Virus Infection
- 17.2.3. HIV/AIDS

17.3. Diagnostic and Therapeutic approach to Accidents Involving Blood
- 17.3.1. Diagnostic Follow-up of Cases
- 17.3.2. Treatment

17.4. Universal Precautions in the Prevention of Accidents in the Workplace

17.5. Biosafety Measures and the Role of the Epidemiologist in Reducing Biohazards
- 17.5.1. Biological Risk
- 17.5.2. Biosecurity
- 17.5.3. Biosecurity Plans for Biological Protection

Module 18. Infections in the International Traveller

18.1. Vaccines in the International Traveller
- 18.1.1. Vaccines in the International Traveller
- 18.1.2. Vaccination Against Yellow Fever

18.2. Prophylaxis for Travellers to Tropical Areas
- 18.2.1. Pharmacological Treatment According to the Geographical Area to be visited
- 18.2.2. Glucose-6-Phosphate Dehydrogenase Deficiency and Antimalarial Drugs
- 18.2.3. Preventive Measures for Travellers in Tropical Areas

18.3. Traveller's Diarrhea
- 18.3.1. Epidemiology
- 18.3.2. Etiology
- 18.3.3. Clinical Manifestations
- 18.3.4. Diagnosis
- 18.3.5. Treatment

18.4. Health Control of International Travelers

18.5. Fever on Return from International Travel
- 18.5.1. Main Etiologies
- 18.5.2. Diagnostic Approach
- 18.5.3. Imported Infectious Pathology in the International Traveller

Module 19. Chronic Non-Communicable Diseases and Infections

19.1. Infections and the Chronic Inflammatory Response
- 19.1.1. Immune System Cells of the Chronic Inflammatory Response to Infections
- 19.1.2. The Granulomatous Response and Delayed-type Hypersensitivity
- 19.1.3. The Role of Chemical Mediators of the Chronic Inflammatory Response

19.2. Stress, Immunity and Infectious Agents
- 19.2.1. Neurological, Endocrine and Immune Interrelationships
- 19.2.2. Stress and the Immune Response
- 19.2.3. Chronic Fatigue Syndrome and Infections

19.3. Atherosclerosis, Cardiovascular Disease and the Role of Infectious Agents
- 19.3.1. The Role of Infectious Agents in Atherosclerosis
- 19.3.2. Cardiovascular Disease Mortality and its Association with Infectious Agents
- 19.3.3. Cardiovascular Mortality in Patients with Pneumonia

19.4. Digestive Diseases Associated with Infectious Microorganisms
- 19.4.1. Gut Flora and its Important Functions
- 19.4.2. Gastroduodenal Peptic Ulcer Disease and Helicobacter Pylori
- 19.4.3. Inflammatory Bowel Disease and Infections
- 19.4.4. Whipple´s Disease

19.5. Neurological Diseases and Infections
- 19.5.1. Dementia and Infections
- 19.5.2. Multiple Sclerosis and its Relationship to Certain Infectious Agents
- 19.5.3. Guillain-Barre Syndrome, Immunity and Viral Infections
- 19.5.4. Parkinson's Disease and its Association with Infections

19.6. Endocrinopathies and Infections
- 19.6.1. Diabetes Mellitus and Infections
- 19.6.2. Chronic Thyroiditis and Infections

19.7. The Infectious Theory of Rheumatic Diseases
- 19.7.1. Rheumatoid Arthritis
- 19.7.2. Systemic Lupus Erythematosus
- 19.7.3. Seronegative Spondyloarthropathies
- 19.7.4. Weneger's Granulomatosis
- 19.7.5. Polymyalgia Rheumatica

Module 20. The Most Lethal Respiratory Infections

20.1. Immunology and Defence Mechanisms of the Respiratory System

20.2. Influenza and Other Lethal Viral Infections
- 20.2.1. Influenza Epidemics
- 20.2.2. H1N1 Influenza
- 20.2.3. Vaccine Against Influenza and the Prevention of Mortality

20.3. Bacterial Pneumonia: The Captain of the Armies of Death
- 20.3.1. Community-Acquired Pneumonia (CAP)
- 20.3.2. Intrahospital Pneumonia
- 20.3.3. Pneumonia Associated With Healthcare

20.4. Tuberculosis
- 20.4.1. Epidemiology
- 20.4.2. Pathobiology
- 20.4.3. Classification
- 20.4.4. Clinical Picture
- 20.4.5. Diagnosis
- 20.4.6. Treatment

20.5. Loeffler's Syndrome and Eosinophilic Syndromes
- 20.5.1. Pulmonary Phase of Parasites
- 20.5.2. Clinical and Radiological Manifestations
- 20.5.3. Other Eosinophilic Pneumonias

20.6. Antimicrobials and the Respiratory System
- 20.6.1. Antimicrobials Effective in the Respiratory System
- 20.6.2. The Immunomodulatory Role of Macrolides in Pneumonia

Module 21. Urinary Tract and Sexually Transmitted Infections

21.1. Epidemiology of Urinary Tract Infection
- 21.1.1. Factors Explaining the Increased Morbidity of Urinary Tract Infection in Women

21.2. Immunology of the Urinary System

21.3. Classification of Urinary Tract Infection

21.4. Urinary Infection
- 21.4.1. Etiology
- 21.4.2. Clinical Picture
- 21.4.3. Diagnosis
- 21.4.4. Treatment

21.5. Urinary Tract Infection in the Bladder Catheterised, Prostatic and Elderly Patient

21.6. Most commonly Used Antimicrobials in Urinary Tract Infections
- 21.6.1. Pharmacological Elements
- 21.6.2. Antimicrobial Resistance of the Main Bacteria Affecting the Urinary Tract

21.7. Epidemiological Update on Major STIs
- 21.7.1. Epidemiology of Sexually Transmitted Infections
- 21.7.2. Risk Groups for Sexually Transmitted Infections
- 21.7.3. Prevention

21.8. Viral STIs
- 21.8.1. Perinatal Herpes Simplex
- 21.8.2. Viral Hepatitis
- 21.8.3. Human Papillomavirus
- 21.8.4. HIV

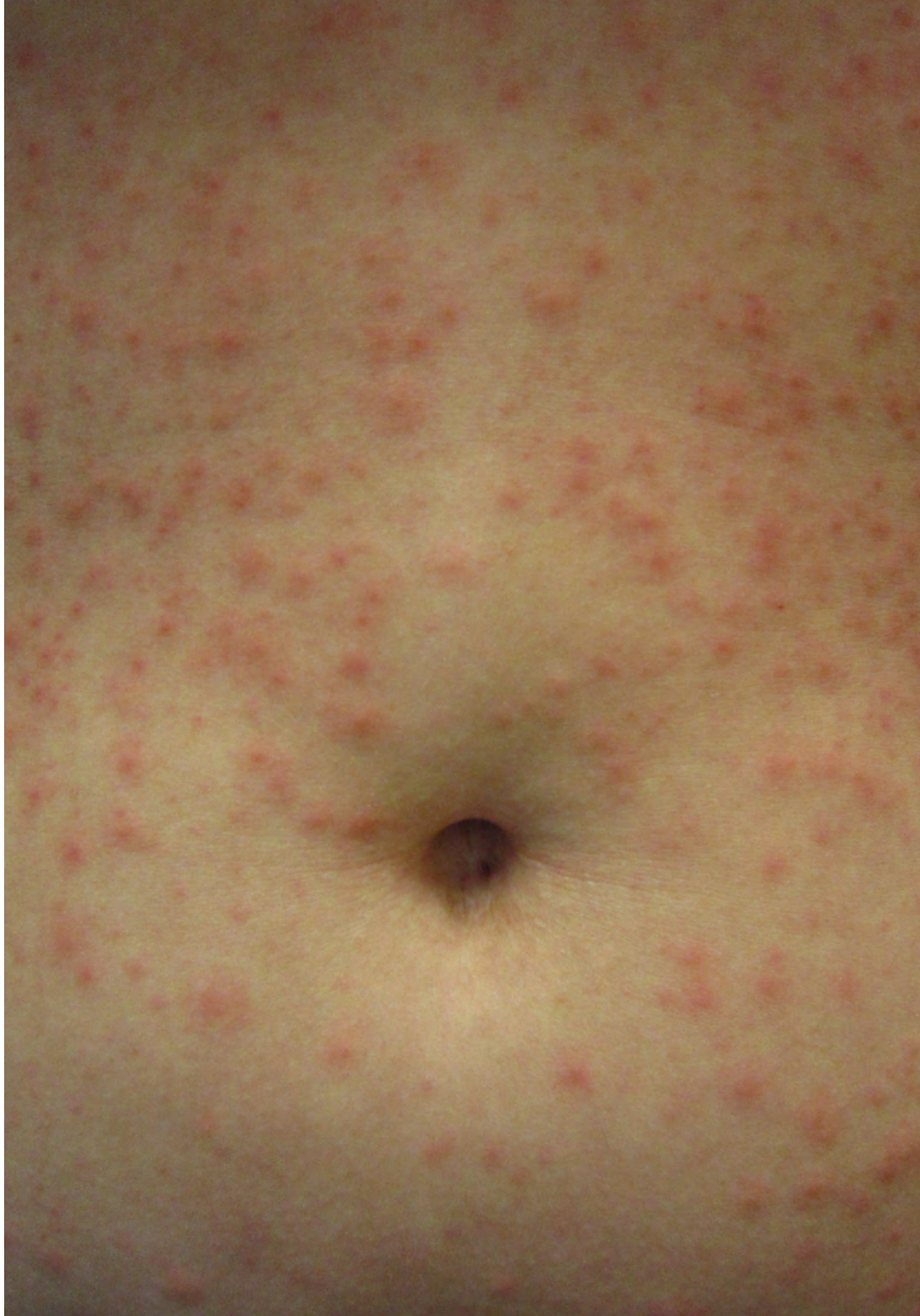
21.9. Bacterial STIs
- 21.9.1. Gonorrhoea
- 21.9.2. Syphilis
- 21.9.3. Soft Chancre
- 21.9.4. Lymphogranuloma Venereum

21.10. Trichomoniasis and Genital Candidiasis

21.11. Trichomoniasis: Epidemiology, Aetiology, Clinical Picture, Diagnosis and Treatment

21.12. Genital Candidiasis: Epidemiology, Etiology, Clinical Picture, Diagnosis and Treatment

21.13. The syndromic Approach to STIs and Control Measures
- 21.13.1. Main Clinical Framework
- 21.13.2. STI Control Measures



21.14. Multidrug-Resistant Gonococcus: Treatment Alternatives
- 21.14.1. Global Situation
- 21.14.2. Alternative Treatments

21.15. Current Management of Recurrent Herpes Infection
- 21.15.1. Focus Latest Information of Recurrent Herpes Infection

Module 22. Food-Borne Infections

22.1. Food-Borne Diseases, a Modern Day Health Problem
- 22.1.1. Epidemiology
- 22.1.2. Causes of Foodborne Infections

22.2. Classification of Foodborne Infections
- 22.2.1. Intoxications
- 22.2.2. Infections
- 22.2.3. Toxi-infections

22.3. Main Aetiological Agents
- 22.3.1. Salmonella
- 22.3.2. Staphylococci
- 22.3.3. Listeria monocytogenes
- 22.3.4. Escherichia coli, 0157;H7
- 22.3.5. Clostridium Botulinum

22.4. Food-Borne Diseases and their Socio-Economic Impact
- 22.4.1. Socio-Economic Consequences of the ATS

22.5. Main Measures for the Control of Food-Borne Infections
- 22.5.1. Primary Prevention of ATS
- 22.5.2. Health Education
- 22.5.3. State Health Control and ATS

Module 23. Hepatitis and HIV/AIDS and Tuberculosis Co-Infection

23.1. Viral Hepatitis A
- 23.1.1. Virus Characteristics and Replication Cycle
- 23.1.2. Clinical Picture
- 23.1.3. Viral Markers
- 23.1.4. Evolution and Prognosis
- 23.1.5. Treatment

23.2. Viral Hepatitis B and C
- 23.2.1. Virus Characteristics and Replication Cycle
- 23.2.2. Clinical Picture
- 23.2.3. Viral Markers
- 23.2.4. Evolution and Prognosis
- 23.2.5. Treatment

23.3. Viral Hepatitis D and E
- 23.3.1. Virus Characteristics and Replication Cycle
- 23.3.2. Clinical Picture
- 23.3.3. Viral Markers
- 23.3.4. Evolution and Prognosis
- 23.3.5. Treatment

23.4. Epidemiology of Morbidity and Mortality from TB/HIV/AIDS Co-Infection
- 23.4.1. Incidence
- 23.4.2. Prevalence
- 23.4.3. Mortality

23.5. Pathobiology from TB/HIV/AIDS Co-Infection
- 23.5.1. Pathophysiological Alterations in Co-Infection
- 23.5.2. Pathological Alterations

23.6. Clinical Manifestations of Co-Infection
- 23.6.1. Clinical Manifestations of Pulmonary TB
- 23.6.2. Clinical Manifestations of Extrapulmonary TB

23.7. Diagnosis of Tuberculosis in Patients Living with HIV/AIDS
  23.7.1. Diagnostic Studies in Pulmonary TB in HIV/AIDS Patients
23.8. Comprehensive Care of Patients with Co-Infection TB and HIV/ AIDS and Therapeutic Considerations
  23.8.1. The System of Comprehensive Care for TB/HIV/AIDS Patients
  23.8.2. Anti-tuberculosis Treatment Considerations in Patients with Tuberculosis and HIV/ AIDS Coinfection
  23.8.3. Antiretroviral Treatment Considerations in patients with TB/HIV/AIDS Co-Infection
  23.8.4. The Issue of Anti-Tuberculosis and Antiretroviral Resistance in These Patients

Module 24. Viral Haemorrhagic Diseases and Arboviruses

24.1. Viral Hemorrhagic Diseases
  24.1.1. Epidemiology
  24.1.2. Classification
  24.1.3. Diagnostic Approach to Viral Haemorrhagic Diseases
  24.1.4. The Development of Vaccines for New Diseases
  24.1.5. Measures for the Control of Viral Haemorrhagic Diseases
24.2. Ebola Haemorrhagic Fever
  24.2.1. Characteristics and Replicative Cycle of the Virus
  24.2.2. Clinical Picture
  24.2.3. Diagnosis
  24.2.4. Treatment
24.3. South American Hemorrhagic Fevers
  24.3.1. Characteristics and Replicative Cycle of the Virus
  24.3.2. Clinical Picture
  24.3.3. Diagnosis
  24.3.4. Treatment
24.4. Arbovirus
  24.4.1. Epidemiology
  24.4.2. Vector Control
  24.4.3. Other Arboviruses
24.5. Yellow Fever
  24.5.1. Concept
  24.5.2. Replicative Cycle of the Virus
  24.5.3. Clinical Manifestations
  24.5.4. Diagnosis
  24.5.5. Treatment
24.6. Dengue
  24.6.1. Concept
  24.6.2. Replicative Cycle of the Virus
  24.6.3. Clinical Manifestations
  24.6.4. Diagnosis
  24.6.5. Treatment
24.7. Chiquigunya
  24.7.1. Concept
  24.7.2. Replicative Cycle of the Virus
  24.7.3. Clinical Manifestations
  24.7.4. Diagnosis
  24.7.5. Treatment
24.8. Zika
  24.8.1. Concept
  24.8.2. Replicative Cycle of the Virus
  24.8.3. Clinical Manifestations
  24.8.4. Diagnosis
  24.8.5. Treatment

Module 25. Central Nervous System Infections

25.1. The Immune Defence Mechanisms of the CNS
  25.1.1. Defence Mechanisms of the CNS
  25.1.2. The Immune Response in the CNS
25.2. Epidemiology of the CNS Infection
  25.2.1. Morbidity
  25.2.2. Mortality
  25.2.3. Risk Factors

25.3. Microbiological Diagnosis of the CNS Infection
- 25.3.1. The Study of Cerebrospinal Fluid

25.4. Meningitis
- 25.4.1. Etiology
- 25.4.2. Clinical Picture
- 25.4.3. Diagnosis
- 25.4.4. Treatment

25.5. Encephalitis
- 25.5.1. Etiology
- 25.5.2. Clinical Picture
- 25.5.3. Diagnosis
- 25.5.4. Treatment

25.6. Myelitis
- 25.6.1. Etiology
- 25.6.2. Clinical Picture
- 25.6.3. Diagnosis
- 25.6.4. Treatment

25.7. Antibiotics and the Blood-Brain Barrier
- 25.7.1. The Role of the Blood-Brain Barrier
- 25.7.2. The Crossing of the Blood-Brain Barrier by Antibiotics

Module 26. Zoonosis

26.1. General Aspects of Zoonotic Disease
- 26.1.1. General Concepts and Epidemiology of Zoonoses
- 26.1.2. Main International Zoonoses
- 26.1.3. Prion Zoonosis: Prions in the Etiology of Diseases
- 26.1.4. Bovine Spongiform Encephalopathy (or Mad Cow Disease)
- 26.1.5. Main Control Measures of Zoonotic Diseases

26.2. Rabies
- 26.2.1. Epidemiology
- 26.2.2. Infectious Agents
- 26.2.3. Pathobiology
- 26.2.4. Clinical Picture
- 26.2.5. Diagnosis
- 26.2.6. Treatment

26.3. Bird Flue
- 26.3.1. Epidemiology
- 26.3.2. Infectious Agents
- 26.3.3. Pathobiology
- 26.3.4. Clinical Picture
- 26.3.5. Diagnosis
- 26.3.6. Treatment

26.4. Leptospirosis
- 26.4.1. Epidemiology
- 26.4.2. Infectious Agents
- 26.4.3. Pathobiology
- 26.4.4. Clinical Picture
- 26.4.5. Diagnosis
- 26.4.6. Treatment

26.5. Brucellosis
- 26.5.1. Epidemiology
- 26.5.2. Infectious Agents
- 26.5.3. Pathobiology
- 26.5.4. Clinical Picture
- 26.5.5. Diagnosis
- 26.5.6. Treatment

26.6. Toxoplasmosis
- 26.6.1. Epidemiology
- 26.6.2. Infectious Agents
- 26.6.3. Pathobiology
- 26.6.4. Clinical Picture
- 26.6.5. Diagnosis
- 26.6.6. Treatment

Module 27. Mycobacteriosis and Anaerobic Infections

27.1. General Overview of Mycobacteriosis
- 27.1.1. Microbiological Characteristics of Mycobacteria
- 27.1.2. Immune Response to Mycobacterial Infection
- 27.1.3. Epidemiology of Major Nontuberculous Mycobacteria Infections

27.2. Microbiological Methods for the Diagnosis of Mycobacterioses
- 27.2.1. Direct Methods
- 27.2.2. Indirect Methods

27.3. Intracellular Mycobacterium Avium Infection
- 27.3.1. Epidemiology
- 27.3.2. Infectious Agents
- 27.3.3. Pathobiology
- 27.3.4. Clinical Picture
- 27.3.5. Diagnosis
- 27.3.6. Treatment

27.4. Mycobacterium Kansaii Infection
- 27.4.1. Epidemiology
- 27.4.2. Infectious Agents
- 27.4.3. Pathobiology
- 27.4.4. Clinical Picture
- 27.4.5. Diagnosis
- 27.4.6. Treatment

27.5. Leprosy
- 27.5.1. Epidemiology
- 27.5.2. Infectious Agents
- 27.5.3. Pathobiology
- 27.5.4. Clinical Picture
- 27.5.5. Diagnosis
- 27.5.6. Treatment

27.6. Other Mycobacteriosis

27.7. Antimycobacterials
- 27.7.1. Pharmacological Characteristics
- 27.7.2. Clinical Use

27.8. Microbiological Characteristics of Anaerobic Germs
- 27.8.1. Microbiological Characteristics of Anaerobic Germs
- 27.8.2. Microbiological Studies

27.9. Pulmonary Abscess
- 27.9.1. Definition
- 27.9.2. Etiology
- 27.9.3. Clinical Picture
- 27.9.4. Diagnosis
- 27.9.5. Treatment

27.10. Intra-abdominal and Tubo-ovarian Abscesses
- 27.10.1. Definition
- 27.10.2. Etiology
- 27.10.3. Clinical Picture
- 27.10.4. Diagnosis
- 27.10.5. Treatment

27.11. Intracerebral Abscess
- 27.11.1. Definition
- 27.11.2. Etiology
- 27.11.3. Clinical Picture
- 27.11.4. Diagnosis
- 27.11.5. Treatment

27.12. Tetanus and Gangrene
- 27.12.1. Tetanus: Neonatal and Adult
- 27.12.2. Gangrene: Definition, Aetiology, Clinical Picture, Diagnosis, Treatment

27.13. Main Antimicrobials against Anaerobic Germs
- 27.13.1. Mechanism of Action
- 27.13.2. Pharmacokinetics
- 27.13.3. Dose
- 27.13.4. Introduction
- 27.13.5. Adverse Effects

Module 28. Mycoses and Parasitosis in Infectious Diseases

28.1. General Information on Fungi
- 28.1.1. General Features of Fungi
- 28.1.2. Immune Response to Fungi

28.2. Diagnostic Methods for Mycoses
- 28.2.1. Direct Methods
- 28.2.2. Indirect Methods

28.3. Superficial Mycosis: Tinea and Epidermatophytosis
- 28.3.1. Definition
- 28.3.2. Etiology
- 28.3.3. Clinical Picture
- 28.3.4. Diagnosis
- 28.3.5. Treatment

28.4. Deep Mycosis
- 28.4.1. Cryptococcosis
- 28.4.2. Histoplasmosis
- 28.4.3. Aspergillosis
- 28.4.4. Other Mycosis

28.5. Update on Antifungals
- 28.5.1. Pharmacological Elements
- 28.5.2. Clinical Use

28.6. General overview of parasitic diseases
- 28.6.1. General Features of Microbiological Parasites
- 28.6.2. Immune Response to Parasites
- 28.6.3. Immune Response to Protozoa
- 28.6.4. Immune Response to Helminths

28.7. Diagnostic Methods for Parasites
- 28.7.1. Diagnostic Methods for Protozoa
- 28.7.2. Diagnostic Methods for Helminths

28.8. Intestinal Parasites
- 28.8.1. Ascariasis
- 28.8.2. Oxiuriasis
- 28.8.3. Ancylostomiasis and Necatoriasis
- 28.8.4. Trichuriosis

28.9. Tissue Parasitosis
- 28.9.1. Malaria
- 28.9.2. Trypanosomiasis
- 28.9.3. Schistosomiasis
- 28.9.4. Leishmaniasis
- 28.9.5. Filariasis

28.10. Update on Antiparasitics
- 28.10.1. Pharmacological Elements
- 28.10.2. Clinical Use

Module 29. Multi-Resistance and Vaccines

29.1. The Silent Epidemic of Antibiotic Resistance
- 29.1.1. Globalization and Resistance
- 29.1.2. Change from Susceptible to Resistant of the Microorganisms

29.2. The Main Genetic Mechanisms of Antimicrobial Resistance
- 29.2.1. Describe the Main Mechanisms of Antimicrobial Resistance
- 29.2.2. Selective Antimicrobial Pressure on Antimicrobial Resistance

29.3. Superbugs
- 29.3.1. Pneumococcus Resistant to Penicillin and Macrolides
- 29.3.2. Multidrug-Resistant Staphylococci
- 29.3.3. Resistant Infections in Intensive Care Units (ICUs)
- 29.3.4. Resistant Urinary Tract Infections
- 29.3.5. Other Multi-Resistant Microorganisms

29.4. Resistant Viruses
- 29.4.1. HIV
- 29.4.2. Influenza
- 29.4.3. Hepatitis Viruses

29.5. Multidrug-resistant Malaria
- 29.5.1. Chloroquine Resistance
- 29.5.2. Resistance to Other Antimalarials

29.6. The Main Genetic Studies of Antimicrobial Resistance
- 29.6.1. Interpretation of Resistance Studies

29.7. Global Strategies for Reducing Antimicrobial Resistance
- 29.7.1. The Control of Prescribing Antibiotics
- 29.7.2. Microbiological Mapping and Clinical Practice Guidelines

29.8. General Overview of Vaccines
- 29.8.1. Immunological Basis of Vaccination
- 29.8.2. The Process of Vaccination Production
- 29.8.3. Quality Control of Vaccines
- 29.8.4. Vaccine Safety and Major Adverse Events
- 29.8.5. Clinical and Epidemiological Studies for Vaccine Approval

29.9. The Use of Vaccines
- 29.9.1. Vaccine-Preventable Diseases and Vaccination Programmes
- 29.9.2. Global Experiences of the Effectiveness of Vaccination Programmes
- 29.9.3. Vaccine Candidates for New Diseases

Module 30. Rare Infectious Diseases and Other Challenges in Infectious Diseases

30.1. General Overview of Rare Infectious Diseases
- 30.1.1. General Concepts
- 30.1.2. Epidemiology of Rare or Uncommon Infectious Diseases

30.2. Bubonic Plague
- 30.2.1. Definition
- 30.2.2. Etiology
- 30.2.3. Clinical Picture
- 30.2.4. Diagnosis
- 30.2.5. Treatment

30.3. Lyme Disease
- 30.3.1. Definition
- 30.3.2. Etiology
- 30.3.3. Clinical Picture
- 30.3.4. Diagnosis
- 30.3.5. Treatment

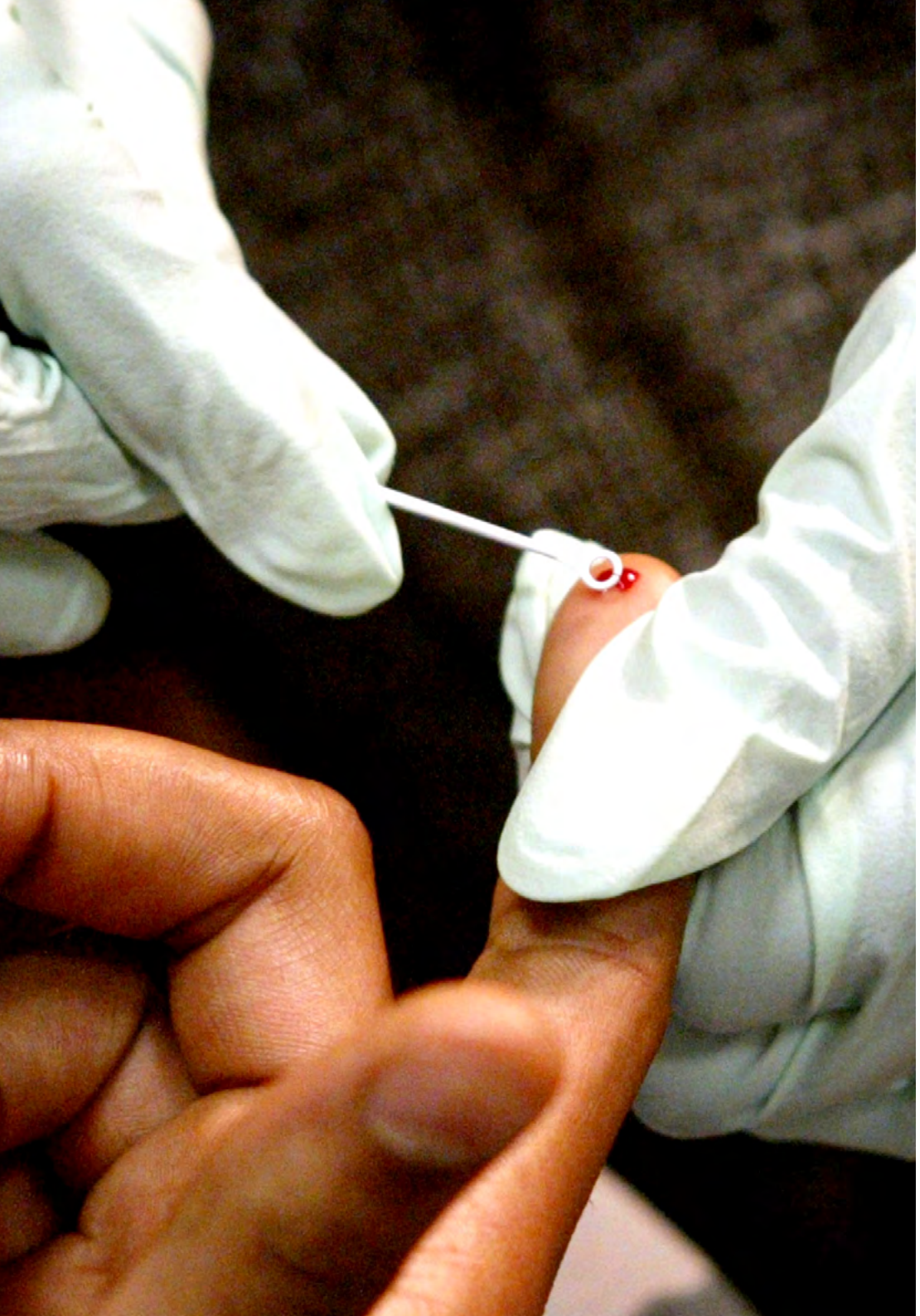
30.4. Babesiosis
- 30.4.1. Definition
- 30.4.2. Etiology
- 30.4.3. Clinical Picture
- 30.4.4. Diagnosis
- 30.4.5. Treatment

30.5. Rift Valley Fever
- 30.5.1. Definition
- 30.5.2. Etiology
- 30.5.3. Clinical Picture
- 30.5.4. Diagnosis
- 30.5.5. Treatment

30.6. Diphyllobothriasis
- 30.6.1. Definition
- 30.6.2. Etiology
- 30.6.3. Clinical Picture
- 30.6.4. Diagnosis
- 30.6.5. Treatment

30.7. Zygomycosis
- 30.7.1. Definition
- 30.7.2. Etiology
- 30.7.3. Clinical Picture
- 30.7.4. Diagnosis
- 30.7.5. Treatment

30.8. Cysticercosis
- 30.8.1. Definition
- 30.8.2. Etiology
- 30.8.3. Clinical Picture
- 30.8.4. Diagnosis
- 30.8.5. Treatment



30.9. Kuru
- 30.9.1. Definition
- 30.9.2. Etiology
- 30.9.3. Clinical Picture
- 30.9.4. Diagnosis
- 30.9.5. Treatment

30.10. The Re-emergence of Old Diseases: Causes and Effects
- 30.10.1. Emerging and New Infectious Diseases that Demand New Approaches to their Control
- 30.10.2. The Rise of Microbiological Resistance to Antimicrobial Drugs
- 30.10.3. Development of New Antibiotics

A unique, key and decisive educational experience to boost your professional development as afforded by the support of the largest online educational institution"

06

Methodology

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

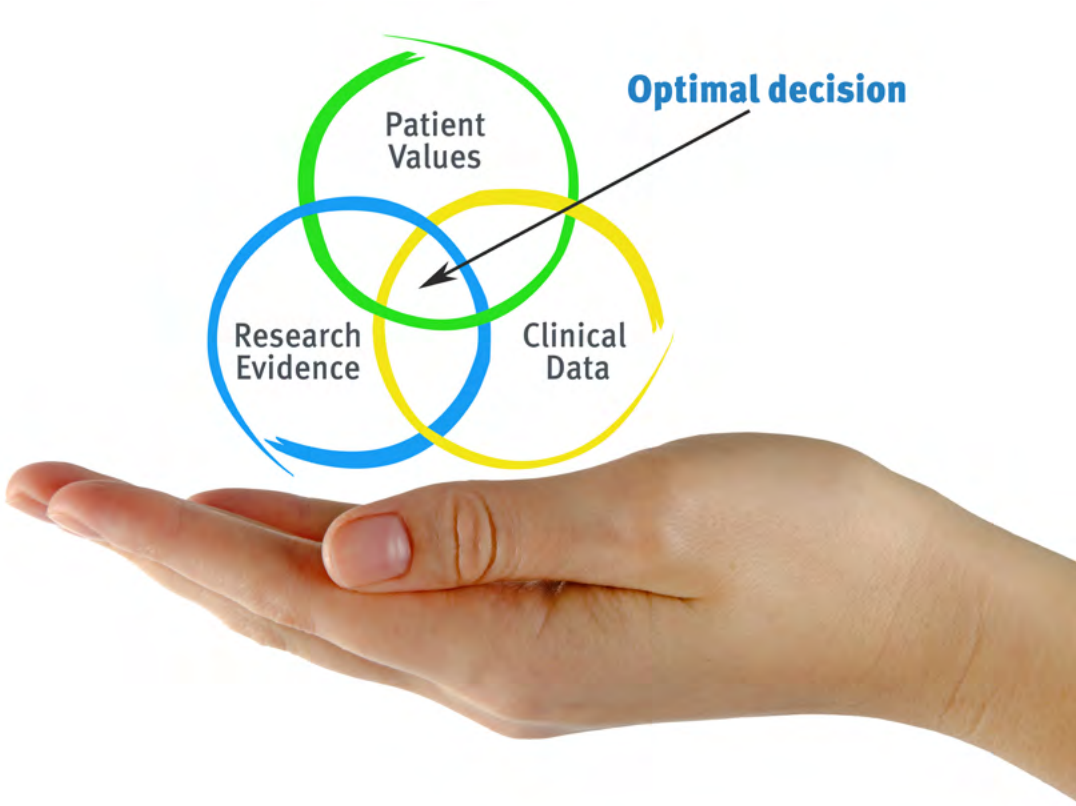
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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 face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, 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, trying to recreate the real conditions in the physician'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:

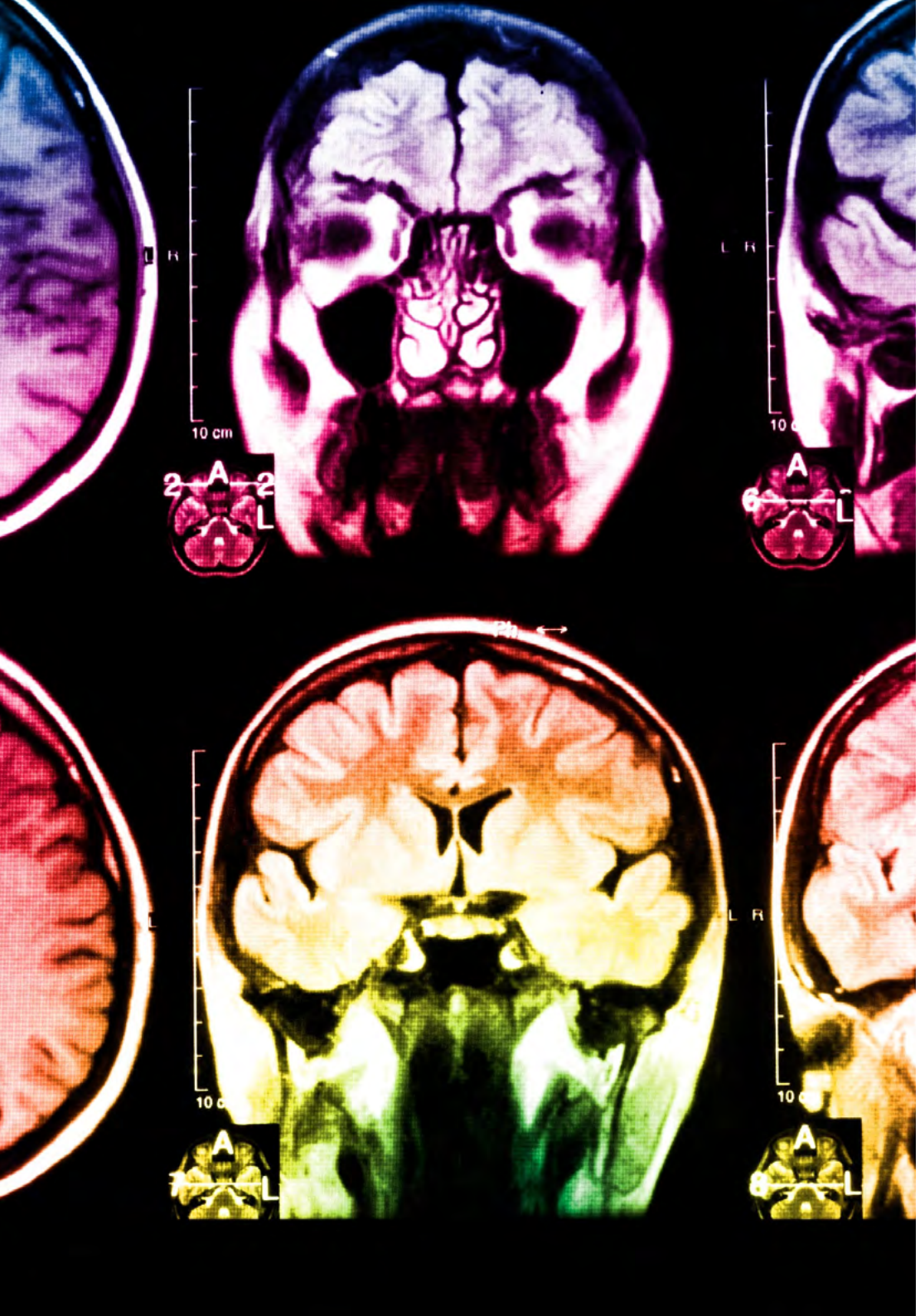
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

Professionals will learn through real cases and by resolving 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 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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 produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the 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.

Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.

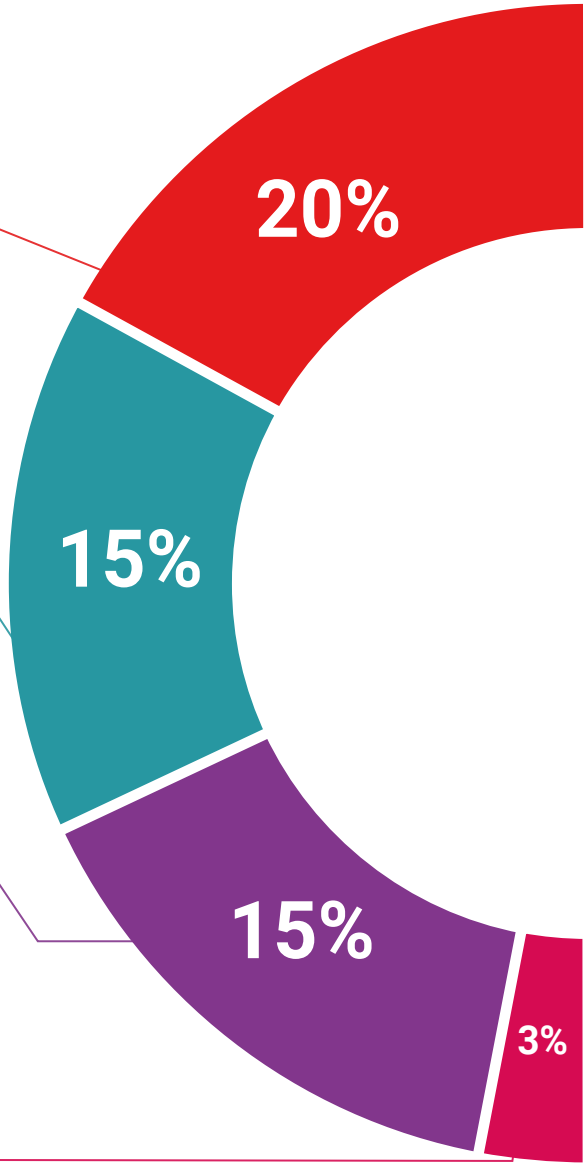
Interactive Summaries

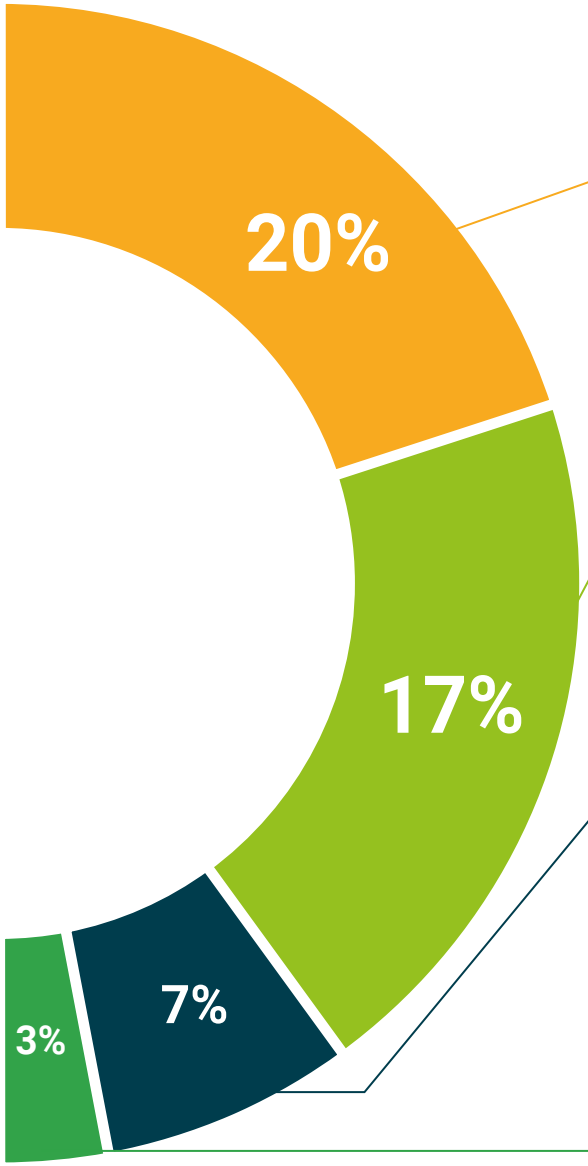
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Retesting

We periodically evaluate and re-evaluate 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 Advanced Master's Degree in Clinical Infectious Diseases guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Advanced Master's Degree in Clinical Infectious Diseases** contains the most complete and up-to-date scientific on the market.

After the student has passed the assessments, they will receive their corresponding **Advanced Master's Degree** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

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

Official Nº of Hours: **3,000 h.**


tech technological university

Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having successfully passed and accredited the following program

ADVANCED MASTER'S DEGREE

in

Clinical Infectious Diseases

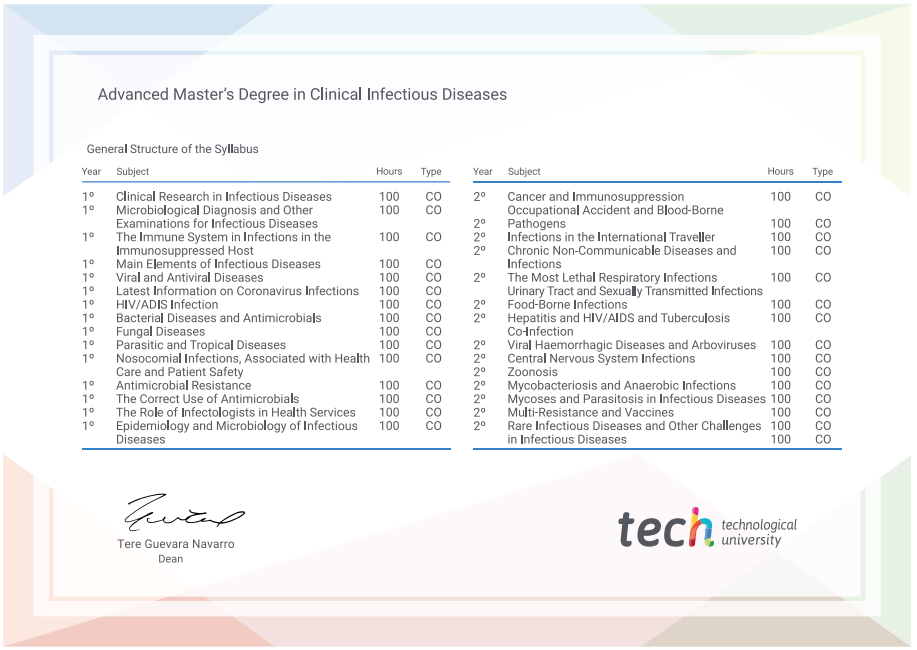
This is a qualification awarded by this University, equivalent to 3,000 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
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


Advanced Master's Degree in Clinical Infectious Diseases

General Structure of the Syllabus

Year	Subject	Hours	Type
1º	Clinical Research in Infectious Diseases	100	CO
1º	Microbiological Diagnosis and Other Examinations for Infectious Diseases	100	CO
1º	The Immune System in Infections in the Immunosuppressed Host	100	CO
1º	Main Elements of Infectious Diseases	100	CO
1º	Viral and Antiviral Diseases	100	CO
1º	Latest Information on Coronavirus Infections	100	CO
1º	HIV/AIDS Infection	100	CO
1º	Bacterial Diseases and Antimicrobials	100	CO
1º	Fungal Diseases	100	CO
1º	Parasitic and Tropical Diseases	100	CO
1º	Nosocomial Infections, Associated with Health Care and Patient Safety	100	CO
1º	Antimicrobial Resistance	100	CO
1º	The Correct Use of Antimicrobials	100	CO
1º	The Role of Infectologists in Health Services	100	CO
1º	Epidemiology and Microbiology of Infectious Diseases	100	CO

Year	Subject	Hours	Type
2º	Cancer and Immunosuppression	100	CO
2º	Occupational Accident and Blood-Borne Pathogens	100	CO
2º	Infections in the International Traveller	100	CO
2º	Chronic Non-Communicable Diseases and Infections	100	CO
2º	The Most Lethal Respiratory Infections	100	CO
2º	Urinary Tract and Sexually Transmitted Infections	100	CO
2º	Food-Borne Infections	100	CO
2º	Hepatitis and HIV/AIDS and Tuberculosis Co-Infection	100	CO
2º	Viral Haemorrhagic Diseases and Arboviruses	100	CO
2º	Central Nervous System Infections	100	CO
2º	Zoonosis	100	CO
2º	Mycobacteriosis and Anaerobic Infections	100	CO
2º	Mycoses and Parasitosis in Infectious Diseases	100	CO
2º	Multi-Resistance and Vaccines	100	CO
2º	Rare Infectious Diseases and Other Challenges in Infectious Diseases	100	CO

Tere Guevara Navarro
Dean

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

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Advanced Master's Degree

Clinical Infectious Diseases

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Advanced Master's Degree
Clinical Infectious Diseases

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