

Postgraduate Certificate

Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU)



Postgraduate Certificate Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU)

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Accreditation: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techitute.com/us/pharmacy/postgraduate-certificate/management-patients-multidrug-resistant-bacterial-infections-intensive-care-units-icu

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 20

06

Certificate

p. 28

01

Introduction

According to recent data, it is estimated that a significant percentage of patients admitted to Intensive Care Units (ICU) develop infections caused by bacteria resistant to multiple antibiotics, complicating treatment and increasing morbidity and mortality. This phenomenon underscores the urgent need for more rigorous infection control strategies, as well as the implementation of rational antibiotic use policies to mitigate the risk of spread of these resistant strains. In this context, TECH has created a fully online program, adjustable to the individual needs of students, including their personal and work schedules. Additionally, it is based on the innovative learning methodology called Relearning, which is a pioneer in this university.



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Thanks to this 100% online Postgraduate Certificate, you will deepen your knowledge of the epidemiology and risk factors associated with multidrug-resistant infections in critical environments”

The prevalence of bacterial strains resistant to multiple antibiotics has increased significantly in Intensive Care Units (ICU), complicating treatment and prolonging hospital stays. Emerging strategies, such as the rational use of antibiotics, the implementation of strict infection control protocols and the development of new antimicrobial agents are essential to improve clinical outcomes and reduce mortality.

This is how this Postgraduate Certificate is born, which will delve into the complexity of the management of ICU patients affected by Multidrug-Resistant Bacteria. In this sense, aspects such as colonization and infection will be analyzed, analyzing specific types of ICU and the epidemiology of these infections, as well as the associated risk factors, essential for a comprehensive assessment and effective management.

Likewise, the impact of Nosocomial Infections in critically ill patients will be discussed, examining in detail the importance of these infections in ICUs, the risk factors related to the patient, the hospital environment and the healthcare personnel. In addition, the significant effect of Nosocomial Infections on ICU length of stay and their particular impact on immunocompromised patients will be discussed, highlighting the need for specific preventive and therapeutic strategies.

Finally, the management of specific infections will be covered, such as ventilator-associated pneumonia, catheter-associated urinary tract infections, primary and catheter-related bacteremias, as well as pseudomembranous colitis and opportunistic pathogen infections. In addition, tools will be provided for the accurate diagnosis and effective treatment of these conditions, integrating antibiotic therapy strategies tailored to the characteristics of the pathogens involved.

In this way, TECH has launched a comprehensive university program, completely online, which only requires an electronic device with an Internet connection to access all didactic materials. In addition, it is based on the revolutionary Relearning methodology, which consists of the repetition of key concepts to guarantee an optimal and natural assimilation of the contents.

This **Postgraduate Certificate in Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU)** contains the most complete and up-to-date scientific program on the market. The most important features include:

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



You will master concrete strategies for the early diagnosis and effective treatment of these severe complications, through the best didactic materials, at the forefront of technology and education”

“*You will emphasize prevention strategies, including hygiene measures, infection control, clinical protocols and continuing education of healthcare personnel, thanks to an extensive library of multimedia resources”*

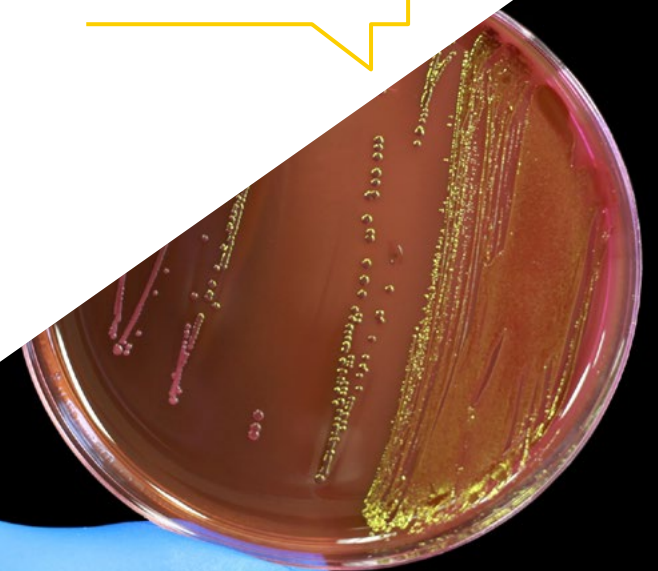
The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

You will analyze the risk factors associated with patient colonization and infection, a crucial basis for effective management and prevention of these conditions. With all TECH's quality guarantees!

You will examine the determinants of these infections, including those related to the patient, the ICU environment and the healthcare staff, hand in hand with the best digital university in the world, according to Forbes.

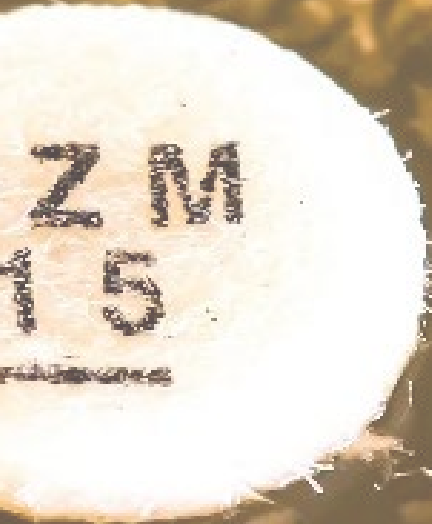


02

Objectives

The objectives of this Postgraduate Certificate will be to provide comprehensive specialization in the optimal management of these critical complications. Therefore, pharmacists will be prepared in the recognition and understanding of the epidemiology and pathogenesis of Multidrug-Resistant Infections, as well as in the identification of associated risk factors in the ICU setting. In addition, professionals will be equipped with advanced skills in the selection and rational use of antibiotics, promoting the implementation of antimicrobial therapy strategies.





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The Postgraduate Certificate will seek to specialize pharmacists capable of contributing to the prevention and control of Nosocomial Infections, improving the overall management of health care in the ICU. What are you waiting for to enroll?"



General Objectives

- ♦ Understand the colonization and infection of patients in Intensive Care Units (ICUs), the different types and risk factors associated with infection
- ♦ Evaluate the impact of Nosocomial Infections in the critically ill patient, including the importance of risk factors and their impact on length of stay in the ICU



Specific Objectives

- ◆ Acquire specialized knowledge on the diagnosis and treatment of common infections in ICUs
- ◆ Develop skills for the prevention of Multiresistant Bacterial Infections in the ICU



You will review success stories in the implementation of prevention strategies, improving the quality of ICU care and reducing the incidence of Multidrug-Resistant Bacteria infections”



03

Course Management

The teachers behind this Postgraduate Certificate in Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU) are highly qualified and experienced experts in Microbiology, Parasitology and Intensive Care Medicine. In addition, these professionals not only possess in-depth knowledge of the epidemiology and management of Multidrug-Resistant Infections, but are also familiar with the latest research and clinical practice guidelines in the field.



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The faculty will focus on providing you with the skills to evaluate, select and optimize the use of antibiotics in the ICU, guiding effective strategies for the prevention and control of Nosocomial Infections”

Management



Dr. Ramos Vivas, José

- Director of the Banco Santander-Universidad Europea del Atlántico Chair in Innovation
- Researcher at the Center for Innovation and Technology of Cantabria (CITICAN)
- Academic of Microbiology and Parasitology at the European University of the Atlantic
- Founder and former director of the Cellular Microbiology Laboratory of the Valdecilla Research Institute (IDIVAL)
- PhD in Biology from the University of León
- Doctor in Sciences from the University of Las Palmas de Gran Canaria
- Degree in Biology from the University of Santiago de Compostela
- Master's Degree in Molecular Biology and Biomedicine from the University of Cantabria
- Member of: CIBERINFEC (MICINN-ISCIII), Member of the Spanish Society of Microbiology and Member of the Spanish Network of Research in Infectious Pathology

Professors

Dr. Suberviola Cañas, Borja

- ◆ Assistant Physician of the Intensive Care Medicine Service at the Marqués de Valdecilla University Hospital
- ◆ Principal Investigator and Collaborating Researcher in 6 projects with competitive funding
- ◆ Doctor in Medicine by the University of Cantabria
- ◆ Specialty in Intensive Care Medicine and Resuscitation at the Marqués de Valdecilla University Hospital in Santander
- ◆ Degree in Medicine from the University of the Basque Country
- ◆ Master's Degree in Infectious Diseases in the Critically Ill Patient from the University of Valencia
- ◆ Member and Vice-coordinator of the Working Group on Infectious Diseases and Sepsis (GTEIS) of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units (SEMICYUC)
- ◆ Member of the Group of Infectious Diseases in the Critical Patient of the Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC)

04

Structure and Content

This university program will include modules dedicated to the detailed study of the epidemiology of Multidrug-Resistant Bacteria, the associated risk factors in ICU and the significant impact of Nosocomial Infections in critically ill patients. In addition, the different clinical manifestations, such as Ventilator Associated Pneumonia, catheter related bacteremias, and specific diagnostic and treatment strategies for each type of infection will be examined. Prevention and control strategies will also be emphasized.



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This Postgraduate Certificate will cover a wide range of specialized contents, fundamental for clinical practice in critical environments, with the support of the revolutionary Relearning methodology”

Module 1. Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU)

- 1.1. Colonization and Infection of Patients in ICUs
 - 1.1.1. Types of ICUs
 - 1.1.2. Epidemiology
 - 1.1.3. Risk Factors Associated with Infection in ICUs
- 1.2. Impact of Nosocomial Infections in the Critically Ill Patient
 - 1.2.1. Importance of Nosocomial Infections in ICUs
 - 1.2.2. Risk Factors for Nosocomial Infections
 - 1.2.2.1. Patient Factors
 - 1.2.2.2. Factors of the ICU Environment
 - 1.2.2.3. Factors Related to the Healthcare Personnel
 - 1.2.2. Impact of Nosocomial Infections in Immunocompromised Patients
 - 1.2.3. Impact on Length of Stay in the ICU
- 1.3. Pneumonia Associated with Mechanical Ventilation
 - 1.3.1. Etiology
 - 1.3.2. Diagnosis
 - 1.3.3. Treatment
- 1.4. Urinary Tract Infections Associated with Catheters
 - 1.4.1. Etiology
 - 1.4.2. Diagnosis
 - 1.4.3. Treatment
- 1.5. Primary Bacteremias and Catheter-Related Bacteremias
 - 1.5.1. Etiology
 - 1.5.2. Diagnosis
 - 1.5.3. Treatment
- 1.6. Pseudomembranous Colitis
 - 1.6.1. Etiology
 - 1.6.2. Diagnosis
 - 1.6.3. Treatment



- 1.7. Infections by Opportunistic Pathogens
 - 1.7.1. Etiology
 - 1.7.2. Diagnosis
 - 1.7.3. Treatment
- 1.8. Appropriate Use of Antibiotics
 - 1.8.1. Programs for the Optimization of Antibiotic use (PROA) in the ICU
 - 1.8.2. Antibiotic Therapy Strategies for the Treatment of Gram-Negative Patients
 - 1.8.3. Antibiotic Therapy Strategies for the Treatment of Gram-Positive Patients
 - 1.8.4. Antibiotic Therapy Strategies for the Treatment of Co-Infections
- 1.9. Strategies for the Prevention of BMR Infections in the ICU
 - 1.9.1. Hygiene Measures
 - 1.9.2. Infection Control Measures
 - 1.9.3. Protocols and Clinical Practice Guidelines
 - 1.9.4. Education and Training of ICU Personnel
 - 1.9.5. Participation of Patients and their Families
- 1.10. Infection Prevention Strategies in the ICU
 - 1.10.1. Infection Prevention Strategies in the ICU According to the Focus
 - 1.10.1.1. Pneumonia
 - 1.10.1.2. Bacteremia
 - 1.10.1.3. Urinary Infection
 - 1.10.2. Evaluation and Quality Indicators in the Prevention of Infections
 - 1.10.1. Evaluation and Continuous Improvement Tools
 - 1.10.3. Successful Examples of Infection Prevention in ICUs



Sign up now and don't miss this unique opportunity that only TECH can offer you! You'll dig into the proper use of antibiotics, including optimization programs and targeted therapies"

05

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.



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

At TECH we use the Case Method

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

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



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

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

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

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



Relearning Methodology

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

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

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



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

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

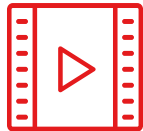
Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

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

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



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



Study Material

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

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.



Video Techniques and Procedures

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



Interactive Summaries

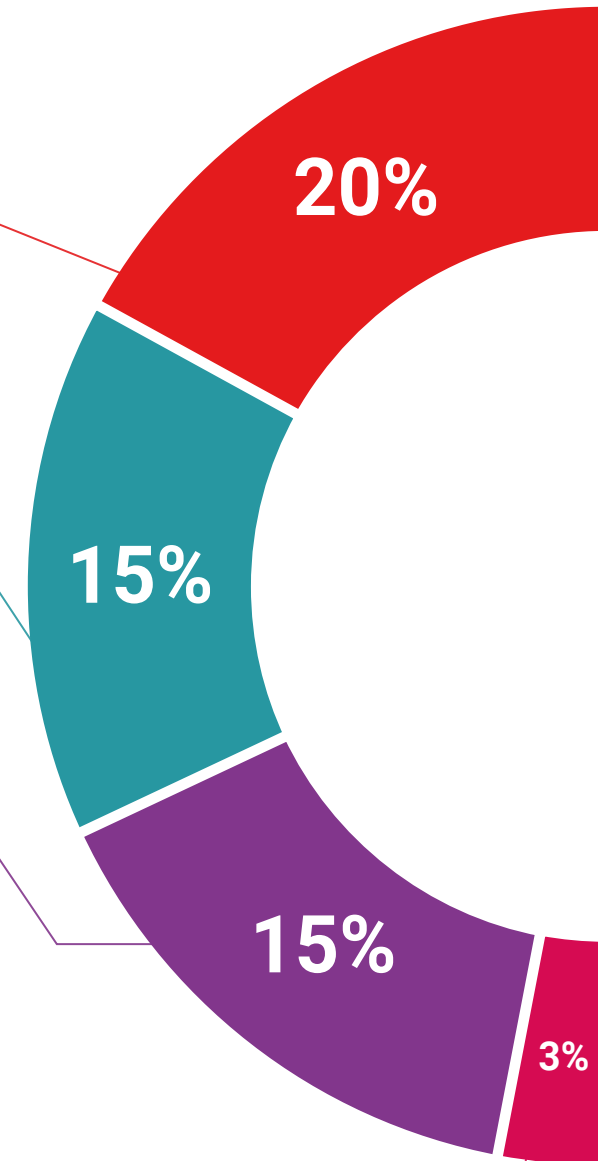
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

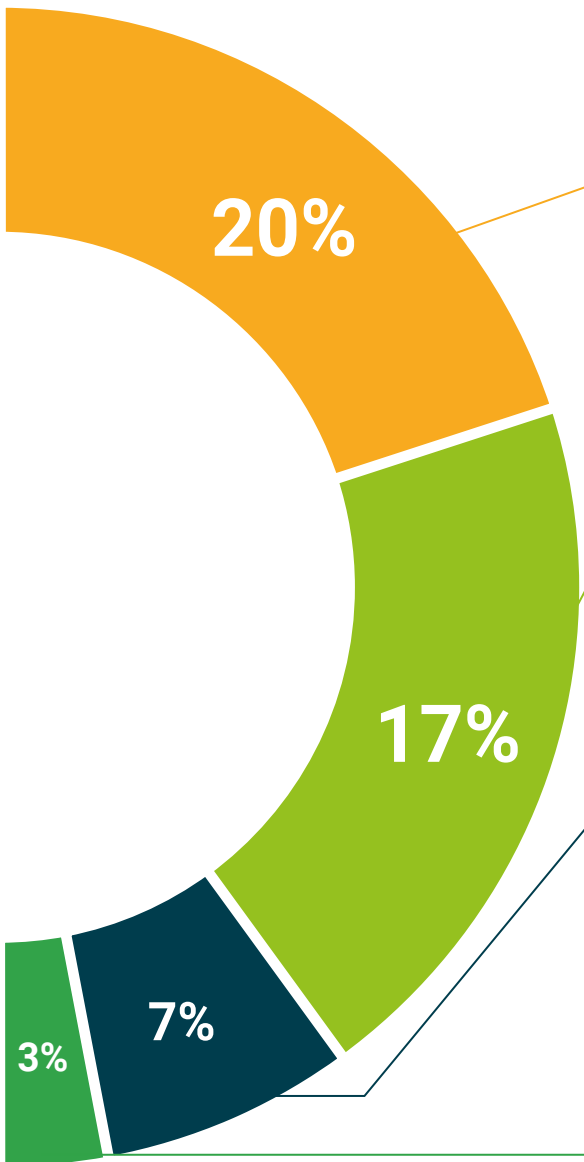
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



Additional Reading

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





Expert-Led Case Studies and Case Analysis

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



Testing & Retesting

We periodically 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.



06

Certificate

The Postgraduate Certificate in Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU) guarantees, in addition to the most accurate and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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

This private qualification will allow you to obtain a **Postgraduate Certificate in Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU)** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Postgraduate Certificate in Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU)**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
development languages
virtual classroom



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Postgraduate Certificate

Management of Patients with Multidrug-Resistant Bacterial Infections in Intensive Care Units (ICU)