

# Postgraduate Certificate

## Locomotor System Infections





## Postgraduate Certificate Locomotor System Infections

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Global University
- » Credits: 12 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/locomotor-system-infections](http://www.techtute.com/us/medicine/postgraduate-certificate/locomotor-system-infections)

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# 01 Introduction

New drugs and procedures for the management of infections in the musculoskeletal system are constantly evolving, and these advances oblige the specialist physician to keep up to date in order to provide quality care. This Postgraduate Certificate is designed to facilitate the update of the traumatologist in the approach of infectious processes in the musculoskeletal system in a practical way through the latest educational technology.





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*Update your knowledge in the approach to infections in the locomotor system through this program, where you will find the best didactic material, with real clinical cases and high resolution images. Learn here about the latest advances in the treatment of musculoskeletal system infections in order to be able to perform a quality praxis"*

Osteoarticular infections require an urgent, multidisciplinary approach and the joint interpretation of imaging tests, biochemical and microbiological results and pathological anatomy studies. Without optimized and early treatment, major complications can occur that affect the patient's quality of life and lead to high health care costs, requiring very prolonged treatment and frequent traumatic surgical reinterventions.

The volume of information increases exponentially every year and it is impossible to be up to date in all areas of the specialty unless you have a team of experts to do this work for you: an intelligent discrimination of information. In addition, the current tendency to subspecialize makes it more difficult to keep up to date in those areas that are not commonly covered.

This Postgraduate Certificate on Locomotor System Infections aims to update the specialist so that they can select the best therapeutic choice for infectious processes of the locomotor system and perform a correct diagnostic and therapeutic approach for each case.

This **Postgraduate Certificate in Locomotor System Infections** is the most comprehensive and up-to-date educational program on the market. The most important features of the Postgraduate Certificate are:

- Contains Clinical cases presented by experts. The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice.
- Diagnostic-therapeutic novelties on the care of patients with infections of the musculoskeletal system.
- Presentation of practical workshops on surgical procedures in the locomotor system, for the approach of the infectious process.
- Video lessons on different infectious pathologies and how to manage them.
- Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- 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.



*Scientific evidence increases the quality of medical and surgical practice. Staying up-to-date is key to providing better pediatric patient care"*

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*This Postgraduate Certificate may be the best investment you can make in the selection of an updated program for two reasons: in addition to updating your knowledge in Locomotor System, Infections you will obtain a Postgraduate Certificate issued by TECH Global University"*

Its teaching staff includes leading specialists in orthopedic surgery, who bring to this training the experience of their work, in addition to other specialists belonging to prestigious scientific societies.

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 training program to train in real situations.

This program is designed around Problem Based Learning, whereby the Doctor must try to solve the different professional practice situations that arise during the course university. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in traumatology with extensive teaching experience.

*Do not miss the opportunity to update your knowledge in the intervention of patients with infectious processes in the locomotor system*

*This program offers training in simulated environments, which provides an immersive learning experience designed to train for real-life situations*





# 02 Objectives

This program is oriented towards a review of the main aspects of the oncological approach, based on scientific evidence and the experience of renowned professionals in the surgical field.





The image features a collage of petri dishes containing various bacterial cultures. On the left, a petri dish shows a dense, white, fuzzy growth of mold or bacteria. In the center, another dish displays a more structured, branching white growth. On the right, a third dish shows a dark blue agar surface with numerous small, yellowish, circular colonies. The background is a gradient of blue and white, with a large white triangular shape in the bottom right corner.

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*This updated program will provide you with the skills to act safely in the performance of medical and surgical praxis, which will help you grow personally and professionally"*



## General Objective

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- ♦ Update the knowledge of the orthopedic surgeon in the management of patients with infectious processes in the locomotor system, to identify the main signs and symptoms of the pathology and to establish the appropriate therapeutic indication based on the latest scientific evidence.



## Specific Objectives

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- ♦ Define the ethical aspects of orthopedic surgery and traumatology
- ♦ Apply the criteria of Evidence Based Medicine when choosing the correct treatment in orthopedic surgery and traumatology.
- ♦ Update knowledge in antibiotic prophylaxis in orthopedic surgery and traumatology.
- ♦ Correctly apply the thromboprophylaxis guidelines in orthopedic and traumatologic surgery.
- ♦ Update knowledge of blood-saving policies used in orthopedic and traumatologic surgery.
- ♦ Distinguish the different applications of cell cultures in Orthopedics and Traumatology.
- ♦ Explain in which cases it is correct to use BMPs in Orthopedics and Traumatology.
- ♦ Interpret the clinical evidence on platelet-rich plasma in tendon and joint pathology.
- ♦ Recognize the biopsychosocial model in musculoskeletal pathology.
- ♦ Classify and update performance measurement systems in Orthopedic Surgery and Traumatology.
- ♦ Correctly interpret results in interventional radiology in musculoskeletal pathology.



- ♦ Recognize the current concepts of Neurophysiology in Orthopedic Surgery.
- ♦ Adapt the basics for diagnosing infections of the locomotor system to the specific needs of each patient.
- ♦ Review the pathophysiology, clinical management and approach to acute and chronic osteomyelitis.
- ♦ Review the pathophysiology, clinical and therapeutic management of septic arthritis.
- ♦ Identify spondylodiscitis and vertebral infections.
- ♦ Revise the current status of the surgical approach in Total Knee Replacements and Total Hip Replacements.
- ♦ Gain up-to-date knowledge on the antibiotic management of a patient with an osteoarticular infection.

*Take the opportunity and take the step to get up to date on the most important aspects of Locomotor System Infections*





03

# Course Management

The program includes in its teaching staff reference traumatologists in the approach to tumors in the musculoskeletal system, who pour into this training the experience of their work. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.





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*Learn from leading professionals the latest advances in procedures in locomotor system infections”*

## International Guest Director

Dr. Michael Gardner is a leading international leader in the field of **Orthopedic Traumatology**, with an exceptional track record in both **practice** and **clinical research**. He is recognized for his expertise in the treatment of **fractures of the upper and lower limbs**, as well as the **pelvis**, the management of **pseudarthrosis** and **malunions**.

Of particular note is his work as **co-founder** and **CEO** of the **National Scoliosis Clinic**, a center that leverages **Artificial Intelligence** and **Telehealth** to transform the way **Scoliosis** is detected and managed. In addition, he has worked as an **Orthopedic Trauma surgeon** at the University of Washington and, since joining the staff at Stanford University, has held key roles, including **Head** of the **Orthopedic Trauma Service** and **Deputy Chairman** of the **Department of Orthopedic Surgery**.

He has also been internationally recognized for his **innovative research** and leadership in the development of **advanced surgical techniques**. In this way, he has patented **Systems and Methods for the Detection of Musculoskeletal Anomalies and Fractures; Bone Stabilizing Implants and Methods of Placement through the Joints; and Grafts for the Repair of Segmental Bone Defects**.

He has also been invited to participate in numerous national and international activities and has played important roles in various organizations, such as the **Orthopedic Trauma Association**. In addition, he has been honored with multiple **awards** and **recognitions** for his **excellence in research** and **service to the medical community**. In this regard, his research program has been recognized for its efficient and productive approach, with more than 100 published scientific articles, 38 book chapters and the edition of 5 textbooks.



## Dr. Gardner, Michael J.

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- Co-founder and CEO of National Scoliosis Clinic
- Orthopedic Traumatology Physician
- Deputy Chairman of the Department of Orthopedic Surgery at Stanford University
- Head of the Orthopedic Trauma Service at Stanford University
- Director of the Orthopedic Traumatology Research Program at Stanford University
- Surgeon of Orthopedic Traumatology at Washington University
- M.D., Drexel University
- B.S. in Chemistry from Williams College
- Member of: Association of Orthopedic Traumatology , AO Trauma ,American Orthopedic Association , Orthopedic Trauma Foundation ,Orthopedic Research Society , Western Orthopedic Association , California Orthopedic Association

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*Thanks to TECH you will be able to learn with the best professionals in the world”*

## Management



### Dr. Doménech Fernández, Julio.

- ♦ Degree in Medicine from the University of Navarra
- ♦ PhD in Medicine from the University of Valencia
- ♦ Specialist in Orthopedic Surgery and Traumatology at the Ramón y Cajal Hospital, Madrid
- ♦ Professor in the Faculty of Medicine at Cardenal Herrera University CEU, Valencia
- ♦ Master's Degree in Healthcare from the University of Valencia
- ♦ Head of Service of the Arnau de Vilanova Hospital in Valencia and Liria Hospital
- ♦ Pro Academia Award of the European Society of NMR
- ♦ Two-time winner of the Best Paper Award from the Spine Society of Europe Two-time winner of the Spanish Spine Society Award (GEER)
- ♦ 2nd Prize Ángel Herrera Research Award from the San Pablo CEU Foundation, member of the Board of Directors of the Spanish Society for Research in Orthopedic Surgery (INVESCOT)
- ♦ Head researcher in several research projects with competitive funding from public agencies.

## Coordinator

### Dr. Baeza Oliete, José

- ♦ Medical Specialist in Orthopedic Surgery and Traumatology. Septic Unit La Fe Polytechnic and University Hospital. Valencia

## Professors

### Dr. Baeza Oliete, José

- ♦ Medical Specialist in Orthopedic Surgery and Traumatology. Septic Unit La Fe Polytechnic and University Hospital. Valencia

### Dr. Bas Hermida, Paloma

- ♦ Assistant physician of the orthopedic surgery and traumatology service. Spine Unit. University and Polytechnic Hospital La Fe, Valencia



**Dr. Calabuig Muñoz, Eva**

- ♦ Attending Physician in the Infectious Diseases Unit. Clinical Medical Area. University and Polytechnic Hospital La Fe, Valencia

**Dr. García Ramiro, Sebastián**

- ♦ Senior consultant in orthopedic surgery and traumatology Clinical Hospital Barcelona

**Dr. Mut Ultra, Tomás**

- ♦ Assistant physician of Septic service. La Fe Polytechnic and University Hospital. Valencia

**Dr. Pérez García, Alberto**

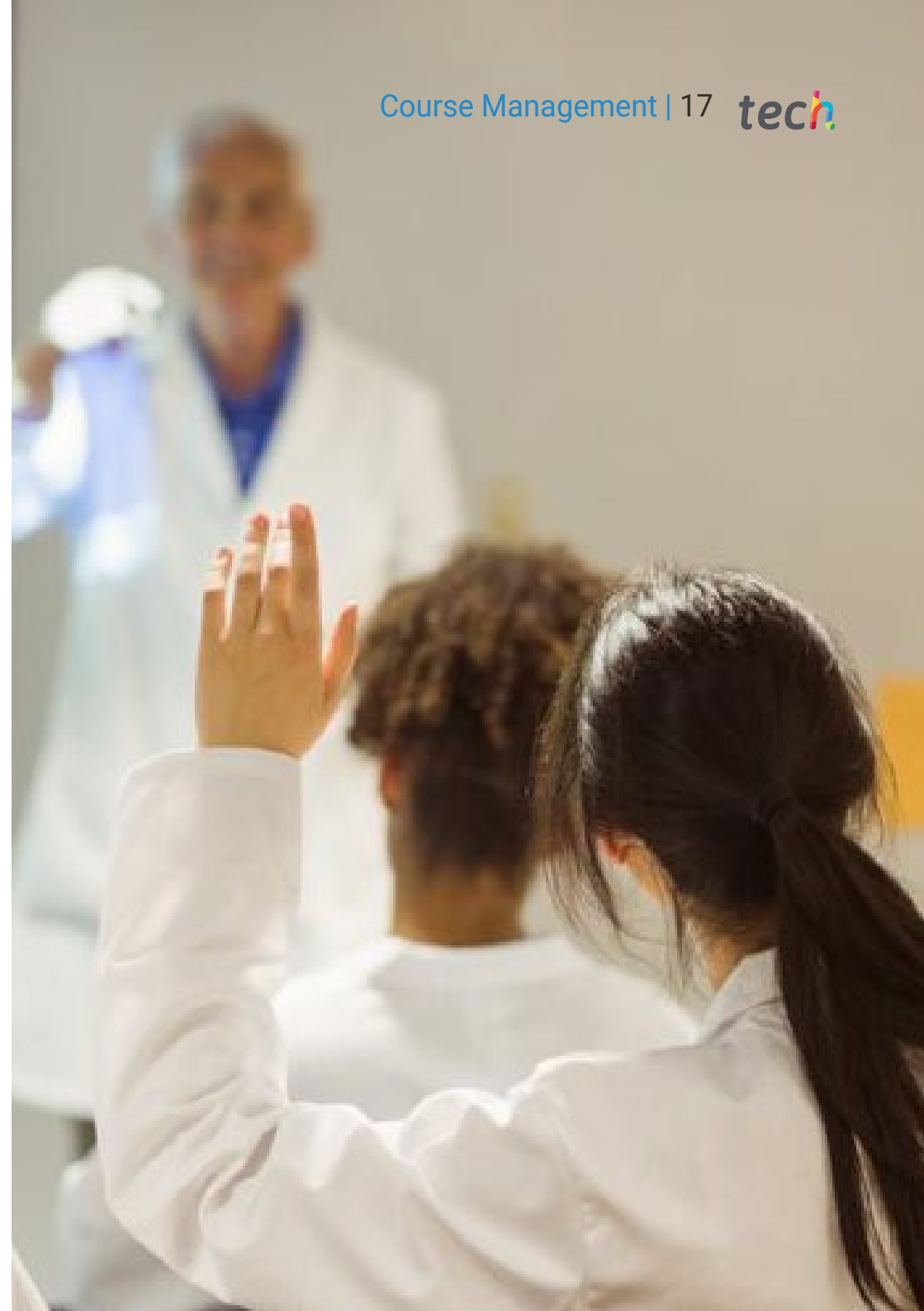
- ♦ Medical Specialist in Plastic fluids Surgery and Repair. La Fe Polytechnic and University Hospital. Valencia

**Dr. Salavert Lletí, Miguel**

- ♦ Chief of Infectious Diseases Unit. University and Polytechnic Hospital La Fe, Valencia

**Dr. Tacias Pitarch, María**

- ♦ Attending Physician in the Infectious Diseases Unit. Clinical Medical Area. University and Polytechnic Hospital La Fe, Valencia



04

# Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of training in the approach to Infectious processes in the musculoskeletal system, aware of the relevance of current training and committed to quality teaching through new educational technologies.





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*This Postgraduate Certificate in Locomotor System Infections is the most comprehensive and up-to-date educational program on the market”*

## Module 1. General aspects

- 1.1. Evidence-Based Medicine For Choosing the Correct Treatment in Orthopedic Surgery and Traumatology.
- 1.2. Bone Bank
- 1.3. Update on Antibiotic Prophylaxis in Orthopedic Surgery and Traumatology.
- 1.4. Thromboprophylaxis in Orthopedic Surgery and Traumatology.
- 1.5. Update on Blood-Saving Policies Used in Orthopedic Surgery and Traumatology.
- 1.6. Applications of Cell Cultures in Orthopedics and Traumatology.
- 1.7. Use of BMP in Orthopedics and Traumatology.
- 1.8. Clinical Evidence on Plateletrich Plasma in Tendon and Joint Pathology.
- 1.9. Update in the Management of a Polytraumatized Patient.
- 1.10. Biopsychosocial Model in Musculoskeletal Pathology.
- 1.11. Update on Results Measurement in Orthopedic Surgery and Traumatology.
- 1.12. Interventional Radiology in Musculoskeletal Pathology.
- 1.13. Current Concepts of Neurophysiology in Orthopedic Surgery.





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*A unique, key, and decisive  
Training experience to  
boost your professional  
development”*



05

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: *Re-learning*.

This teaching system is used 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 Re-learning, 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

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you can 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 potential 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 professional medical 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. Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on 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.



## Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

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.



*The physician 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Re-learning 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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





In this Postgraduate Certificate you will have access to the best educational material, prepared with you in mind:



#### Study Material

After a complex production process, we transform the best content into high-quality educational and audiovisual multimedia. We select the best syllabus and make it available to you. Everything you need to acquire in-depth knowledge of a discipline, from A to Z. Lessons written and chosen by specialists in each of the disciplines.



#### Surgical techniques and clinical procedures on video

We bring you closer to the newest techniques, to the latest scientific advances, to the forefront of current doctor news. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



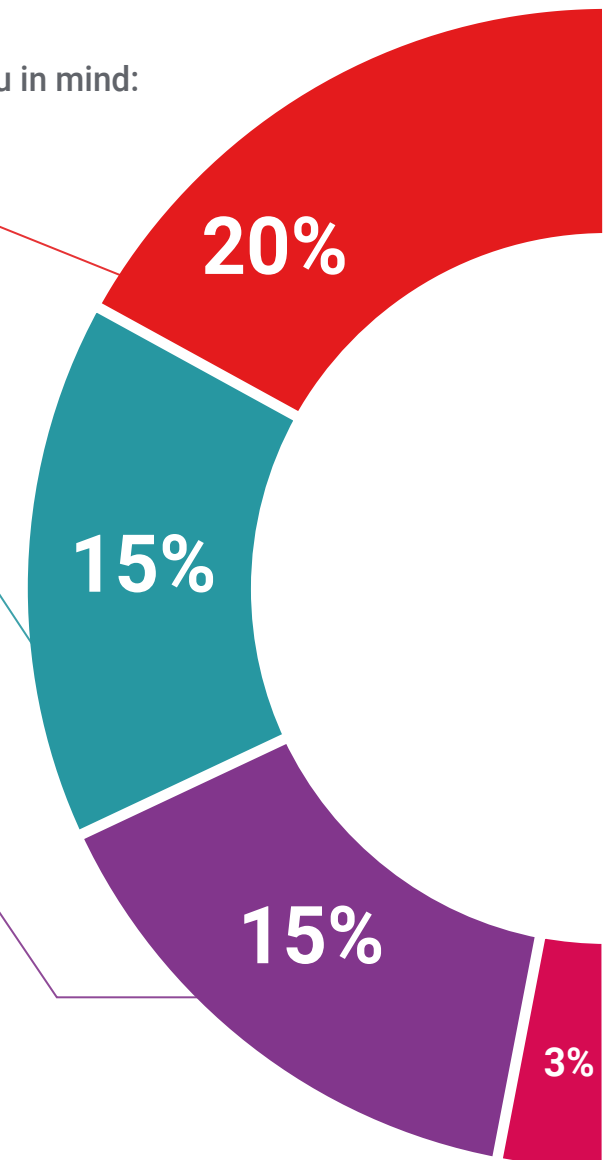
#### Interactive Summaries

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge. This unique training system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

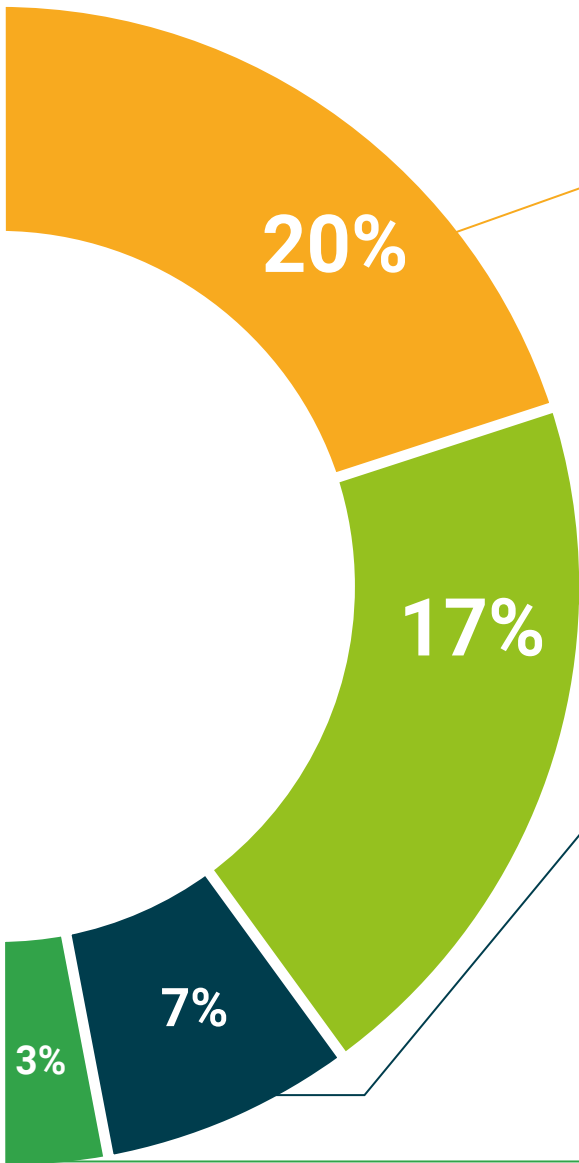


#### Additional Reading

Recent articles, consensus documents, international guides... in our virtual library you will have access to everything you need to complete your training.







#### Expert-Led Case Studies and Case Analysis

Through the narratives of expert professionals, it is possible to acquire a high degree of understanding of the most frequent problematic situations. The professional's healthcare practice is not alien to the context in which it takes place. If we want to train ourselves to improve our professional practice, this training must be situated within the context in which it takes place.



#### Testing & Re-testing

We periodically evaluate and re-evaluate your knowledge throughout this program through activities and evaluative exercises.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful. Learning from an expert strengthens knowledge and recall, and generates confidence in our future difficult decisions



#### Quick Action Guides

One of the most important functions of our team is to select those contents considered essential and present them in the form of worksheets or quick action guides to facilitate their understanding.



# 06 Certificate

The Postgraduate Certificate in Locomotor System Infections guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Global University.





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*Successfully complete this training and receive your diploma without the hassle of travel or paperwork”*

This program will allow you to obtain your **Postgraduate Certificate in Locomotor System Infections** 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** title 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 Locomotor System Infections**

Modality: **online**

Duration: **12 weeks**

Accreditation: **12 ECTS**





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



## Postgraduate Certificate Locomotor System Infections

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Global University
- » Credits: 12 ECTS
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# Postgraduate Certificate

## Locomotor System Infections

