

# Postgraduate Certificate

## Prehospital Trauma Management in the ICU





## Postgraduate Certificate Prehospital Trauma Management in the ICU

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/prehospital-trauma-management-icu](http://www.techtute.com/us/medicine/postgraduate-certificate/prehospital-trauma-management-icu)

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# 01

# Introduction

According to the World Health Organization (WHO), the speed of emergency care and the transfer of injured victims from the scene of the incident to a hospital facility saves lives by a very high percentage and reduces the incidence of disability. Therefore, the health sector promotes the acquisition of the necessary skills and knowledge, among its specialists, to provide vital care in emergency situations. In this way, TECH provides these professionals with an academic program that covers the main pre-hospital procedures for trauma patients. In addition, thanks to an innovative 100% online methodology, *Relearning*, the complete assimilation of the syllabus is guaranteed through the repetition of key concepts.



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*Get up-to-date on the Prehospital Trauma Management in the ICU thanks to this very complete Postgraduate Certificate and its 100% online methodology"*

Trauma is one of the leading causes of death in the world, second only to cancer and arteriosclerosis. For this reason, it is essential to reduce mortality from the earliest stages of emergency medical care, that is, from the pre-hospital environment. In other words, it is essential to invest in the preparation and updating of professionals dedicated to treating the patient in the earliest stages of the injury, as well as in their transfer to an Intensive Care Unit (ICU), if necessary.

This program will address the immediate medical care of patients with traumatic injuries before they reach the hospital. This care will include, at a minimum, rapid communication and activation of the care system, rapid response of the care system, and assessment, treatment, and transport of victims to formal medical care facilities. Therefore, the physician will analyze emergency response protocols, assessment of injury severity, stabilization techniques, immobilization and safe transport.

In short, the specialist will delve into critical decision making in trauma situations, effective communication and ensuring optimal management in the prehospital setting. Finally, they will delve into the appropriate use of resources, prioritization of patients and identification of cases requiring transfer to the ICU. Not to mention care during displacement, a time when the patient may suffer instabilities due to the injury.

In this way, TECH will offer the graduate a complete and exhaustive program that can be completed in only 6 weeks, comfortably at any time and place. Students will have the ability to set their own schedules, as they will only need an electronic device with an internet connection. Also, they will have at their disposal innovative didactic resources and a pioneering methodology, *Relearning*, which consists of repeating the most important points to ensure successful learning.

This **Postgraduate Certificate in Prehospital Trauma Management in the 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 Prehospital Trauma Management in ICU
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*You will acquire a complete training in pre-hospital care in only 6 weeks"*

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*You will cover the pathophysiology of medical transport, as well as recommendations during the transfer of the trauma patient, all through innovative multimedia content"*

*You will delve into the primary assessment and initial estimation of the traumatized patient thanks to this program.*

*Choose TECH! You will analyze the classification of the different types of wounds, as well as their treatment.*

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

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an 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 academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.



# 02 Objectives

Students will have access to a high quality educational program, which will allow them to acquire the indispensable skills to update their daily clinical practice. In this way, they will delve into the key fundamentals of Prehospital Trauma Management in the ICU, a complete up-to-date on the most relevant procedures during the early stages of care for the most critical patients. The topics of this university program will improve the development of the specialist's skills, who will renew their skills in an essential health field in society, given the high number of casualties that occur each year.



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*Be prepared with TECH for pre-hospital care of the patient with trauma injuries, including transfer to ICU, if necessary”*



## General Objectives

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- ♦ Delve into a thorough understanding of the anatomophysiological, pathophysiological, and clinical basis of severe traumatic injuries, as well as associated complications and comorbidities
- ♦ Effectively communicate injury prevention information to different audiences and utilize health promotion strategies
- ♦ Delve into protocols for the prehospital management of specific trauma, such as head, chest, and orthopedic trauma
- ♦ Integrate quality and safety practices in the management of trauma patients, minimizing risks and optimizing outcomes
- ♦ Implement triage protocols in mass trauma situations and prioritize care





## Specific Objectives

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- ♦ Be aware of rapid and systematic assessments of trauma patients in prehospital settings
- ♦ Identify and prioritize prehospital management interventions according to patient severity and condition
- ♦ Establish strategies to ensure adequate ventilation
- ♦ Refresh techniques for controlling external and internal bleeding and minimizing blood loss in trauma situations
- ♦ Master safe immobilization techniques to prevent further damage and ensure adequate mobilization of trauma patients
- ♦ Update the medications used in prehospital management, their dosage and appropriate routes of administration



*You will master the main sequences of basic and advanced life support in adults thanks to TECH's exclusive Relearning methodology"*

03

# Course Management

This program has been designed by a team of highly qualified teachers, specialists in Internal Medicine with years of experience behind them. Thanks to their experience in pioneering hospitals in the sector, these experts will share with the graduate the latest techniques and health tools focused on Trauma.

In this way, TECH provides the physician with a disruptive program, from which they will develop a solid knowledge and advanced skills, in accordance with the most recent demands of pre-hospital care in critical patients.





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*TECH's teaching team has developed this innovative and comprehensive program based on the latest medical advances"*

## International Guest Director

Doctor George S. Dyer is an eminent orthopedic surgeon, specializing in Upper Limb Traumatology and Complex Post Traumatic Reconstructions of the Shoulder, Elbow, Wrist and Hand. In fact, he has served as an Upper Limb Surgeon at Brigham and Women's Hospital in Boston, where he has also held the prestigious Barry P. Simmons Chair in Orthopedic Surgery.

Therefore, one of his most significant contributions has been his work in Haiti, where he has had a lasting impact. After the devastating earthquake of 2010, he was one of the first surgeons to arrive in the country, providing assistance at a critical time. In doing so, he has worked closely with local surgeons and other health professionals to strengthen Haiti's capacity to manage medical emergencies. As such, his efforts have been instrumental in training a new generation of Haitian orthopedic surgeons, who demonstrated their skill and preparedness during the 2021 earthquake, handling the situation with great efficiency and professionalism.

Likewise, during his time as Director of the Harvard Combined Orthopedic Residency Program, he has strived to improve the working and educational conditions of the residents, fostering a more balanced and healthy work environment. This focus on resident well-being reflects his commitment to preparing future physicians and his concern for the mental and professional health of his colleagues.

As such, Doctor George S. Dyer's impact on his field has been recognized through various honors, such as the Humanitarian Award given by the Hippocrates Society at Brigham and Women's Hospital, as well as being named a Top Doctor in Massachusetts. These awards have underscored his influence and significant contribution to global Orthopedic Surgery, reflecting his dedication and commitment to all aspects of his career.



## Dr. Dyer, George S.

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- ♦ Upper Limb Surgeon at Brigham and Women's Hospital, Boston, United States
- ♦ Barry P. Simmons Chair in Orthopedic Surgery at Brigham and Women's Hospital, Boston, United States
- ♦ Commandant Surgeon in the Medical Corps of the U.S. Navy
- ♦ Director of the Harvard Combined Orthopedic Residency Residency Program
- ♦ Fellowship in Upper Limb Fellowship at Brigham and Women's Hospital and Children's Hospital
- ♦ Doctor of Medicine from Harvard Medical School
- ♦ B.A. in Political Science and Government from Harvard University
- ♦ Humanitarian Award from the Hippocratic Society of Brigham and Women's Hospital
- ♦ Massachusetts Top Doctor



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

## Management



### Dr. Bustamante Munguira, Elena

- ♦ Head of the Intensive Care Medicine Department of the Hospital Clínico de Valladolid
- ♦ Medical Director of the Health Area of Ibiza and Formentera
- ♦ Specialist in Intensive Care Medicine
- ♦ Teacher of refresher courses and workshops
- ♦ Illustrious Official College of Physicians of Salamanca Award
- ♦ Ramón Llul Award of the Patient Safety Unit
- ♦ PhD in Medicine and Surgery
- ♦ Master's Degree in Management
- ♦ Medical and Healthcare Management
- ♦ Master in Patient Safety



## Professors

### Dr. Alcalde Susi, Roberto

- ◆ Doctor of the Extrahospital Emergency Service at the Miranda del Ebro Base
- ◆ Specialist. In Intensive Care Medicine in the ICU of the Hospital Clínico de Valladolid
- ◆ Intensive Care Physician in the Intensive Care Unit of the University Hospital of Burgos
- ◆ Precursor, director and coordinator of the Project "El gorro Solidario"
- ◆ Expert in HEMS (Helicopter Emergency Medical Service)
- ◆ Degree in Medicine from the University of Navarra
- ◆ Member of: Member of the Board of Directors of doctors in training of the Colegio Oficial de Médicos de Burgos and Semicycuc

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*Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"*

# 04

## Structure and Content

This program is composed of topics that offer a broad perspective of this kind of health care, so that the physician can incorporate them into their daily clinical practice, in a simple and quick way. In fact, the specialist will see their knowledge of the subject broadened, enabling them to successfully develop their career in the field of trauma care in pre-hospital care. All this is supported by innovative methods such as the analysis of real case studies and the exclusive *Relearning* teaching model.



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*You will have at your disposal the most current content and with the exclusive Relearning method you will master all the topics"*

## Module 1. Prehospital Trauma Management

- 1.1. General activation recommendations
  - 1.1.1. Recommendations
  - 1.1.2. What should I do?
  - 1.1.3. Golden rules for a polytraumatized patient
  - 1.1.4. Useful recommendations in case of traveling
- 1.2. Care priorities in *on-site* care and in medical transport
  - 1.2.1. Scene evaluation
    - 1.2.1.1. Approach to the scene of intervention
    - 1.2.1.2. Scene management and handling
    - 1.2.1.3. Triage
    - 1.2.1.4. Management of additional resources
  - 1.2.2. Primary assessment and urgent actions
    - 1.2.2.1. Initial estimate (General impression)
    - 1.2.2.2. Control of exsanguinating hemorrhages
    - 1.2.2.3. Airway and Ventilation
    - 1.2.2.4. Circulatory status
    - 1.2.2.5. Neurological Status
    - 1.2.2.6. Exposure and transition to secondary assessment
- 1.3. Life support and integral coordination in traffic accidents
  - 1.3.1. Definitions
  - 1.3.2. Objectives of life support
  - 1.3.3. Basic and advanced life support sequences in adults.
  - 1.3.4. Analysis of the main changes in the recommendations
  - 1.3.5. Risk of disease transmission for the resuscitator during CPR
  - 1.3.6. Lateral Safety Position
  - 1.3.7. Algorithm of BLS/AVS in adults
- 1.4. General self-protection and safety measures
  - 1.4.1. Scope
  - 1.4.2. Identification of the licensees and the site of the activity
  - 1.4.3. Description of the activity and physical environment
    - 1.4.3.1. Description of the activity that is the subject of the self-protection plan.
    - 1.4.3.2. Description of the establishment, premises and facilities
    - 1.4.3.3. Description of the surroundings
    - 1.4.3.4. Description of accesses
  - 1.4.4. Inventory, analysis and risk assessment
    - 1.4.4.1. Description and location of risks
    - 1.4.4.2. Analysis and evaluation of risks specific to the activity and external risks
- 1.5. Wound Classification
  - 1.5.1. Classification
  - 1.5.2. Skin Anatomy
  - 1.5.3. Concept, classification and clinic of wounds
  - 1.5.4. Treatment of Wounds
  - 1.5.5. Wounds caused by stab wounds and firearms
    - 1.5.5.1. Stab Wounds
      - 1.5.5.1.1. Definition and classification of stabbing weapons
        - 1.5.5.1.1.1. Stab wounds
        - 1.5.5.1.1.2. Sharp stab wounds
        - 1.5.5.1.1.3. Stab wounds due to a sharp stabbing weapon
        - 1.5.5.1.1.4. Wounds due to sharp and blunt stab wounds
      - 1.5.5.1.2. Gunshot Wounds
        - 1.5.5.1.2.2. Morphology of firearm wounds.
        - 1.5.5.1.2.3. Clinical aspects and treatment
- 1.6. Activation of rescue teams
  - 1.6.1. Activation
  - 1.6.2. Traffic Accident Victims Unit
  - 1.6.3. Emergency coordinating center
    - 1.6.3.1. Reception and control phase of the warning call
    - 1.6.3.2. Phase of assessment or medical regulation of data
    - 1.6.3.3. Phase of assistance response, follow-up and control
    - 1.6.3.4. Health action phase
      - 1.6.3.4.1. Arrival and assessment of the incident
      - 1.6.3.4.2. Organization of the scene and its environment
      - 1.6.3.4.3. Location of affected persons and triage (classification)
      - 1.6.3.4.4. Assistance and evacuation of the injured

- 1.7. Techniques of deescarceration and extrication
  - 1.7.1. Preparation
  - 1.7.2. Response and recognition
  - 1.7.3. Control
  - 1.7.4. Vehicle stabilization
  - 1.7.5. Boarding: access to the victim
  - 1.7.6. Stabilization of the victim and de-escarceration
  - 1.7.7. Extraction and termination
  - 1.7.8. Necessary Material
  - 1.7.9. The *airbag*
- 1.8. Immobilization of the severely traumatized patient
  - 1.8.1. Extrication
  - 1.8.2. Who should we perform RME?
  - 1.8.3. With what means do we perform the RME?
  - 1.8.4. How do we perform the EMR?
- 1.9. Assessment of the injured patient in the out-of-hospital setting
  - 1.9.1. Patients
  - 1.9.2. Initial Assessment
    - 1.9.2.1. Airway, cervical spine control
    - 1.9.2.2. Ventilation
    - 1.9.2.3. Circulation
    - 1.9.2.4. Neurological Status
    - 1.9.2.5. Patient exposure
  - 1.9.3. Second Evaluation
- 1.10. Pathophysiology of medical transport and recommendations during patient transport
  - 1.10.1. Concept
  - 1.10.2. History
  - 1.10.3. Classification
    - 1.10.3.1. Transporte aéreo
    - 1.10.3.2. Transporte terrestre
  - 1.10.4. Pathophysiology of out-of-hospital transport
    - 1.10.4.1. Accelerations
    - 1.10.4.2. Mechanical and acoustic vibrations
  - 1.10.5. Indications and contraindications of the helicopter
  - 1.10.6. Prevention of disturbances due to transport
  - 1.10.7. Destination
  - 1.10.8. Means of transport
  - 1.10.9. Assistance during transfer
  - 1.10.10. Transfer
  - 1.10.11. Assistance material



*Join this advanced program and personalize your study, without rigid schedules or hermetic evaluative chronograms"*

# 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 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.*



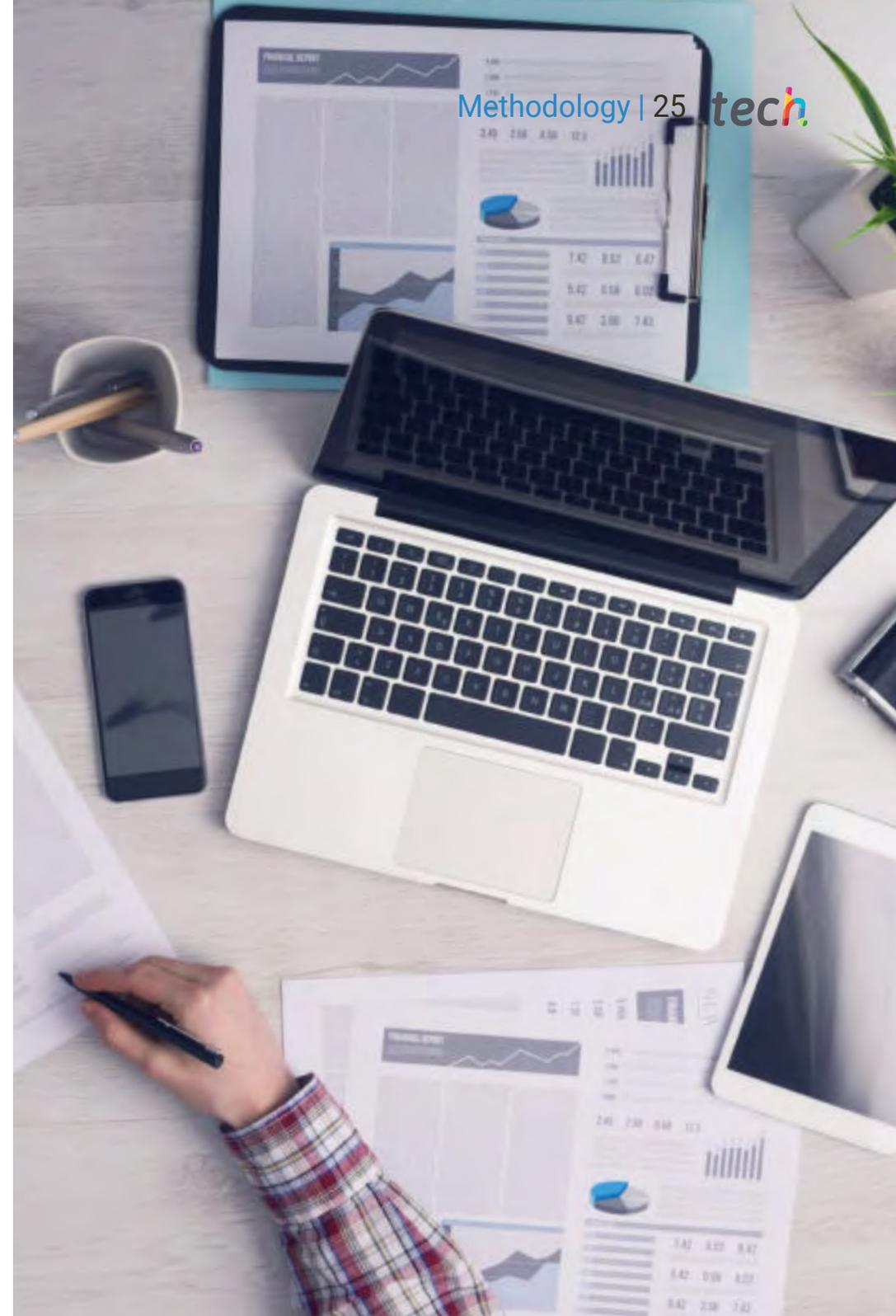
According to Dr. Gervas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that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



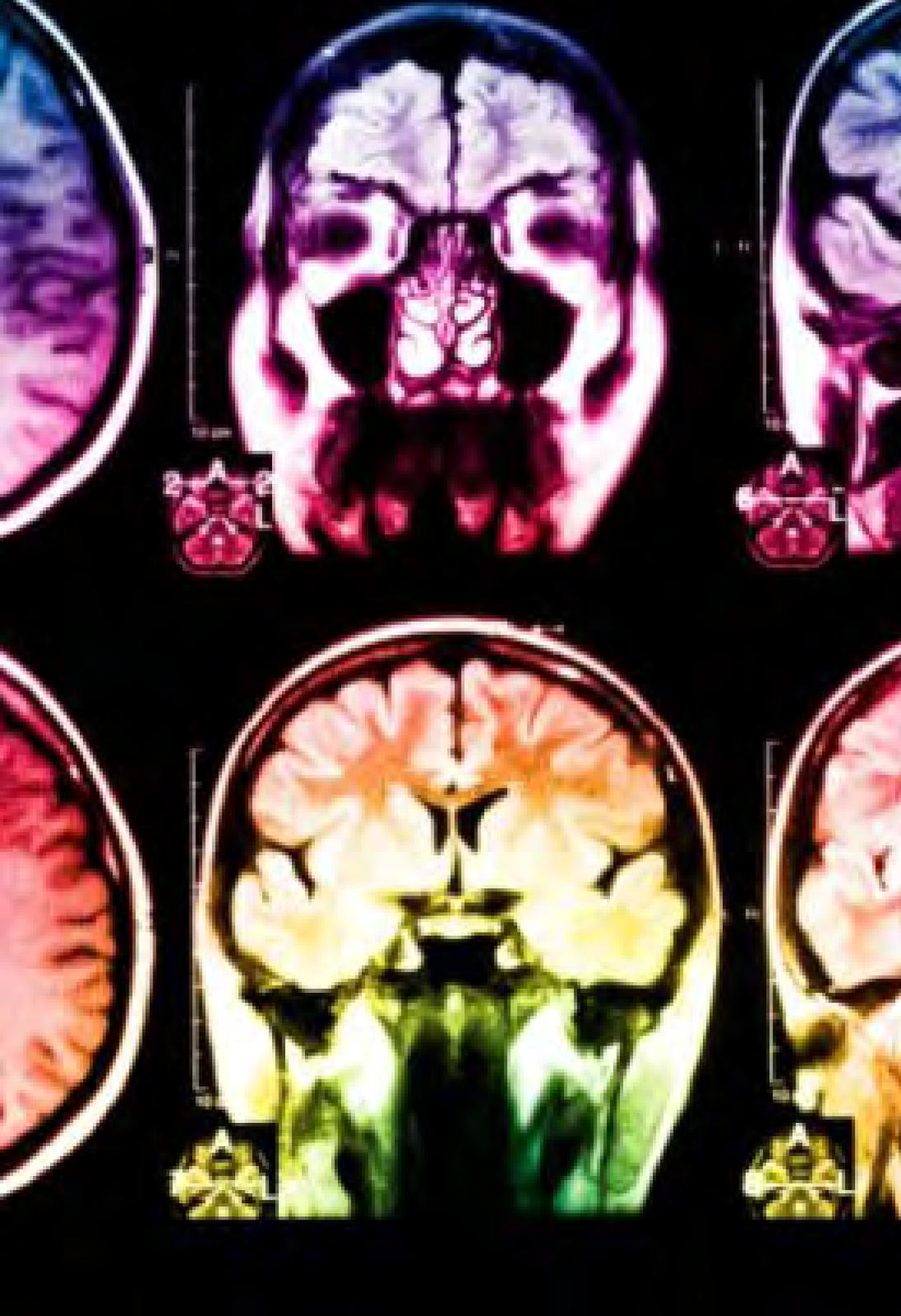
At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

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.



# 06 Certificate

The Postgraduate Certificate in Prehospital Trauma Management in the ICU guarantees students, in addition to the most rigorous 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 certification without traveling or complex paperwork"*

This program will allow you to obtain your **Postgraduate Certificate in Prehospital Trauma Management in the 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** 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 Prehospital Trauma Management in the ICU**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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

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



**Postgraduate Certificate**  
Prehospital Trauma  
Management in the ICU

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

# Postgraduate Certificate

Prehospital Trauma

Management in the ICU