

Postgraduate Certificate

Severe Trauma

Management in ICU





Postgraduate Certificate Severe Trauma Management in 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/severe-trauma-management-icu

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 18

05

Methodology

p. 24

06

Program

p. 32

01

Introduction

Trauma as a disease has become one of the most intricate and crucial challenges in the medical field. As the approach to the trauma patient evolves, the fundamental purpose of the field is to optimize outcomes and ensure high quality initial care. For all these reasons, teams need qualified and up-to-date experts, as severe trauma care demands specific skills to effectively address each case. This is how this program was created, aimed at providing in-depth knowledge in the treatment of critically ill patients in the ICU. Therefore, TECH offers the student a syllabus enriched with the most innovative multimedia content, based on the pioneering methodology of *Relearning*.



“

You will approach with precision and speed any Severe Trauma situation thanks to this Postgraduate Certificate. Enroll now!"

The evolution of severe trauma care has given way to advanced protocols and new therapeutic algorithms in medical intervention. Therefore, the prioritization of interventions, hemodynamic stabilization and the application of the latest technologies are key aspects that must be taken into account. In this context, the ICU team becomes the initial response team in decisive life and death situations.

The Postgraduate Certificate in Severe Trauma Management in ICU will allow the physician to immerse themselves, with a comprehensive approach, in the integral care of patients with severe traumatic injuries. In this way, the graduate will delve into the advanced evaluation and treatment of complex injuries in critical areas, such as cranioencephalic, thoracic and abdominal trauma.

You will also acquire the skills to skillfully interpret diagnostic test results and master life support therapies, surgical procedures and infection control strategies. In addition, you will emphasize the importance of effective communication with the medical team and family members, as well as the ethical management of sensitive cases.

This program focuses on rapid interpretation of vital signs, emergency management and informed decision making. It also encompasses multidisciplinary care, efficient coordination and diligent application of the latest scientific research. All of this forms the basis of Severe Trauma Management that not only aims for survival, but also for the patient's overall recovery.

This fully online program offers students the flexibility to study from any location and at any time that best fits their schedules. It only requires a device with an internet connection to integrate the most advanced skills in this specialty into daily clinical practice. This represents an exceptional opportunity, thanks to which the professional will be updated with the guarantee of reaching the highest academic standards.

This **Postgraduate Certificate in Severe Trauma Management in 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 Severe 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 self-assessment can be used 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



A unique opportunity for you to update your clinical practice in the Severe Trauma Management in ICU with the highest academic standards"

“

Get up-to-date with TECH! Keep up-to-date on major critical injuries, from Traumatic Brain Injury (TBI) to Hemopneumothorax”

You will delve into the configuration and leadership of the Trauma team through the most innovative didactic materials.

You will master the analysis of laboratory data in severe trauma cases. And in only 6 weeks!

The program's teaching team 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.

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

This exclusive TECH program has been meticulously designed for the specialist to achieve key objectives and prepare them to face highly complex medical challenges. In this way, they will acquire in-depth knowledge to support every resolution they make in the ICU, as well as essential skills to work in teams and lead in times of crisis. Through the study of real cases, you will hone your analytical skills and make informed decisions in real time. In addition, a thorough understanding of Severe Trauma Management will distinguish you as a skilled professional committed to excellence in critical care.



“

You will delve into the science of Intensive Care and the most advanced ICU technologies to integrate into your daily clinical practice”

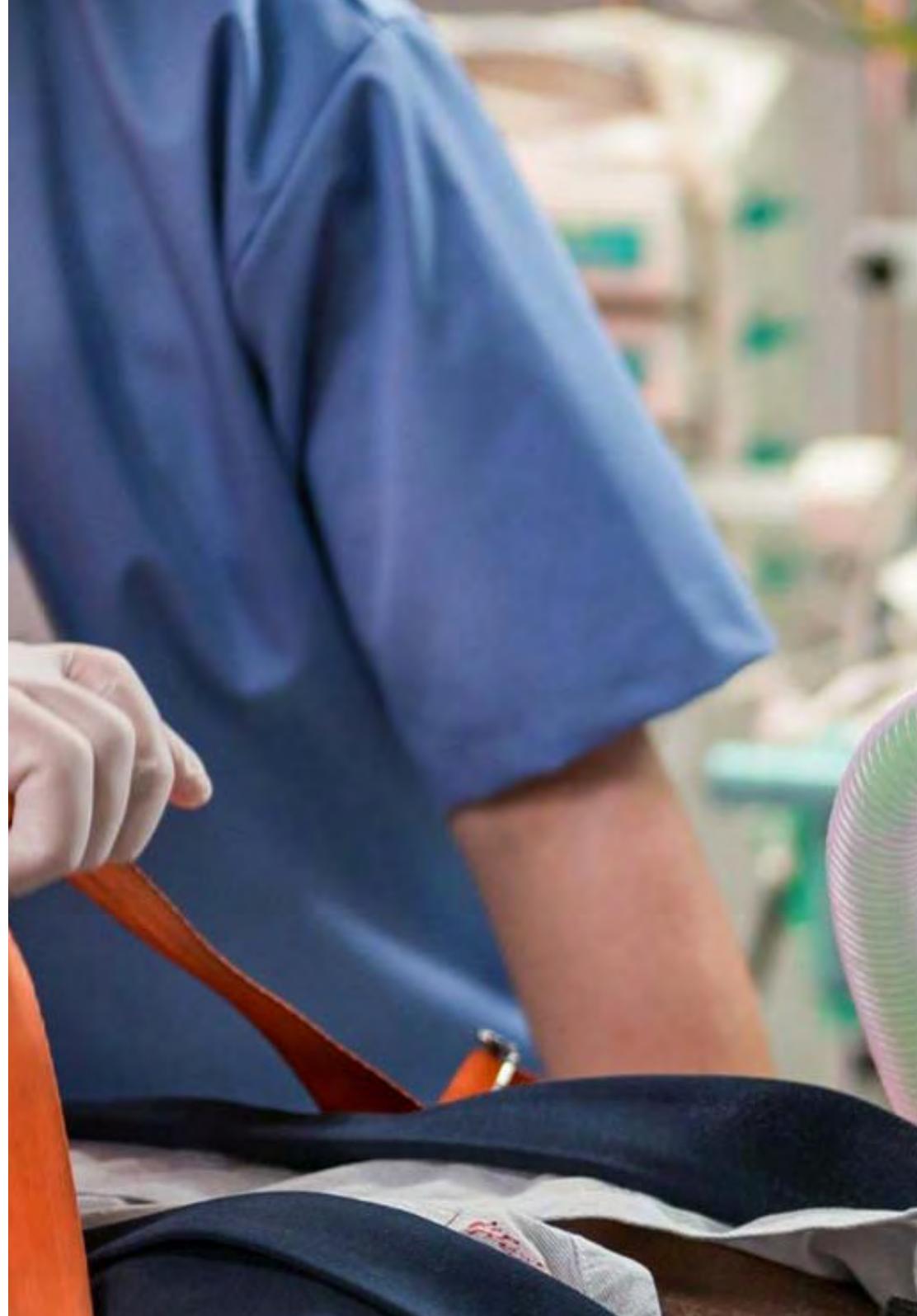


General Objectives

- ♦ 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
- ♦ 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



You will develop interpersonal communication and leadership skills to operate successfully with your team in critical situations"





Specific Objectives

- ♦ Evaluate advanced clinics to determine the severity and extent of traumatic injuries in critically ill patients
- ♦ Be up-to-date on the interpretation of diagnostic test results, such as medical imaging and laboratory tests, to identify injuries and complications
- ♦ Increase informed decision making about the most appropriate medical and surgical treatment for each trauma patient
- ♦ Master advanced strategies for managing shock and controlling bleeding in patients with severe traumatic injuries
- ♦ Perform advanced surgical procedures, such as damage control surgeries and tissue repair procedures
- ♦ Utilize advanced life support therapies, including mechanical ventilation and use of vasoactive medications
- ♦ Identify and manage common complications in trauma patients and develop long-term care plans

03

Course Management

The program has an exceptional teaching team, who will share with the students all the knowledge acquired throughout their years of experience in Intensive Care Medicine. These experts, who are committed to innovative pedagogical approaches, are committed to constant updating with the latest research and advances in the field, ensuring the highest educational standards. In fact, their time spent in Intensive Care Units (ICU), in hospitals at the forefront, will also ensure a comprehensive understanding of Severe Trauma from different angles.





“

You will advance your professional career thanks to a teaching team committed to academic excellence and innovation"

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.

- ♦ 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. Portugal Rodríguez, Esther

- Medical Specialist in Intensive Care Medicine at the Hospital Clínico Universitario
- Specialist in Intensive Care Medicine at the Lucus Augusti Hospital
- Specialist in Intensive Care Medicine at the Hospital Recoletas in Campo Grande
- Specialist in Intensive Care Medicine, Critical Care and Coronary Units at the
- Instructor in Clinical Simulation in Intensive Care Medicine at the Spanish Society of Intensive Care Medicine and Coronary Units (SEMICYUC)
- Degree in Medicine from the University of Valladolid
- Master's Degree in Clinical Nutrition from the University of Granada University

“

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

04

Structure and Content

This Postgraduate Certificate is built on a solid structure, divided into strategic topics that will guide the specialist's progression from fundamentals to advanced applications. In this way, students will establish a deep understanding of critical care, preparing them to face any ICU challenge with confidence and skill. In this way, they will be able to benefit from the best didactic resources, through the most innovative and pioneering learning methodology in TECH: *Relearning*. Based on the repetition of fundamental concepts, this system guarantees the optimal assimilation of the program contents.

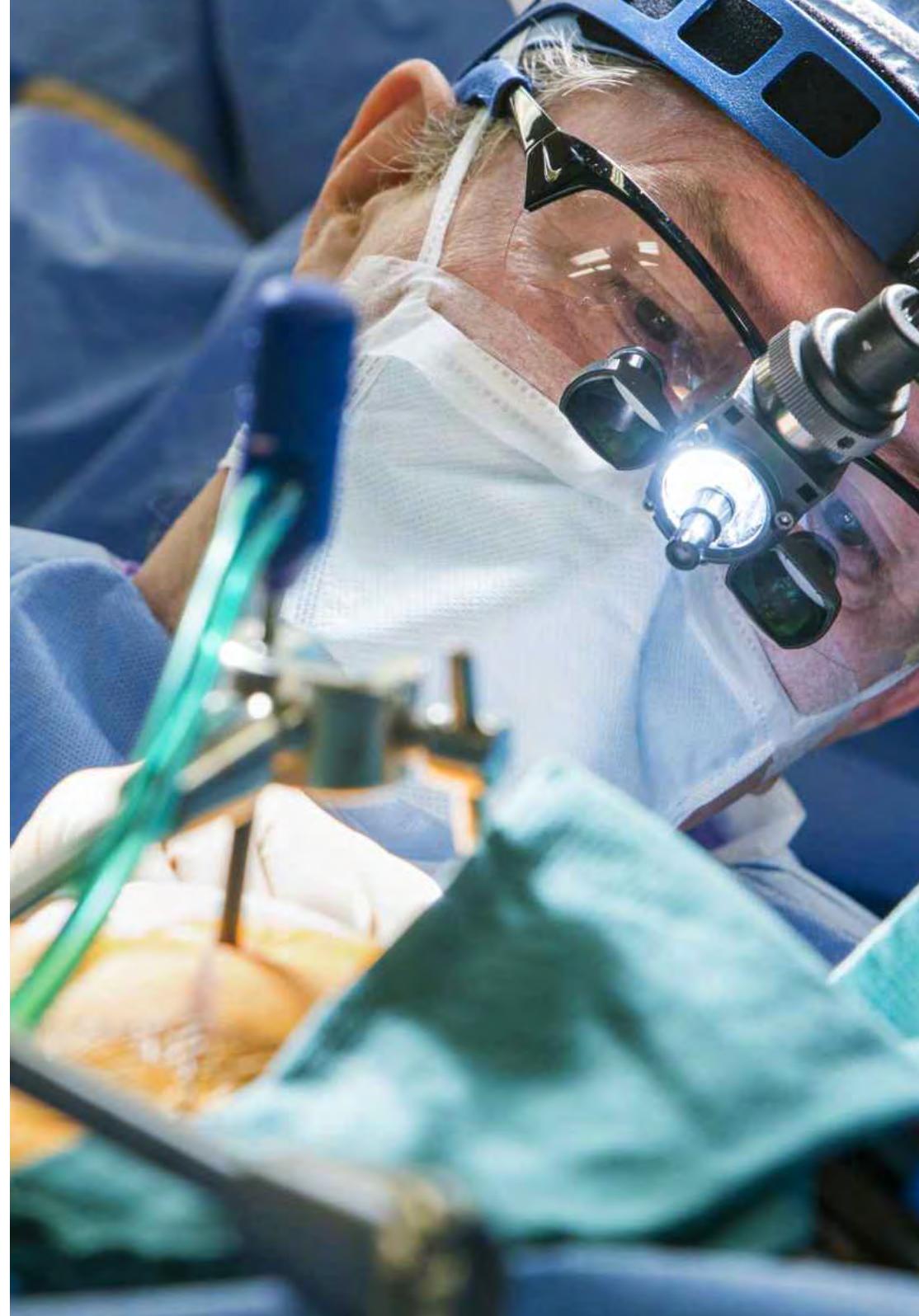


“

Upgrade your medical profile in the field of Intensive Care! With TECH you will master the most innovative techniques in the treatment of severe traumatic injuries"

Module 1. Management of Severe Trauma in ICU

- 1.1. Severe trauma
 - 1.1.1. Severe trauma
 - 1.1.2. Indications
 - 1.1.3. Conclusions
- 1.2. Mechanism of injury and suspicious lesion patterns
 - 1.2.1. Mechanism of injury
 - 1.2.2. Frontal impact (vehicular collision)
 - 1.2.2.1. Cervical spine fracture
 - 1.2.2.2. Unstable anterior thorax
 - 1.2.2.3. Cardiac contusion
 - 1.2.2.4. Pneumothorax
 - 1.2.2.5. Traumatic rupture of the aorta
 - 1.2.2.6. Splenic or hepatic laceration
 - 1.2.2.7. Fracture, posterior dislocation of the knee and/or hip
 - 1.2.2.8. TBI
 - 1.2.2.9. Facial Fractures
 - 1.2.3. Lateral impact (vehicular collision)
 - 1.2.3.1. Contralateral cervical sprain
 - 1.2.3.2. TBI
 - 1.2.3.3. Cervical spine fracture
 - 1.2.3.4. Lateral unstable thorax
 - 1.2.3.5. Pneumothorax
 - 1.2.3.6. Traumatic rupture of the aorta
 - 1.2.3.7. Diaphragmatic rupture
 - 1.2.3.8. Splenic/hepatic and/or renal laceration depending on the side of the impact
 - 1.2.4. Rear impact (vehicular collision)
 - 1.2.4.1. Cervical spine injury
 - 1.2.4.2. TBI
 - 1.2.4.3. Cervical soft tissue injury
 - 1.2.5. Vehicle ejection
 - 1.2.5.1. Ejection, prevents true prediction of injury patterns, higher risk patient



- 1.2.6. Vehicle impacts pedestrian
 - 1.2.6.1. TBI
 - 1.2.6.2. Traumatic rupture of the aorta
 - 1.2.6.3. Visceral abdominal injuries
 - 1.2.6.4. Fractures of lower extremities
- 1.2.7. Fall from height
 - 1.2.7.1. TBI
 - 1.2.7.2. Axial spine trauma
 - 1.2.7.3. Visceral abdominal injuries
 - 1.2.7.4. Fracture of the pelvis or acetabulum
 - 1.2.7.5. Bilateral fracture of lower extremities (including calcaneal fracture)
- 1.2.8. Stab wound
 - 1.2.8.1. Anterior thorax
 - 1.2.8.1.1. Cardiac Tamponade
 - 1.2.8.1.2. Hemothorax
 - 1.2.8.1.3. Pneumothorax
 - 1.2.8.1.4. Hemopneumothorax
 - 1.2.8.2. Left thoracoabdominal
 - 1.2.8.2.1. Injury of the left diaphragm, injury of the spleen, hemothorax
 - 1.2.8.2.2. Abdomen, possible abdominal visceral injury if peritoneal penetration
- 1.2.9. Wounded by firearm
 - 1.2.9.1. Trunk
 - 1.2.9.1.1. High probability of injury
 - 1.2.9.1.2. Retained projectiles help predict injury
 - 1.2.9.2. Extremity
 - 1.2.9.2.1. Neurovascular injury
 - 1.2.9.2.2. Fractures
 - 1.2.9.2.3. Compartment Syndrome
- 1.2.10. Thermal burns
 - 1.2.10.1. Circumferential eschar on extremity or thorax.
 - 1.2.10.2. Occult trauma (mechanism of burn/means of escape)
- 1.2.11. Electrical burns
 - 1.2.11.1. Cardiac arrhythmia
 - 1.2.11.2. Myonecrosis / Compartment syndrome
- 1.2.12. Inhalation burns
 - 1.2.12.1. Carbon Monoxide Poisoning
 - 1.2.12.2. Airway edema
 - 1.2.12.3. Pulmonary Edema
- 1.3. Importance of triage
 - 1.3.1. Triage
 - 1.3.2. Definition
 - 1.3.3. Relevance
- 1.4. Resource mobilization
 - 1.4.1. Resources
 - 1.4.2. Configuration of the trauma team
 - 1.4.3. Receiving the report
 - 1.4.3.1. Mechanisms
 - 1.4.3.2. Lesions
 - 1.4.3.3. Signs
 - 1.4.3.4. Treatment and travel
 - 1.4.4. Direct the team and reacting to information: Assess and manage the patient
 - 1.4.4.1. Airway control and cervical spine motion restriction
 - 1.4.4.2. Breathing with ventilation
 - 1.4.4.3. Circulation with hemorrhage control
 - 1.4.4.4. Neurological Deficit
 - 1.4.4.5. Exposure and environment
 - 1.4.4.6. Record keeping
- 1.5. Dual Response Trauma Care
 - 1.5.1. Triage as severe trauma. Definition
 - 1.5.2. Triage as potentially severe trauma Definition

- 1.5.3. Dual Response Trauma Care Teams
 - 1.5.3.1. High level response
 - 1.5.3.2. Low-level response
- 1.5.4. Dual-response attention management algorithm
- 1.6. Treatment of the potentially critically ill patient
 - 1.6.1. Severe patient
 - 1.6.2. Criteria for potentially severe patient
 - 1.6.2.1. Physiological criteria
 - 1.6.2.2. Anatomical criteria
 - 1.6.2.3. Injury mechanism
 - 1.6.2.4. Circumstances to take into account
- 1.7. Complementary tests in the screening for occult lesions
 - 1.7.1. Tests
 - 1.7.2. Initial Assessment
 - 1.7.2.1. Airway
 - 1.7.2.2. Ventilation
 - 1.7.2.3. Circulation
 - 1.7.2.4. Neurology
 - 1.7.2.5. Examination
 - 1.7.3. Second Evaluation
 - 1.7.3.1. Head and face
 - 1.7.3.2. Neck
 - 1.7.3.3. Thorax
 - 1.7.3.4. Abdomen
 - 1.7.3.5. Perineum
 - 1.7.3.6. Back
 - 1.7.3.7. Extremities
 - 1.7.4. Nexus/CRR criteria for cervical injury screening
 - 1.7.5. Duty criteria for cervical vascular lesion screening
- 1.8. Laboratory Data
 - 1.8.1. Laboratory
 - 1.8.2. Request for Tests
 - 1.8.3. Systematic review





- 1.9. Imaging Techniques
 - 1.9.1. Image
 - 1.9.2. TBI
 - 1.9.3. Cervical Trauma and detection of cervical vascular injury
 - 1.9.4. Thoracic Trauma
 - 1.9.5. Dorsolumbar Spinal Trauma
 - 1.9.6. Genitourinary Trauma
 - 1.9.7. Pelvic and Orthopedic Trauma
- 1.10. Registration and transfer
 - 1.10.1. Referring physician
 - 1.10.2. ABC-SBAR for trauma patient transfer
 - 1.10.3. Receiving Physician
 - 1.10.4. Transfer protocol
 - 1.10.4.1. Referring physician information
 - 1.10.4.2. Information for transfer personnel
 - 1.10.4.3. Documentation
 - 1.10.4.4. Data for relocation

“

You will stand out as a professional at the forefront in Severe Trauma Management in ICU! All thanks to constantly up-to-date content"

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.





“

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.

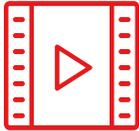
Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

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

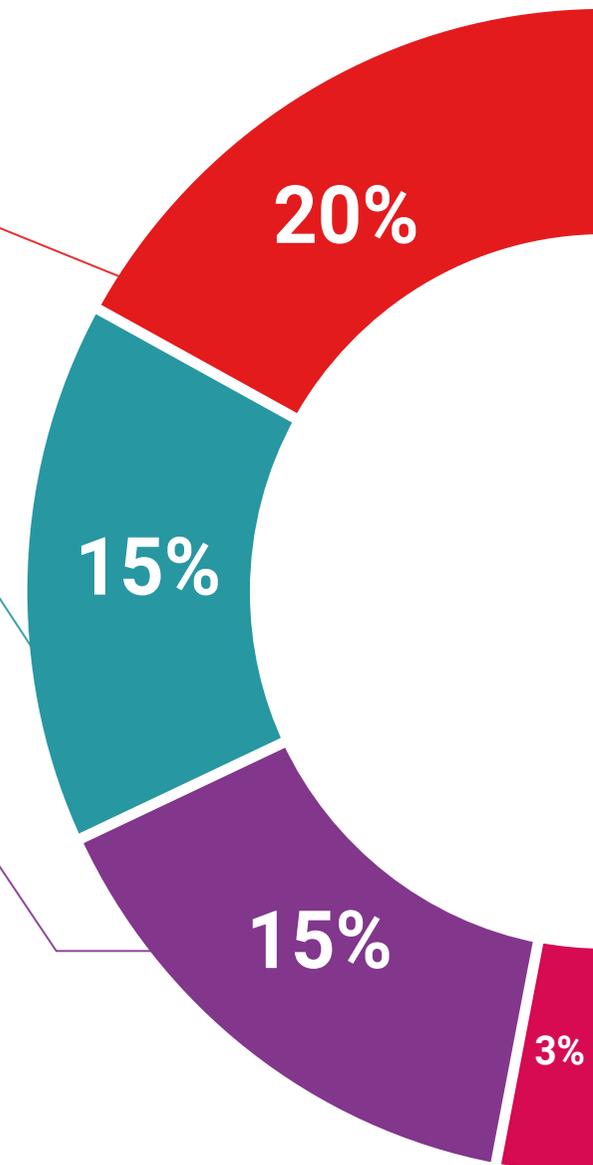
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

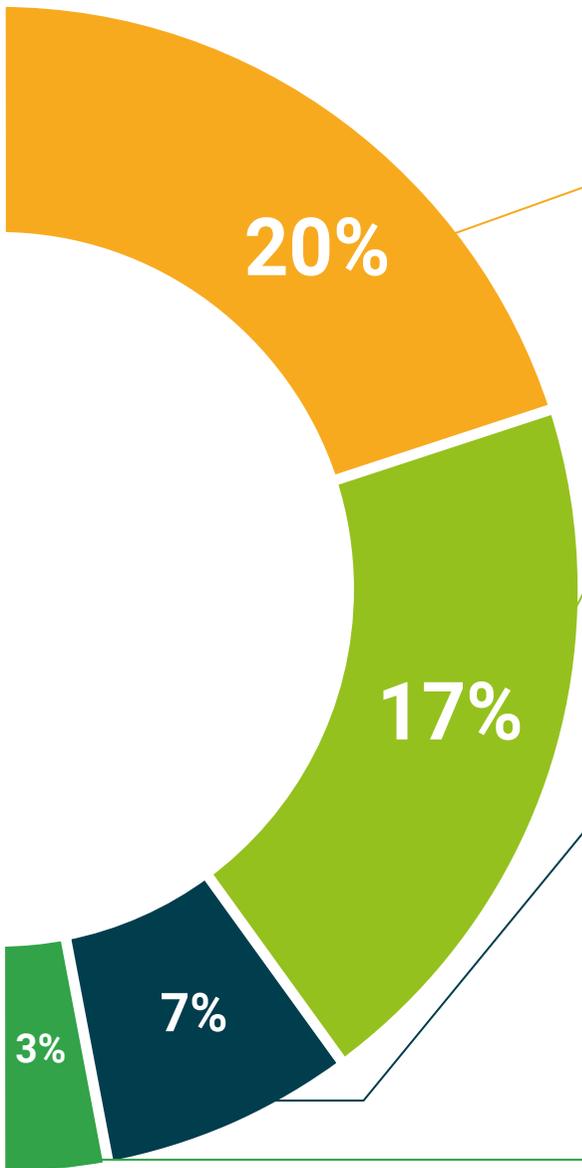
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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.



06 Certificate

The Postgraduate Certificate in Severe Trauma Management in ICU guarantees, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate program issued by TECH Global University.





“

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 Severe Trauma Management in 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 Severe Trauma Management in 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
Severe Trauma
Management in ICU

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

Postgraduate Certificate

Severe Trauma

Management in ICU

