

# Postgraduate Certificate

## Initial Trauma Care in the ICU





## Postgraduate Certificate Initial Trauma Care in the ICU

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/pk/medicine/postgraduate-certificate/initial-trauma-care-icu](http://www.techtitute.com/pk/medicine/postgraduate-certificate/initial-trauma-care-icu)

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# 01

# Introduction

Trauma care is probably one of the most complex, risky and responsible challenges faced by the physician. The care of the trauma patient has been changing and evolving over time, establishing sequences of priorities to be treated and new therapeutic algorithms to be applied, depending on the situation. The objective is none other than to improve outcomes and ensure quality initial care in Intensive Care settings, something for which the specialist must be adequately qualified and up-to-date. Therefore, TECH offers professionals this academic program, with the most innovative teaching materials, as well as a pioneering learning methodology in its field: *Relearning*.



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*Get with TECH the competencies for Initial Trauma Care in the ICU! In a simple and agile way, from the comfort of your home and without restrictive schedules"*

Preparation for the care of trauma patients is an ever-increasing requirement in society, as they can sometimes arrive at hospital centers on a massive scale, following natural disasters, intense accidents or terrorist attacks. That is why urgent care requires a multidisciplinary team formed by physicians trained by their specialization, specifically trained in the diagnostic and therapeutic techniques required by the patient.

This Postgraduate Certificate will focus on the immediate response and management of patients with traumatic injuries in Intensive Care Units (ICU). The practitioner will delve into the rapid assessment, prioritization, stabilization and initial treatment of critical conditions, including shock, brain and chest injuries.

In addition, students will be able to interpret vital signs, perform essential interventions and coordinate multidisciplinary teams. They will also learn the appropriate use of medical technologies, emergency procedures and the most effective communication strategies. Without forgetting the development of skills for taking quick and precise measures in acute trauma situations.

Continuous evaluation of the patient is essential, so that before each step, the patient must be reevaluated to check that the measures implemented are effective. Something that must be repeated whenever there is a deterioration in their condition, or if the treatments do not obtain the expected results.

The 100% online modality of this program will give the graduate total freedom to take it wherever and whenever they want, without the restriction of schedules. It will be as comfortable and simple as connecting through an electronic device with Internet access. In this way, you will have access to multimedia content at the forefront of technology and education, and will benefit from a pioneering learning methodology in TECH.

This is *Relearning*, consisting of the repetition of key concepts, ensuring optimal assimilation of the contents.

This **Postgraduate Certificate in Initial Trauma Care 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 Initial Trauma Care in the 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



*Get up-to-date on the latest procedures in the diagnosis and initial treatment of the trauma patient"*

“

*You will address the primary review of the trauma patient, from respiration and circulation, to neurological deficits and exposure, all in just 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.

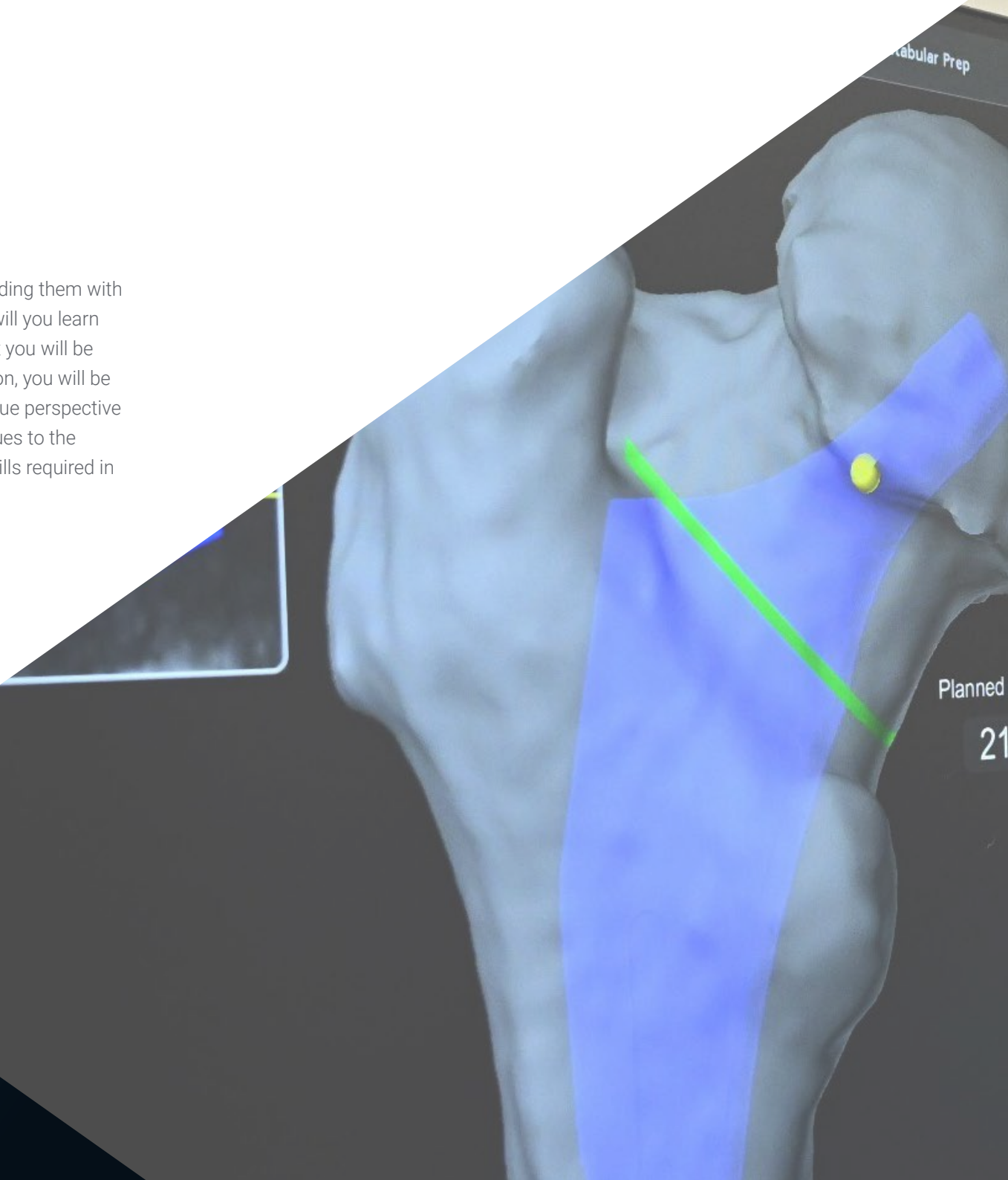
*This Postgraduate Certificate will prepare you for the assistance in the Vital Box of the hospital, including the organization of the assistance team.*

*You will delve into the LEMON (Look, Evaluate, Mallanpati, Obstruction, Neck) assessment, one of the most commonly used in emergency departments for difficult intubation.*

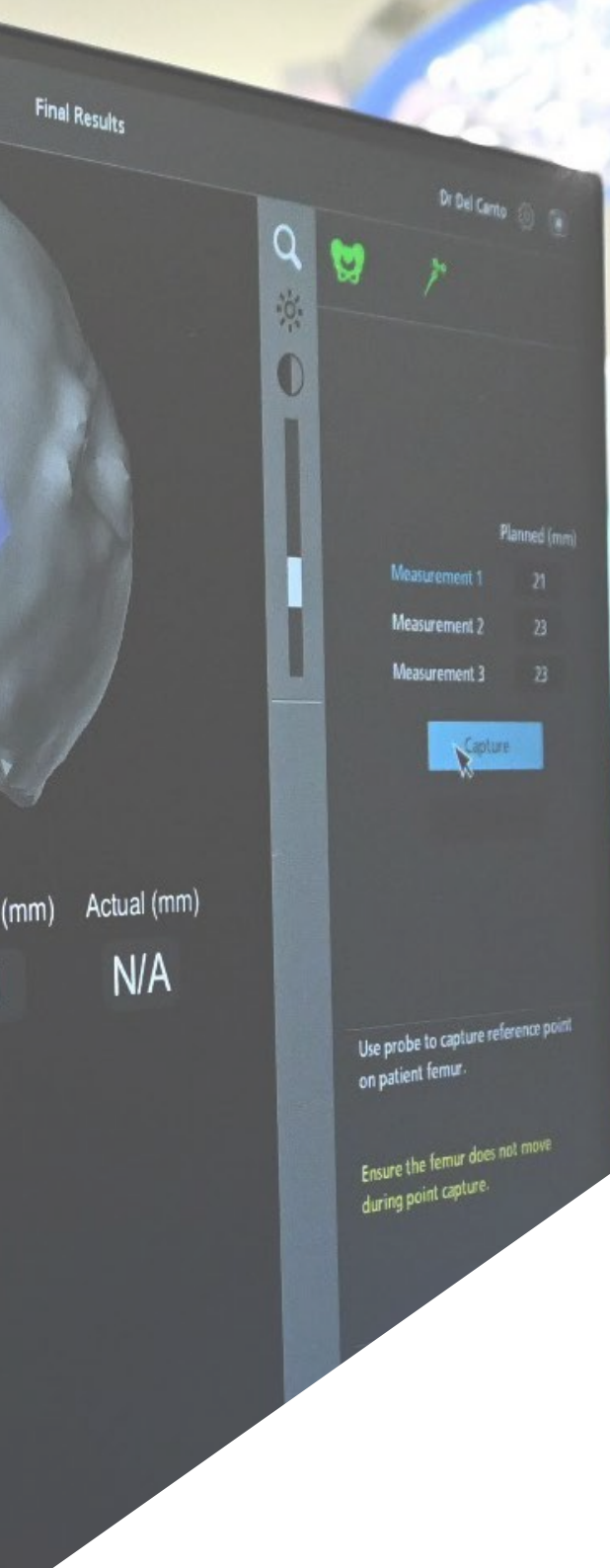


# 02 Objectives

The program will guide the specialist through critical situations, providing them with the necessary tools to make quick and effective decisions. Not only will you learn from the best experts in the field of Initial Trauma Care in the ICU, but you will be immersed in realistic scenarios to hone your practical skills. In addition, you will be guided by experienced professionals who will provide you with a unique perspective that only real experience can offer. From the most advanced techniques to the most innovative strategies, the specialist will be equipped with the skills required in Intensive Care Units (ICU).







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*Don't let this opportunity slip away! Enroll now and start your journey to mastery in Initial Trauma Care in the ICU"*



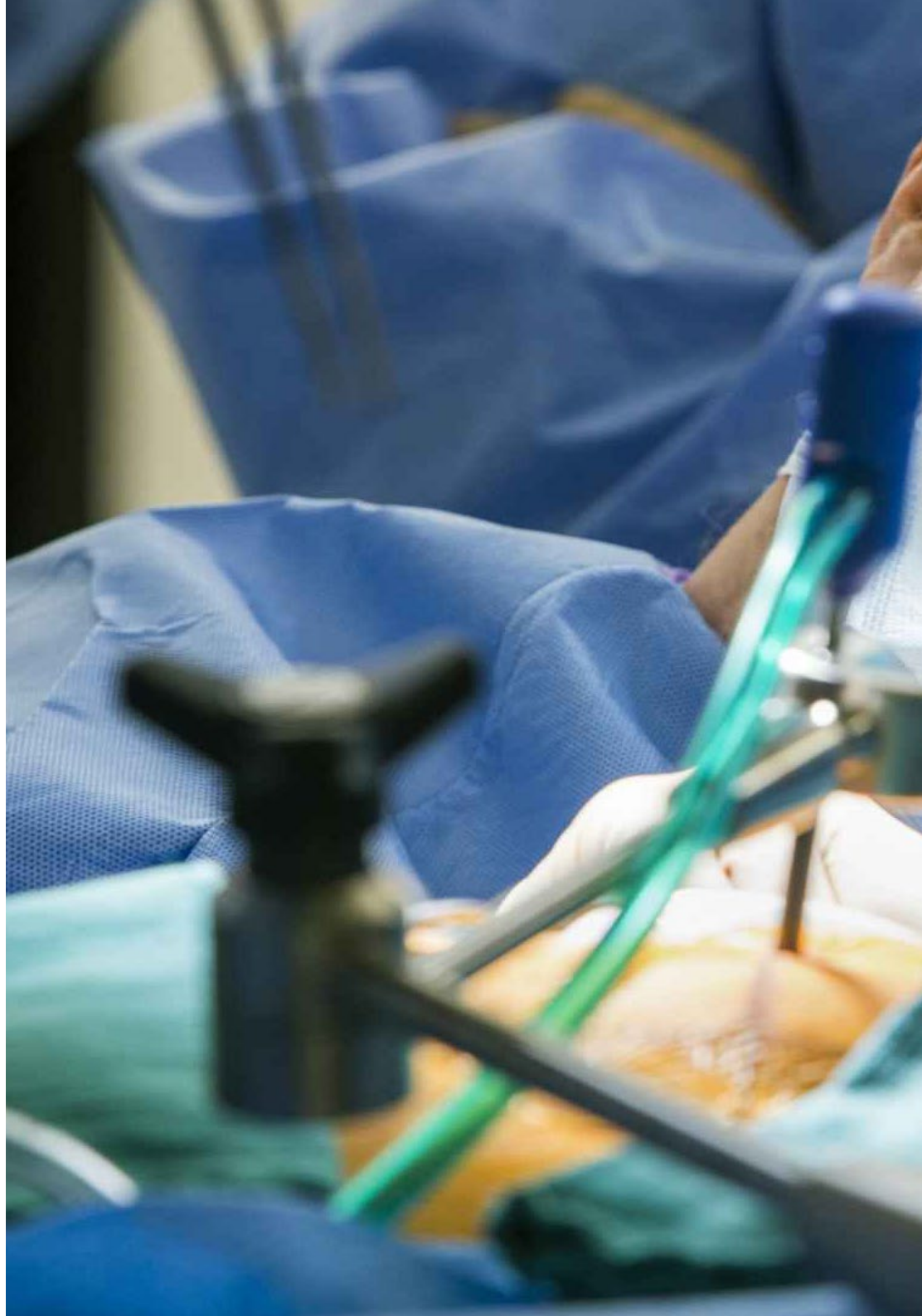
## General Objectives

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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
- ♦ Integrate quality and safety practices in the management of trauma patients, minimizing risks and optimizing outcomes
- ♦ Be aware of the specific nutritional requirements of severe trauma patients and develop appropriate nutrition plans
- ♦ Implement triage protocols in mass trauma situations and prioritize care

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*Do you want to become a leader in your Intensive Care Unit? TECH will open the way to the renewal of your skills in Initial Trauma Care”*





## Specific Objectives

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- ♦ Rapidly assess the severity and extent of traumatic injuries in patients admitted to the ICU
- ♦ Identify and prioritize medical and surgical interventions according to the urgency and stability of the patient
- ♦ Delve into techniques to restore hemodynamic stability and control shock in trauma patients
- ♦ Apply methods to control active bleeding and prevent excessive blood loss
- ♦ Interpret radiographs and other medical images to identify injuries and guide care
- ♦ Delve into strategies for pain management and sedation in trauma patients, considering their individual needs

# 03

## Course Management

TECH transforms the graduate's educational experience thanks to an exceptional teaching team, formed by specialists in Internal Medicine. Leaders in their respective fields who bring an unparalleled perspective to each lesson, sharing with the student not only the latest theory, but also the practical application in Initial Trauma Care in the ICU. Each teacher brings years of experience in Intensive Care Units (ICU) of the most pioneering hospitals, providing a comprehensive view of trauma care. In this way, they are encouraged and driven to achieve their goals.



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*Improve your skills! Get up-to-date in Initial Trauma Care in ICU thanks to an elite teaching team in Internal Medicine"*

## 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. Bueno González, Ana María

- ◆ Specialist in Intensive Care Medicine
- ◆ Specialist in Intensive Care Medicine at the Hospital Clínico Universitario de Valladolid, Spain
- ◆ Graduate in Medicine and Surgery from the University of Valladolid
- ◆ Collaborating teacher at the Faculty of Medicine of Ciudad Real
- ◆ Teacher of Advanced Life Support in HGUCR and Faculty of Medicine of Ciudad Real
- ◆ Collaborating researcher in CRASH-3 trial and SEMICYUC project
- ◆ Diploma in Statistics in Health Sciences, Universitat Autònoma de Barcelona
- ◆ Master in Research Methodology in Health Sciences, Universitat Autònoma de Barcelona
- ◆ Master's Degree in Updating in Intensive Care Medicine from the CEU University

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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

The Postgraduate Certificate has been designed to provide the physician with a deep understanding of Initial Trauma Care in the ICU. From the online lessons, developed by experts in Internal Medicine, to the analysis of actual case studies, each component of the program is interwoven to provide an unparalleled educational experience. The content not only covers advanced protocols and techniques, but also delves into document-related work necessary for proper patient transfer and referral. This academic program will enable the graduate to face critical situations as a leader in Initial Trauma Care.







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*Benefit from the Relearning methodology to achieve the best results! Thanks to the repetition of key concepts, you will assimilate all the knowledge in an optimal way"*

## Module 1. Initial Trauma Care in the ICU Hospital

- 1.1. Indications for transfer to a trauma center
  - 1.1.1. Indications
  - 1.1.2. Determine the need to transfer the patient
    - 1.1.2.1. Relocation factors
      - 1.1.2.1.1. Primary screening: Airway
      - 1.1.2.1.2. Primary screening: Breathing
      - 1.1.2.1.3. Primary screening: Circulation
      - 1.1.2.1.4. Primary screening: Neurological Deficit
      - 1.1.2.1.5. Primary screening: Exhibition
      - 1.1.2.1.6. Secondary review: Head and Neck
      - 1.1.2.1.7. Maxillofacial
    - 1.1.2.2. Timing of transfer
      - 1.1.2.2.1. Evaluate anatomy of the injury
      - 1.1.2.2.2. Evaluate mechanisms of injury and evidence of high energy impact
      - 1.1.2.2.3. Evaluate special patients, pediatrics, elderly, obese, pregnant women
- 1.2. Assistance in the Vital Box of the hospital. Organization and care team
  - 1.2.1. Objectives
  - 1.2.2. Organization of the care team
  - 1.2.3. Characteristics of the Vital Trauma Care Box
  - 1.2.4. Recommended protective measures
- 1.3. Primary assessment and initial resuscitation
  - 1.3.1. Primary screening with simultaneous resuscitation
    - 1.3.1.1. Airway with restriction of cervical spine motion
    - 1.3.1.2. Breathing and ventilation
    - 1.3.1.3. Circulation with hemorrhage control
      - 1.3.1.3.1. Blood volume and cardiac output
      - 1.3.1.3.2. Bleeding
    - 1.3.1.4. Neurological evaluation (deficit)
    - 1.3.1.5. Exposure and environmental monitoring
  - 1.3.2. Life threatening injuries
    - 1.3.2.1. Airway problems
      - 1.3.2.1.1. Airway obstruction
      - 1.3.2.1.2. Bronchial tree injury
    - 1.3.2.2. Respiratory Problems
      - 1.3.2.2.1. Hypertensive pneumo
      - 1.3.2.2.2. Open pneumothorax
      - 1.3.2.2.3. Massive hemothorax
    - 1.3.2.3. Circulatory problems
      - 1.3.2.3.1. Massive hemothorax
      - 1.3.2.3.2. Cardiac Tamponade
      - 1.3.2.3.3. Traumatic circulatory arrest
- 1.4. Second Evaluation
  - 1.4.1. History
    - 1.4.1.1. Mechanism of injury and suspected patterns
    - 1.4.1.2. Environment
    - 1.4.1.3. Previous state of injury and predisposing factors
    - 1.4.1.4. Pre-hospital care observations
  - 1.4.2. Physical Examination
    - 1.4.2.1. Introduction
    - 1.4.2.2. Look and ask
    - 1.4.2.3. Assess head, neck, thorax, abdomen and pelvis.
    - 1.4.2.4. Circulatory evaluation
    - 1.4.2.5. Radiological Examination
- 1.5. Anti-tetanus and antibiotic prophylaxis
  - 1.5.1. Indications
  - 1.5.2. Guidelines
  - 1.5.3. Dosage

- 1.6. Airway and ventilatory management
  - 1.6.1. First Steps
  - 1.6.2. Recognition of the Problem
    - 1.6.2.1. Maxillofacial trauma
    - 1.6.2.2. Laryngeal trauma
  - 1.6.3. Objective signs of airway obstruction
  - 1.6.4. Ventilation
    - 1.6.4.1. Recognition of the Problem
    - 1.6.4.2. Objective signs of inadequate ventilation
- 1.7. Prediction of difficult airway management
  - 1.7.1. Airway
  - 1.7.2. Potential difficulties
  - 1.7.3. LEMON evaluation for difficult intubation
    - 1.7.3.1. External look
    - 1.7.3.2. Evaluates the 3-3-2 rule
    - 1.7.3.3. Mallampati
    - 1.7.3.4. Obstruction
    - 1.7.3.5. Neck mobility
- 1.8. Airway Management
  - 1.8.1. Airway Management
    - 1.8.1.1. Predict the management of a difficult airway
    - 1.8.1.2. Airway decision scheme
  - 1.8.2. Airway maintenance techniques
    - 1.8.2.1. Chin lift maneuver
    - 1.8.2.2. Mandibular traction maneuver
    - 1.8.2.3. Nasopharyngeal airway
    - 1.8.2.4. Oropharyngeal airway
    - 1.8.2.5. Extra glottic or supraglottic devices
      - 1.8.2.5.1. Laryngeal mask and laryngeal mask for intubation.
      - 1.8.2.5.2. Laryngeal tube and laryngeal tube for intubation.
      - 1.8.2.5.3. Multilumen esophageal airway
  - 1.8.3. Definitive airways
    - 1.8.3.1. Orotracheal Intubation
    - 1.8.3.2. Surgical airway
      - 1.8.3.2.1. Needle cricothyroidotomy
      - 1.8.3.2.2. Surgical cricothyroidotomy
- 1.9. Errors and occult injuries in trauma. Tertiary recognition
  - 1.9.1. Tertiary recognition
    - 1.9.1.1. Indicators of Quality of Care
  - 1.9.2. Errors in initial care
    - 1.9.2.1. Most frequent errors in the different phases of initial care
    - 1.9.2.2. Types of Error
  - 1.9.3. Occult injury or undiagnosed injury (NLI)
    - 1.9.3.1. Definition. Incidence
    - 1.9.3.2. Confounding variables contributing to the occurrence of NLD.
      - 1.9.3.2.1. Unavoidable factors
      - 1.9.3.2.2. Potentially avoidable factors
    - 1.9.3.3. Most frequent NLD
  - 1.9.4. Tertiary recognition
    - 1.9.4.1. Definition
    - 1.9.4.2. Importance of continuous reevaluation
- 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. Mode of transport
  - 1.10.5. Transfer protocol
    - 1.10.5.1. Referring physician information
    - 1.10.5.2. Information for transfer personnel
    - 1.10.5.3. Documentation
    - 1.10.5.4. Treatment during transfer
    - 1.10.5.5. Data for relocation

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. 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.

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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 Initial Trauma Care in the ICU guarantees, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate program issued by TECH Technological University.



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*Successfully complete this program and receive your university certification without traveling or complex paperwork"*

This **Postgraduate Certificate in Initial Trauma Care in the ICU** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Certificate in Initial Trauma Care in the ICU**

Official N° of Hours: **150 h.**



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

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



**Postgraduate Certificate**  
Initial Trauma Care  
in the ICU

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Certificate

## Initial Trauma Care in the ICU

