

# Postgraduate Diploma Anesthesia and Critical Care





## Postgraduate Diploma Anesthesia and Critical Care

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 16 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-anesthesia-critical-care](http://www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-anesthesia-critical-care)

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# 01

# Introduction

The evolution anesthesiology toward the concept of perioperative medicine has demanded a greater professional involvement in critical patient management, especially surgical patients, but also in the case of patients with medical pathology. This Postgraduate Diploma is designed to facilitate updating knowledge and work methodologies in critical patient units.

*Keeping up to date on anesthesia procedures in critical care is key to providing better patient care.*



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*New scenarios in anesthesia procedures motivate us to propose new training programs that meet the real needs of experienced professionals, so that they can incorporate advances in anesthesia in critically ill patients into their medical practice”*

This Postgraduate Diploma addresses the advances in clinical practice in the last decade, including major clinical syndromes in critical care, as well as new developments in neurological and hemodynamic monitoring procedures, new ventilation and lung protection strategies, ventricular assistance with significant future projection, nutritional aspects of critically ill patients, programs aimed at achieving "Zero bacteremia", the management of severe bleeding, as well as the integral approach to polytraumatized patients, severe burn patients, patients undergoing transplantation (liver, heart, lung, kidney), and donor maintenance.

The complexity of Critical Care Medicine translates into great variability in the medical and surgical management of critically ill patients. For this reason, there is an interest and a need to increase knowledge, analysis, and intervention in the field of Critical Care Medicine, making scientific evidence the main pillar of clinical practice.

This program aims to update the knowledge and methods used in critical care units, and is intended for specialists who are interested in deepening their medical knowledge in order to contribute quality and safety to improving patient health.



*You will be able to learn, through the latest educational technology, the latest advances in anesthesia procedures in critical care units"*

This **Postgraduate Diploma in Anesthesia and Critical Care** is the most complete and up-to-date scientific program on the market. The most important features of the program include:

- ♦ Clinical cases presented by specialists in anesthesiology and other areas. 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.
- ♦ Real high-resolution images of pathologies, diagnostic imaging tests and guided procedures.
- ♦ Presentation of practical workshops on procedures and techniques.
- ♦ Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- ♦ Action protocols with the most important advances in the specialty.
- ♦ All this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- ♦ With a special emphasis on evidence-based medicine and research methodologies in anesthesiology.
- ♦ Content that is accessible from any fixed or portable device with an Internet connection.

“ *This Postgraduate Diploma may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge of Anesthesia and Critical Care, you will obtain a qualification from TECH Global University*”

The teaching staff is made up of a team of leading anesthesiologists, who bring to this training the experience of their work, in addition to recognized specialists in other medical areas.

The multimedia content developed with the latest educational technology will provide the physician with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

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

*Incorporate the latest developments in anesthesia and critical care to your medical practice and improve patient prognosis.*

*It includes real clinical cases to bring medical practice as close as possible to the development of the program.*

# 02

# Objectives

The main objective is to facilitate the incorporation of advances in anesthesia procedures in critically ill patients, so that specialists can update their knowledge in a practical way, using the latest educational technology and adapting the educational process to their real needs.





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*This refresher program will generate a sense of confidence in decision making during anesthesia procedures for critically ill patients, and will help you grow professionally”*



## General Objective

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- ♦ Update specialist physicians on the procedures and techniques performed in anesthesia for critical patients, incorporating the latest advances to increase the quality of their daily medical practice and improve patient prognosis.



## Specific Objectives

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- ♦ Review advances in neuroprotection and comprehensive brain monitoring.
- ♦ Incorporate advances patient management in cases of severe TBI.
- ♦ Update the modalities of invasive and non-invasive mechanical ventilation.
- ♦ Identify new developments in the management of right ventricular dysfunction and pulmonary hypertension.
- ♦ Describe advances in new therapies for patients in shock (cardiogenic, hemorrhagic, distributive).
- ♦ Incorporate the latest procedures in echocardiography as an essential monitor in hemodynamic evaluation.
- ♦ Describe the new ventricular assistance devices, ECMO, IABP or IABP.
- ♦ Update procedures in the post-surgical management of adult congenital heart disease.
- ♦ Describe updates related to infection and its treatment in critical care units.
- ♦ Review the therapeutic actions related to the management of adult respiratory





distress syndrome.

- ♦ Analyze the new mechanical ventilation strategies.
- ♦ Identify new developments in perioperative anesthetic management of organ transplantation (cardiac, pulmonary, hepatic and renal).
- ♦ Comprehensively review the approach to monitoring critically ill patients.
- ♦ Evaluate the new monitoring algorithms and clinical management of polytraumatized and severe burn patients.
- ♦ Analyze the new maintenance algorithms for donor patients.
- ♦ Determine the new recommendations for advanced CPR.
- ♦ Identify new management strategies for renal failure in critically ill patients.
- ♦ Describe the main nutritional aspects in critically ill patients.
- ♦ Analyze the implication of anesthesiology in perioperative medicine, its contributions and interest.
- ♦ Review the new drugs included in the anesthetic therapeutic arsenal.
- ♦ Incorporate new antiplatelet and anticoagulant drugs and new hemostasis monitoring systems into medical practice.
- ♦ Analyze the implications of these drugs on anesthetic procedures.
- ♦ Incorporate new strategies for hemodynamic management.
- ♦ Raise new perspectives in clinical training through virtual simulators.
- ♦ Question therapeutic empiricism versus goal-driven monitoring. Role of advanced hemodynamic optimization.
- ♦ Value simulation and teaching as a postgraduate training tool.
- ♦ Update the predictive factors of morbi-mortality determinants of risk.

03

# Course Management

The materials have been created by a team of leading professionals in the field of anesthesia in critically ill patients, who work in prestigious hospitals. 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 the latest advances in loco-regional anesthesia and pain management from leading professionals”*

## International Guest Director

Dr. Betelehem M. Asnake is a leading anesthesiologist with an extensive international career, noted for her commitment to health equity and medical education. She has practiced in San Francisco, California, at Kaiser Permanente Medical Centers in Oakland and Richmond. In addition, she has held an important role as Director of Global Health Initiatives at UCLA Health, considered one of the best hospitals in the United States, and ranked first in both California and Los Angeles in a comprehensive assessment of excellence in patient care.

In addition to her clinical practice, she has been recognized for her passionate work in coaching and promoting diversity in Medicine. In this regard, she has founded MuluMentor, a virtual platform designed to support medical students from underrepresented and disadvantaged backgrounds. This program has facilitated the connection between these students and healthcare professionals in reviewing medical school applications, preparing for the MCAT and obtaining letters of recommendation. In this way, the platform has had a significant impact on inclusion and support for future physicians.

In turn, Dr. Betelehem M. Asnake has been a key international figure in bridging educational gaps in the field of Anesthesia. In fact, she has worked as a facilitator of the SAFE course in Tanzania, teaching safe anesthesia in remote areas. She has also been a co-leader of COVID-19 response teams and has collaborated with the World Society of Anesthesia in the development of international standards of post-anesthesia care. In addition, her role as a peer reviewer for the COVID-19 Repository for Ethiopian Health Professionals has highlighted her commitment to the global improvement of medical education in low-resource settings.



## Dr. Asnake, Betelehem M.

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- ♦ Director of Global Health Initiatives at UCLA Health, Southern California, United States
- ♦ General Anesthesiologist at UCLA Health
- ♦ General Anesthesiologist at Kaiser Permanente Oakland and Richmond Medical Centers
- ♦ Founder of MuluMentor
- ♦ General Anesthesiologist at Zuckerberg General Hospital and Trauma Center
- ♦ Global Health Equity Fellow at Zuckerberg General Hospital & Trauma Center
- ♦ Anesthesiology Specialist from the University of California
- ♦ PhD in Medicine from the University of Virginia
- ♦ M.S., Pharmacology and Toxicology from the University of Virginia  
B.A., French Studies from the University of California

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

## Management



### Dr. Muedra Navarro, Vicente

- Head of the Anesthesia Service at the General University Hospital Consortium of Valencia.
- Professor-Doctor of Anesthesiology at the Universitat de Valencia
- Degree in Medicine from the University of Valencia
- MIR Specialist in Anesthesiology, Resuscitation and Pain Therapeutics at La Fe University Hospital in Valencia
- PhD in Medicine and Surgery from the University of Valencia.
- Professor of the Department of Biomedical Sciences. Faculty of Medicine. CEU Cardenal Herrera University. Valencia
- Director of doctoral theses and Master's Degree theses
- Member of several Health Care Improvement Commissions at La Ribera University Hospital
- University Expert in the Comprehensive Management of the Airway, by the Catholic University of Valencia
- Vice-president of the Department of Anesthesiology and Critical Care in Cardiac Surgery of the Valencian Community
- Member of the Spanish Society of Anesthesiology, Resuscitation and Pain Therapy
- Member of the Spanish Society of Multimodal Rehabilitation
- Head researcher in several research projects with competitive funding from Public Institutions (Carlos III Health Institute)
- Collaborating Researcher in the Prometeo Program for research groups of Excellence in the Department of Education and Science at Generalitat Valenciana.
- Research member of the Translational Medicine Doctoral Program in the research line Multidisciplinary Intervention in Prevention and Clinical Therapeutics of International Doctoral School CEINDO

## Coordination

### Dr. Muedra Navarro, Vicente

- ♦ Attending Physician.
- ♦ La Ribera University Hospital. Alzira

### Dr. Vicente Guillén, Rosario

- ♦ Head of the Department of Anesthesiology, La Fe Polytechnic and University Hospital. Valencia
- ♦ Medical Specialist in Anesthesiology, Resuscitation and Pain Therapy.



## Professors

### Dr. Aleixandre, Anabel

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Aparicio, Rosa

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Duque, Patricia

- ♦ Attending Physician. Gregorio Marañón General Hospital. Madrid.

### Dr. Femeneía, Francisco

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Ferrandis, Raquel

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Ferre, Ángeles

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Galán, Juan

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Garutti Martínez, Ignacio

- ♦ Attending Physician. Gregorio Marañón General Hospital. Madrid.

### Dr. Gomar Sancho, Carmen

- ♦ Chair of Anesthesiology. Department Director. Barcelona Clinical Hospital.

### Dr. González, Antonio M.

- ♦ Attending Physician. Marqués de Valdecilla General Hospital Santander

### Dr. Herrera, Pablo

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Iñigo, José Miguel

- ♦ Attending Physician. Valencia Clinical Hospital. Valencia

### Dr. Justo, Pilar

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Llau, Juan Vicente

- ♦ Head of Department Clinical University Hospital. Valencia

### Dr. López, Cristina

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Moreno, Ignacio

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Moret, Ana

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Osseyran, Faisa

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Pajares, Azucena

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Pérez, Amparo

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Pérez Carbonell, Ana

- ♦ Head of Department. Elche General Hospital. Elche-Alicante

### Dr. Pérez violating, Ignacio

- ♦ Research Vice-Rector CEU Cardenal Herrera University

### Dr. Porta, Joan

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia
- ♦ Dr. Sánchez, Anabel
- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Tur, Ana

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Vicente, Lara

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

### Dr. Vidal, Ana

- ♦ Attending Physician. La Fe i Politècnic University Hospital Valencia

04

# Structure and Content

The curriculum structure has been designed by a team of professionals who understand the implications of medical training in anesthesia and critical care, aware of the current relevance for training and committed to quality teaching through new educational technologies.





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*This Postgraduate Diploma in Anesthesia and Critical Care is the most complete and up-to-date scientific program on the market”*

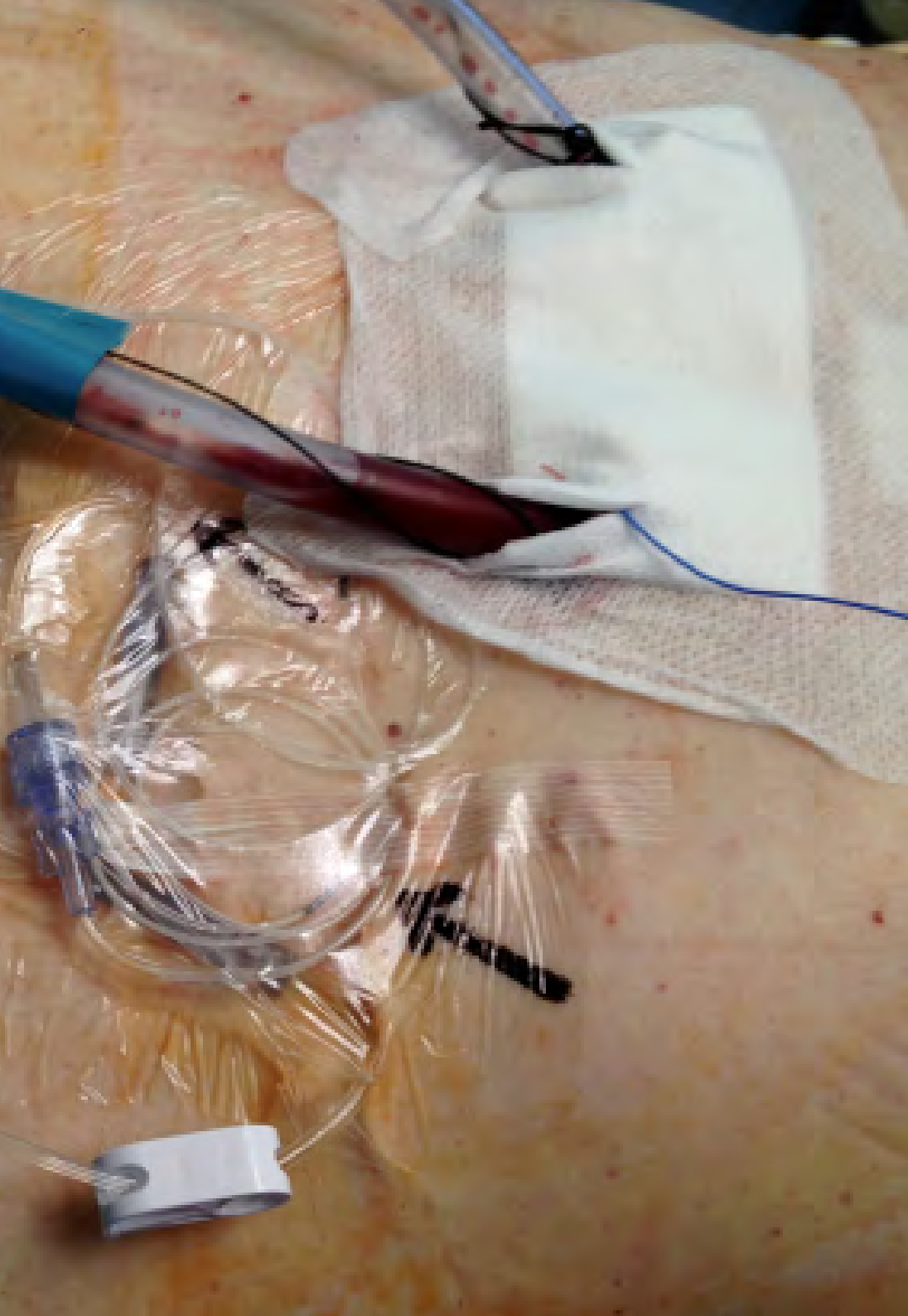
### Module 1. Latest Advances in Anesthesiology

- 1.1. Perioperative Medicine and Multimodal Rehabilitation: Future of Anesthesiology
- 1.2. Hemodynamic Optimization and Target-Guided Fluid Therapy
- 1.3. Clinical Simulation as a Teaching Tool in Postgraduate Education
- 1.4. Evidence-Based Medicine (EBM) in Anesthesiology
- 1.5. Contributions of Anesthesiology to Current Patient Expectations: Clinical Safety Pain Treatment
- 1.6. Pharmacological Developments in Anesthesiology
- 1.7. Perioperative Hemorrhage Preoperative Optimization, Monitoring, New Transfusion Strategies
- 1.8. Research as a Source of Progress in Anesthesiology
- 1.9. New Antiplatelet and Anticoagulant Drugs Involvement in Anesthetic Practice

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





## Module 2. Latest Advances in Critically Ill Patients

- 2.1. Approach to the Neurocritical Patient
- 2.2. Management of the Patient with Acute Respiratory Insufficiency (ARI)
- 2.3. Approach to the Patient in a Situation of Cardiogenic Shock
- 2.4. Right Ventricular Dysfunction and Pulmonary Hypertension
- 2.5. Infections in Critically Ill Patients
- 2.6. Congenital Heart Disease in Adults
- 2.7. Nuevos Sistemas de Ventilación Mecánica en las Unidades de Críticos
- 2.8. Hemodynamic-echocardiographic Evaluation in Critical Patients
- 2.9. Management of the Patient with Hemorrhagic Shock
- 2.10. Management of Adult Respiratory Distress (ARDS)
- 2.11. Mechanical Ventilation
- 2.12. Postoperative Management of Left Ventricular Assists
- 2.13. Multi-Organ Donor Maintenance
- 2.14. Enteral and Parenteral Nutrition in Critically Ill Patients
- 2.15. Neonatal Sepsis and Septic Shock
- 2.16. Comprehensive Management of Renal Transplantation
- 2.17. Comprehensive Management of Lung Transplantation
- 2.18. Acute and Chronic Kidney Failure
- 2.19. Comprehensive Approach to the Polytraumatized Patient
- 2.20. Comprehensive Approach to the Burn Patient
- 2.21. Advanced CPR

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 an abundance of 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.

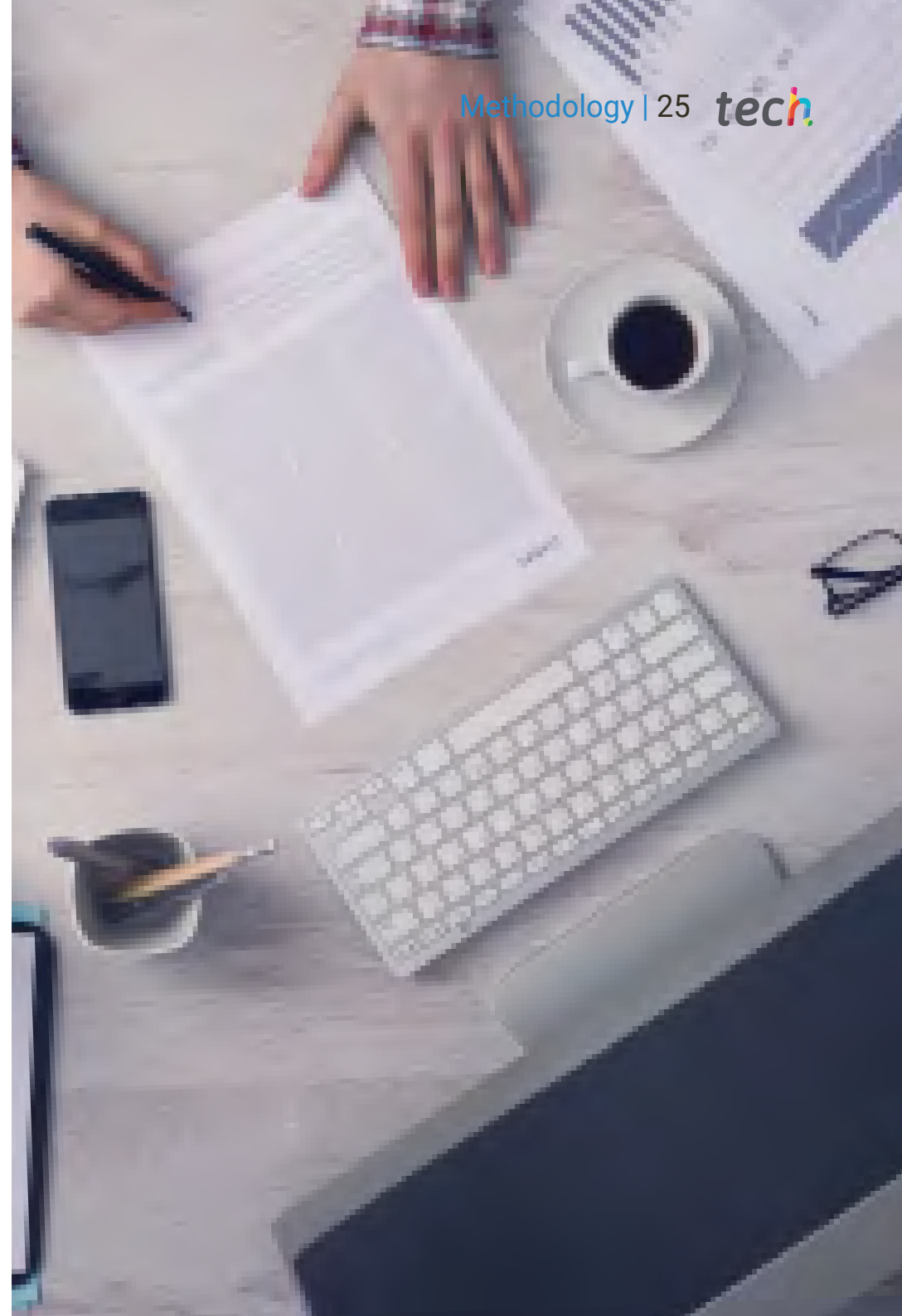


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*Did you know that this method was developed in 1912 at Harvard for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, 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 program you will have access to the best educational material, prepared with you 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 really specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. 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 multimedia content presentation training system 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

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



#### Testing & Retesting

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence in our difficult future decisions.



#### Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



06

# Certificate

The Postgraduate Diploma in Anesthesia and Critical Care guarantees, in addition to the most accurate and up-to-date training, access to a qualification issued by TECH Global University.



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*Successfully complete this training and receive your university degree without travel or laborious paperwork”*

This private qualification will allow you to obtain a **Postgraduate Diploma in Anesthesia and Critical Care** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Postgraduate Diploma in Anesthesia and Critical Care**

Modality: **online**

Duration: **6 months**

Accreditation: **16 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  
online training  
development languages  
virtual classroom



## Postgraduate Diploma Anesthesia and Critical Care

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 16 ECTS
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Diploma Anesthesia and Critical Care

