

# Postgraduate Certificate Acute Renal Failure



## Postgraduate Certificate Acute Renal Failure

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

Website: [www.techtute.com/in/medicine/postgraduate-certificate/acute-renal-failure](http://www.techtute.com/in/medicine/postgraduate-certificate/acute-renal-failure)

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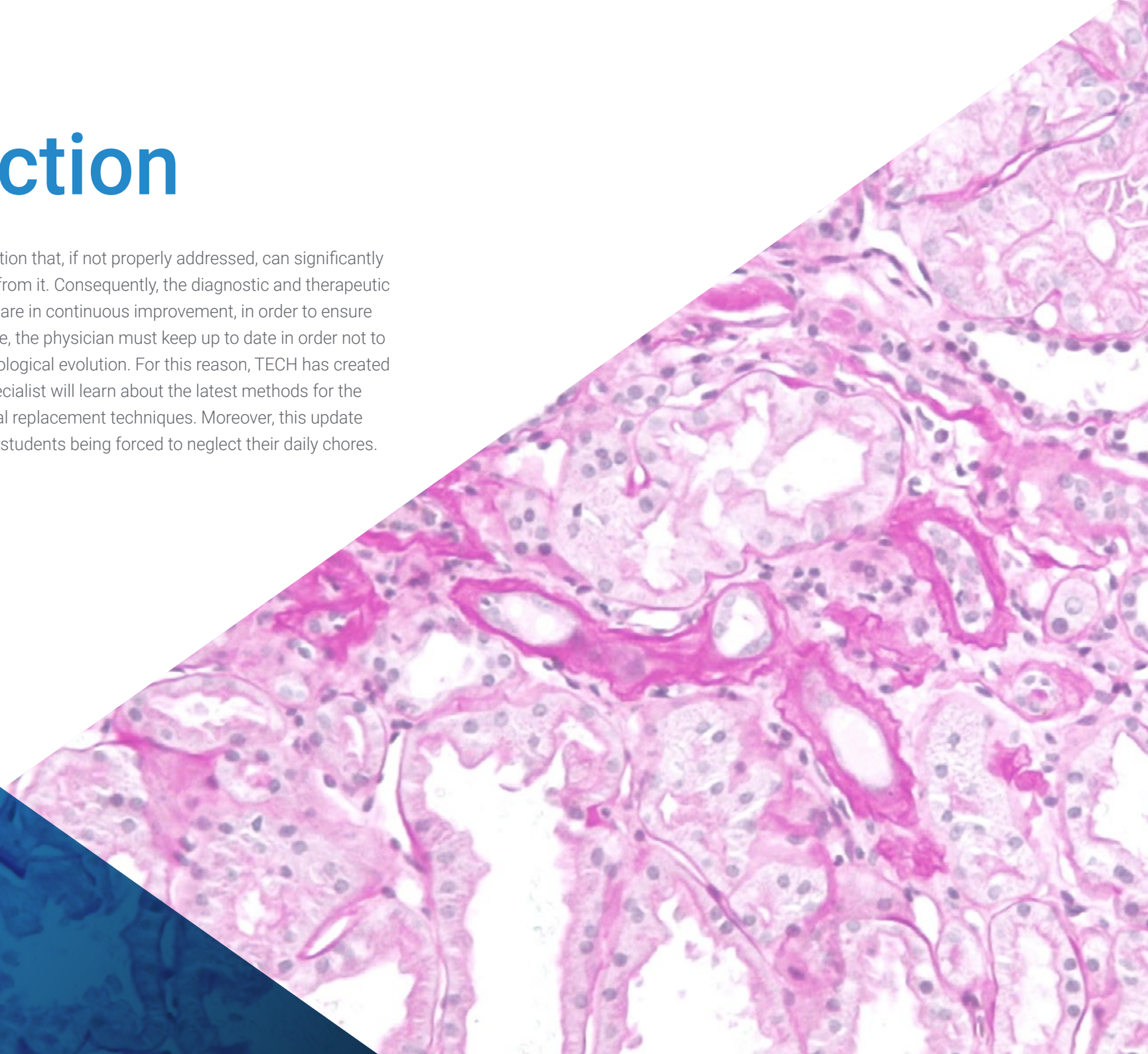
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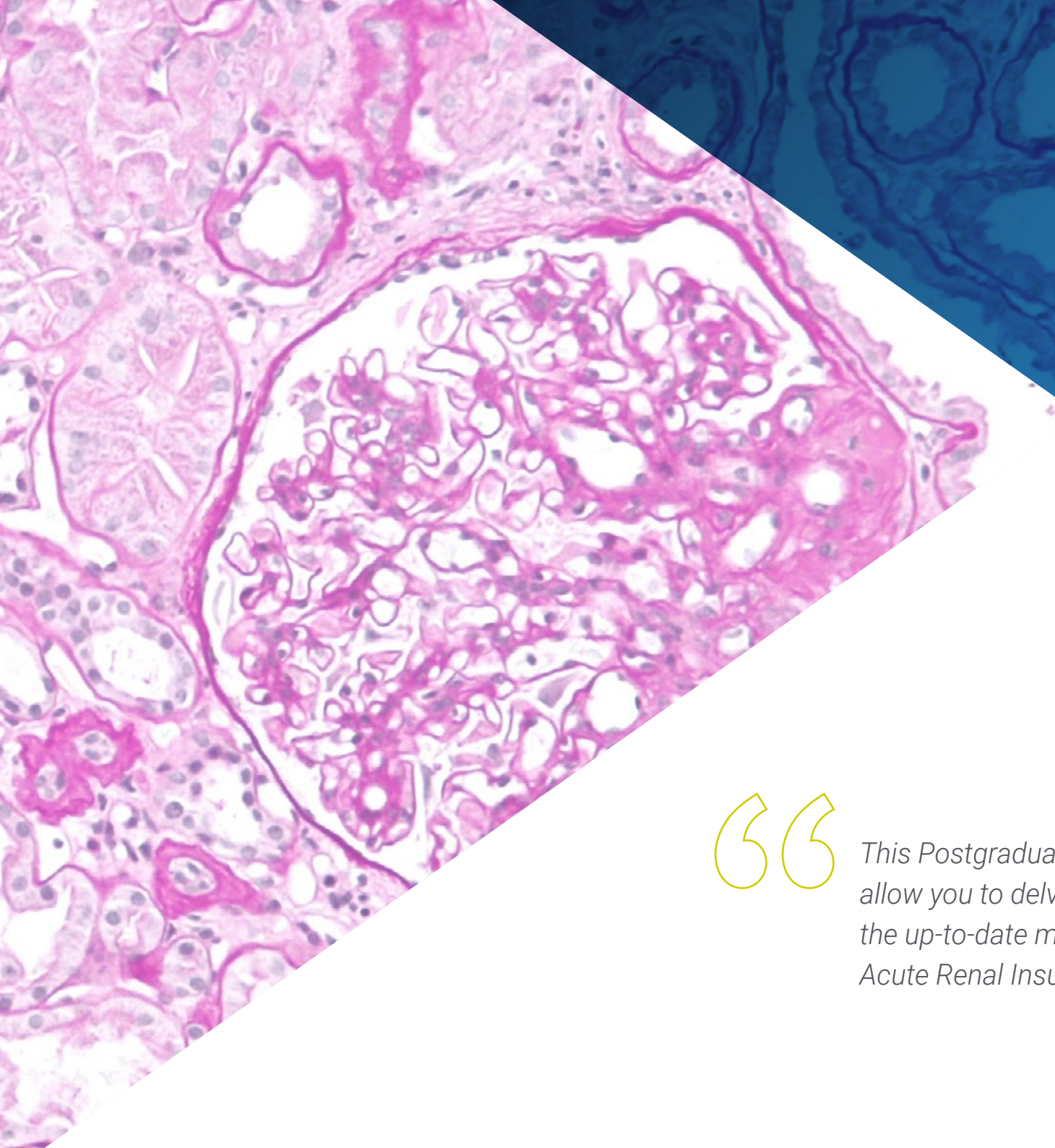
# 01

# Introduction

Acute Renal Failure (ARF) is a condition that, if not properly addressed, can significantly affect the lives of those who suffer from it. Consequently, the diagnostic and therapeutic protocols used for its management are in continuous improvement, in order to ensure the full welfare of patients. Therefore, the physician must keep up to date in order not to be left behind with respect to nephrological evolution. For this reason, TECH has created this program, through which the specialist will learn about the latest methods for the detection of ARF and advanced renal replacement techniques. Moreover, this update will take place 100% online, without students being forced to neglect their daily chores.







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*This Postgraduate Certificate will allow you to delve further into the up-to-date methods to detect Acute Renal Insufficiency”*

Over the last few years, scientific research has focused on finding up to date procedures for the management of Acute Renal Failure, in order to reduce the risks associated with this disease. As a result, advanced diagnostic techniques have been developed that allow an early detection of this condition and cutting-edge therapies that contribute to increase the quality of life of the people who suffer from it. As a result, all those nephrologists who wish to position themselves at the medical forefront are obliged to incorporate these advances in their clinical practice.

That is why TECH has designed this Postgraduate Certificate, through which the student will get a deep update on the procedures to address Acute Renal Failure. Through 150 hours of study, students will delve into the sophisticated methods for diagnosis or innovative hybrid and continuous renal replacement techniques. Likewise, it will explore the recent strategies for drug adjustment according to the dialysis technique used with the patient.

This program is taught in a 100% online modality, allowing students to complete their medical update without the need to move from their own home. In addition, you will benefit from the innovative *Relearning* learning approach, which enables physicians to go through the syllabus at their own pace, thus optimizing the assimilation of key concepts.

This **Postgraduate Certificate in Acute Renal Failure** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ Practical cases presented by specialists in Nephrology and Internal medicine
- ♦ 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



*Enjoy the most up to date educational content available in innovative multimedia formats to optimize your study"*

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*Through this program, you will learn about innovative hybrid and continuous renal replacement techniques”*

The program's teaching staff 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.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive 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.

*Get up to date in the management of Acute Renal Failure with didactic contents designed by the best specialists in Nephrology.*

*Throughout this educational period, you will delve into the strategies for the adjustment of drugs according to the dialysis technique used with the patient.*





# 02 Objectives

The objective of the program is to provide the physician with the most updated knowledge on the pathophysiology, diagnostic methods and treatments of Acute Renal Failure. In addition, this update will be provided by the best specialists in Nephrology, who will also be responsible for resolving any doubts that the student may have throughout the syllabus.







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*In only 6 weeks, you will complete an update that will turn you into a professional of reference in the area of Nephrology”*



## General Objectives

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- Care for patients with chronic kidney disease and its most frequent complications
- Care for patients with acute renal failure and its complications, as well as to understand the objective of initiating renal replacement therapy, its indications and management
- Have an overview of Nephrology as a specialty with its different branches of knowledge and a global approach to the patient
- Understand and learn the branches that are emerging within the specialty such as diagnostic and interventional nephrology, onconeurology, or cardioneurology



*Delve into the latest recommendations for the application of renal replacement therapy in patients with Septic Shock*





## Specific Objectives

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- Be up to date in the diagnosis of Acute Renal Failure
- Know the prognostic urinary biomarkers
- Learn in depth about Acute Kidney Injury as a syndrome, understanding its approach
- Learn the different renal replacement techniques in the patient with Acute Renal Failure, delving into their advantages and disadvantages
- Understand the particularities of nutrition management and antibiotic dosage in patients with acute kidney injury



03

# Course Management

This Postgraduate Certificate has reunited an educational faculty composed by recognized specialists in the field of Nephrology. These experts have an outstanding skill in the treatment of Acute Renal Failure, which has been demonstrated throughout their hospital experiences. Therefore, the knowledge that students will acquire will be in line with the demands of the healthcare sector.





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*You will enjoy a complete and up-to-date syllabus designed by specialists with extensive experience in the management of Acute Renal Failure”*

## Management



### Dr. Ribas Closa, Andrés

- Nephrologist at the Sant Jordi Clinic in Sant Andreu
- Nephrology Del Mar Hospital, Barcelona
- Expert in Clinical Ultrasound at the Francisco de Vitoria University
- Master's Degree in Infectious Diseases and Antimicrobial Treatment from the CEU Cardenal Herrera University
- Degree in Medicine from the Autonomous University of Barcelona



### Dr. Galcerán, Josep María

- Head of Nephrology Service at Fundació Althaia in Manresa
- Head of Nephrology Service at the Hospital de Palamós
- Professor of Nephrology at the International University of Catalonia
- Former President of the Catalan Societies of Nephrology and Arterial Hypertension
- Specialization in Nephrology by the Hospital de Bellvitge
- Postgraduate degree in Basic Nephrology from the University of Minnesota
- Degree in Medicine and Surgery from the University of Barcelona
- Member of: Spanish Society of Nephrology and Arterial Hypertension





# 04

## Structure and Content

This Postgraduate Certificate provides a wide range of advanced knowledge in the field of Acute Renal Failure, addressing topics such as up-to-date diagnostic and treatment protocols and state-of-the-art renal replacement techniques. All didactic content will be available in a 100% online format, allowing the physicians to complete their update 24 hours a day and from anywhere they wish.





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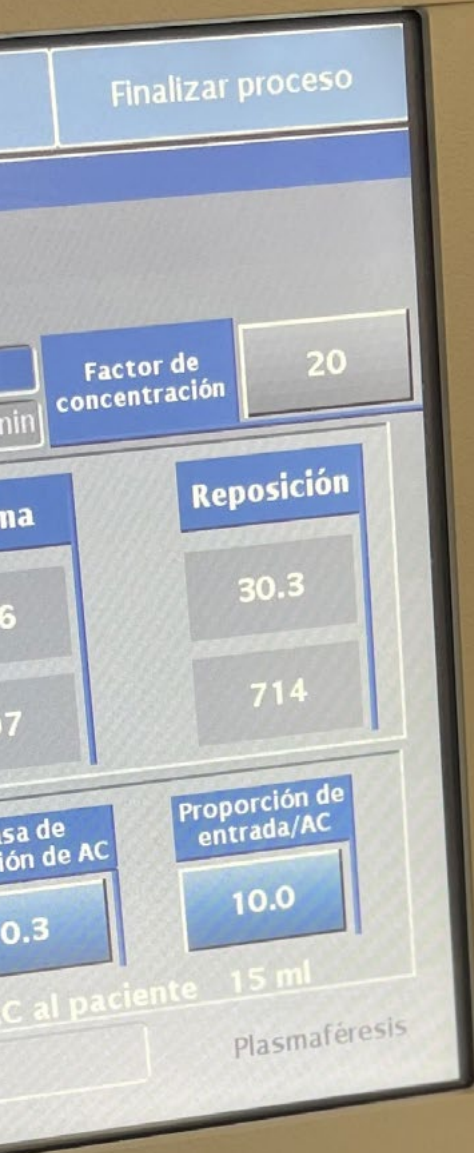
*A syllabus tailored to your needs and designed under the most effective pedagogical methodology: Relearning”*



## Module 1. Acute Renal Failure (ARF)

- 1.1. New Diagnostics and Classification
  - 1.1.1. Acute Renal Insufficiency Markers KIM-1, TIMP-2
  - 1.1.2. Classification of ARF Nomenclature
  - 1.1.3. Inflammation in ARF Kidney-Heart, Kidney-Lung Interaction
- 1.2. Diagnostic and Therapeutic Protocol of ARF
  - 1.2.1. Water balance and ARF
  - 1.2.2. Dyselectrolythemia in patients with ARF. Hyperkalemia in the critically ill patient
  - 1.2.3. Utility of diuretics in ARF
  - 1.2.4. Utility of albumin as a colloid in ARF
- 1.3. Acute Renal Failure and Renal Replacement Therapy
  - 1.3.1. Early vs. late initiation of renal replacement therapy
  - 1.3.2. Indications for renal replacement therapy
- 1.4. Continuous Renal Replacement Techniques (CRRT)
  - 1.4.1. Indication Machines
  - 1.4.2. Guideline, effluent dose
  - 1.4.3. Utility of replacement liquid Prefilter. Postfilter
  - 1.4.4. TCRR circuit anticoagulation
- 1.5. Hybrid Renal Replacement Techniques
  - 1.5.1. Definition
  - 1.5.2. Uses. Evidence of its usefulness in the critically ill patient.evidence of Coagulopathy in Critical Patients
  - 1.5.3. Advantages and Disadvantages of the Hybrid Techniques
- 1.6. Intermittent Hemodialysis in the Critically Ill Patient
  - 1.6.1. Intermittent Hemodialysis in the Critically Ill Patient
  - 1.6.2. Dialysis Dosis regimen
  - 1.6.3. Ultrafiltration in the hemodynamically unstable patient
- 1.7. Respiratory Dialysis
  - 1.7.1. Pathophysiology of ARDS
  - 1.7.2. Protective mechanical ventilation
  - 1.7.3. Usefulness of ECCO2R membranes





- 1.8. Kidney and Sepsis
  - 1.8.1. New developments in Sepsis and Septic Shock
  - 1.8.2. Principles of antimicrobial prescribing in ARF
  - 1.8.3. Renal replacement therapy in the patient with septic shock
- 1.9. Nutrition in the Acute Renal Failure Patient
  - 1.9.1. Protein-caloric malnutrition
  - 1.9.2. Hypercatabolism in the Critically Ill Patient
- 1.10. Antibiotics in the Critically Ill Patient undergoing Renal Substitutive Treatment
  - 1.10.1. Determinants of antibiotic distribution ( $V_d$ , proteins)
  - 1.10.2. Adjustment of the main drugs according to pharmacokinetics/pharmacodynamics
  - 1.10.3. Adjustment of drugs according to the dialysis technique employed

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*Enjoy the most up to date knowledge on the management of Acute Renal Failure by enrolling in this Postgraduate Certificate”*

# 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 Acute Renal Failure guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*



This **Postgraduate Certificate in Acute Renal Failure** contains the most complete and up-to-date scientific 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 Acute Renal Insufficiency**

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 quality  
online training  
development languages  
virtual classroom



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

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