



# Postgraduate Certificate

Clinical Abdominal Ultrasound

Course Modality: Online

Duration: 6 weeks

Endorsed by: TECH Technological University

ECTS: 6

Hours 150 hours.

Website: www.techtitute.com/medicine/postgraduate-certificate/postgraduate-certificateclinical-abdominal-ultrasound with the common of the c

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Certificate





# tech 06 | Introduction

Clinical Ultrasonography increases the possibility of diagnosing and treating patients in an emergency situation or those who need critical care. It is becoming an ever increasingly popular and valuable tool for aiding diagnostic and therapeutic interventions.

Its advantages include portability, accuracy, real-time visualization, reproducibility and efficiency (cost/effectiveness). Its usefulness has been demonstrated in hospital scenarios (emergency, intermediate care, semi-critical or intensive care, operating rooms, resuscitation, hospitalization, consultations, etc.), as well as in out-of hospital situations (home, public roads, health centers, emergencies, ambulances, etc.).

Technological advances have made it possible to reduce the size of the equipment, making it cheaper and more portable, and have increased the capabilities of clinical ultrasound, leading to a notable increase in its use in various situations. Today, more accurate ultrasound diagnosis, safe ultrasound-guided interventions, precise non-invasive hemodynamic evaluations and rapid assessment of traumatic injuries are all possible.

This **Postgraduate Certificate in Clinical Abdominal Ultrasound** is the most comprehensive and up-to-date scientific program on the market. The most important features of the program include:

- Clinical cases presented by experts in ultrasound imaging. 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.
- Novelties on action in Clinical Abdominal Ultrasound
- Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- Special emphasis on test-based medicine and research methodologies in the use of ultrasound in emergencies and critical care.
- All this will be complemented by 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.





This course may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge on Clinical Abdominal Ultrasound, you will obtain a postgraduate certificate from TECH Technological University"

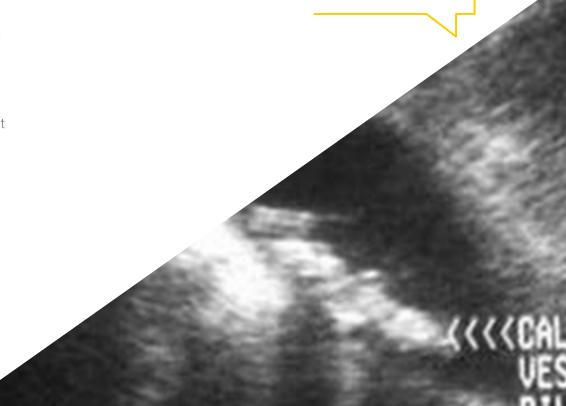
Forming part of the teaching staff is a group of professionals in the world of ultrasound in emergencies and critical care who bring to this training their work experience, as well as a group of renowned specialists, recognised by esteemed scientific communities.

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 an immersive training program to train in real situations.

Problem-Based Learning underpins this program design, and the doctor must use it to try and solve the different professional practice situations that arise throughout the University Course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of ultrasound in emergencies and intensive care with extensive teaching experience.

The course includes real clinical cases and exercises to bring the development of the course closer to the doctor's clinical practice.

Make the most of the opportunity to update your knowledge in Clinical Abdominal Ultrasound and improve your patient care.





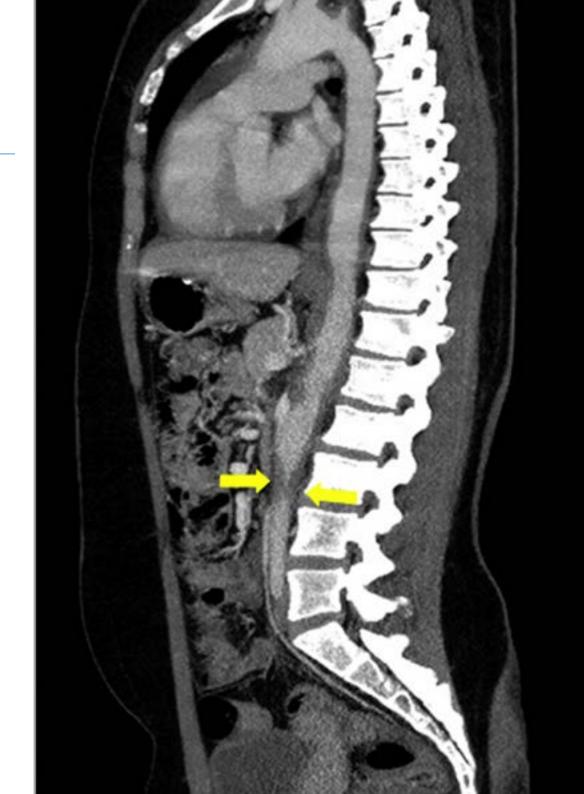


# tech 10 | Objectives



# **General Objective**

• The main goal of this course is to complete the training itinerary, turning physicians into masters in the use of ultrasound for the management of emergency situations and critical patients, regardless of the environment in which they find themselves.





### **Specific Objectives**

- Explain the abdominal anatomy.
- Describe the technical requirements of abdominal ultrasounds.
- Explain the examination technique for abdominal ultrasounds.
- Explain the FAST methodology.
- Define the principles of ultrasounds of the digestive system.
- Define the principles of genitourinary ultrasounds.
- Describe the types of transductors for abdominal examination.
- Define the visualization of organs according to conventional sectioning
- Describe the basic settings of abdominal ultrasounds
- Explain the anatomy of the urinary system
- Explain the preparation of the patient for abdominal ultrasonography
- Identify significant differences between abdominal ultrasound and genitourinary ultrasound.



Seize the opportunity and take the step to get up to date on the latest developments in Clinical Abdominal Ultrasound"





# tech 14 | Course Management

### Management



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- Degree in Medicine and Surgery
- Specialist in Intensive Care Medicine.
- Doctor of Medicine (PhD)
- Attending Physician of Intensive Care Medicine and Major Burns Unit. Getafe University Hospital. Getafe, Madrid
- Collaborating Professor of the Master's Degree in Intensive Care Medicine at the CEU Cardenal Herrera University of Valencia.
- Founding Member of the Ecoclub of SOMIAMA.
- Collaborating Professor of SOCANECO.

### **Professors**

### Fumadó Queral, Josep

- Primary Care Doctor.
- Primary Care Team in Amposta. Tarragona
- Professor of Clinical Ultrasound of the Spanish Society of General Medicine (SEMG).
- Collaborating Professor and Honorary Member of the Canary Society of Ultrasound (SOCANECO)

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### **Martínez Crespo, Javier**

- Attending Physician of Radiodiagnostics University Hospital Universitario of Getafe, Madrid
- Associate Professor at the European University of Madrid.
- Collaborator of the Ecoclub of SOMIAMA.

### Pérez Morales, Luis Miguel

- Primary Care Doctor. Health Center of Las Palmas in Gran Canaria.
- President of the Canaries Society for Ultrasound (SOCANECO)
- Member of the European Federation of Societies of Ultrasound in Medicine and Biology (EFSUMB).







# tech 18 | Structure and Content

### Module 1. Clinical Abdominal Ultrasound

- 1.1. Anatomy Recap.
  - 1.1.1. Abdominal Cavity.
  - 1.1.2. Liver.
  - 1.1.3. Gallbladder and Bile Ducts.
  - 1.1.4. Retroperitoneum and Great Vessels.
  - 1.1.5. Pancreas.
  - 1.1.6. Spleen.
  - 1.1.7. Kidneys.
  - 1.1.8. Bladder.
  - 1.1.9. Prostate and Seminal Vesicles.
  - 1.1.10. Uterus and Ovaries.
- 1.2. Technical Requirements.
  - 1.2.1. Ultrasound Equipment.
  - 1.2.2. Types of Transductors for Abdominal Examination.
  - 1.2.3. Basic Ultrasound Settings.
  - 1.2.4. Patient Preparation.
- 1.3. Examination Technique.
  - 1.3.1. Study Maps.
  - 1.3.2. Probe Movements.
  - 1.3.3. Visualization of Organs According to Conventional Sectioning.
  - 1.3.4. Systematic Study.



- 1.4. FAST Methodology.
  - 1.4.1. Equipment and Transductors.
  - 1.4.2. FAST I.
  - 1.4.3. FAST II.
  - 1.4.4. FAST III. Perivesical Effusion.
  - 1.4.5. FAST IV. Pericardial Effusion.
  - 1.4.6. FAST V. Rule out ABD Aortic Aneurysm.
- 1.5. Ultrasound of the Digestive System.
  - 1.5.1. Liver.
  - 1.5.2. Gallbladder and Bile Ducts.
  - 1.5.3. Pancreas.
  - 1.5.4. Spleen.
- 1.6. Genitourinary Ultrasound.
  - 1.6.1. Kidneys.
  - 1.6.2. Urinary Bladder.
  - 1.6.3. Male Genital System.
  - 1.6.4. Female Genital System.









### 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. 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 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 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 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.
- 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.



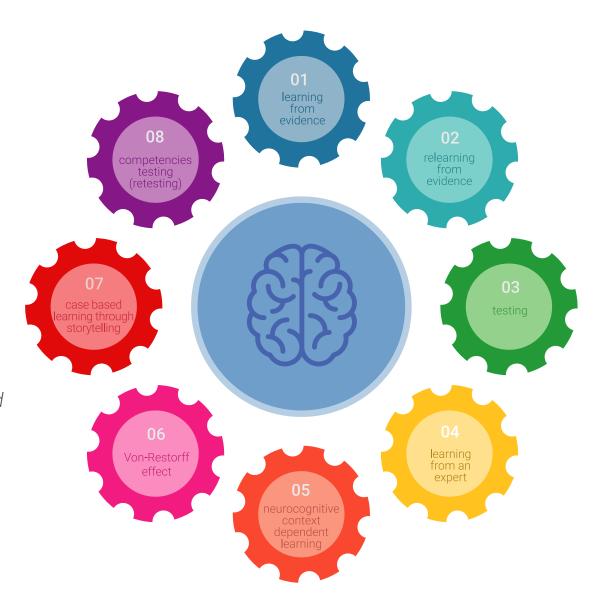


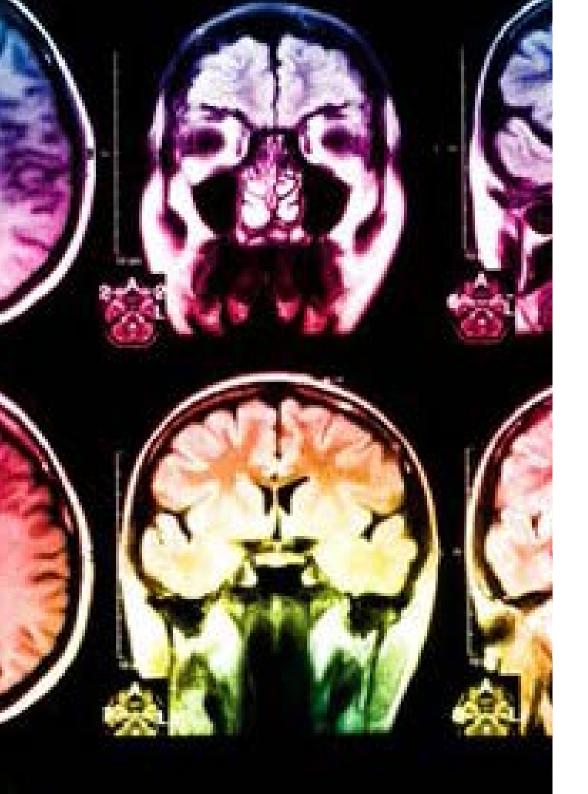
### **Re-learning Methodology**

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.





# Methodology | 25 tech

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 training, 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 highly 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**

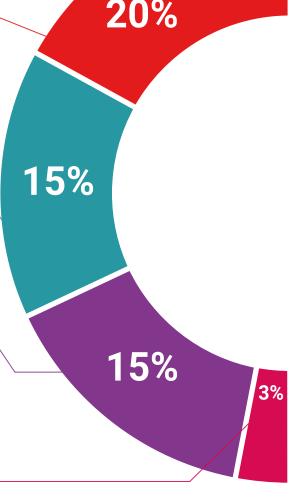
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



### **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 training system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

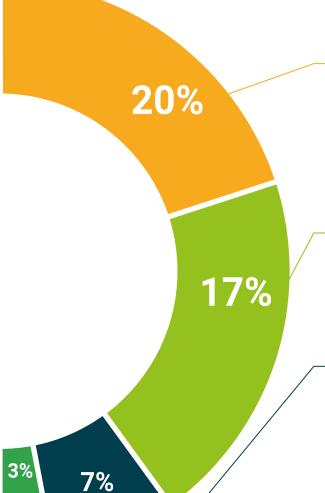




### **Additional Reading**

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 & Re-Testing**

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.







# tech 30 | Certificate

This **Postgraduate Certificate in Clinical Abdominal Ultrasound** contains the most complete and updated scientific program on the market. After passing the evaluations, the student will receive by mail with acknowledgment of receipt the corresponding **Postgraduate Certificate** issued by **TECH Technological University**.

The diploma issued by TECH Technological University will express the qualification obtained in the course, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: Postgraduate Certificate in Clinical Abdominal Ultrasound

ECTS: 6

N° of Official Hours: 150



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

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