

# Internship Program Cardiac Arrhythmias



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Internship Program  
Cardiac Arrhythmias

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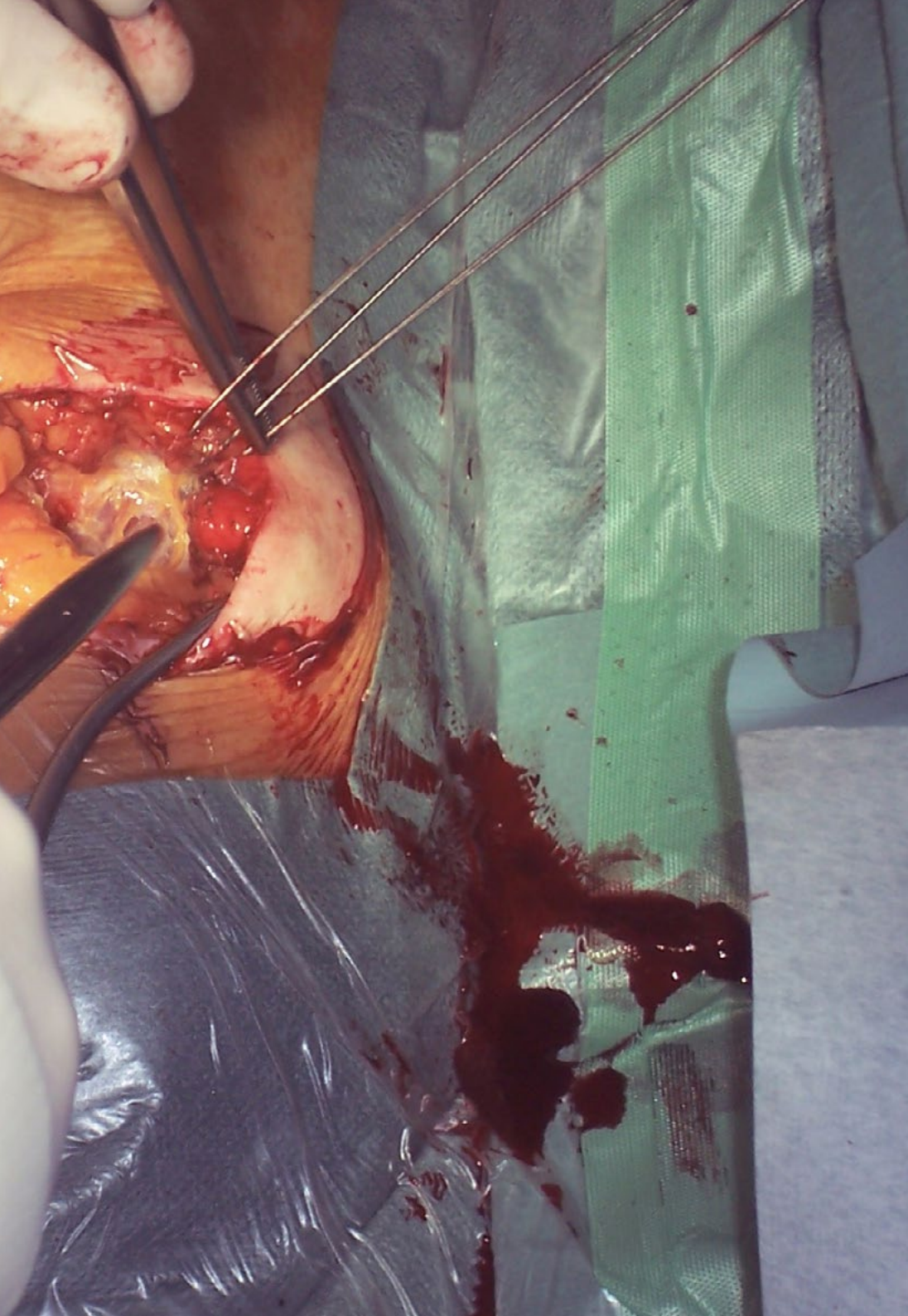
# 01 Introduction

Cardiovascular diseases are the leading cause of death in the world. According to the World Health Organization, about 18 million people die each year from these causes and Cardiac Arrhythmia is one of the signs that can alert the patient that he should be treated. The need for the professional to be up to date with all the advances on the subject is what has motivated TECH to develop this 100% practical program so that the specialist, hand in hand with a team of professionals specialized in a prestigious clinical center, attends real cases and is updated on the main therapeutic and diagnostic methods that exist today.

“

*Get up to date with the advances in Cardiac Arrhythmias with a 3 weeks Internship with the best professionals”*





Cardiac arrhythmias can be a warning sign of a heart attack in progress, high blood pressure, high stress level, changes in the thyroid gland, cardiomyopathy or they can simply be the sign of a blocked artery in the heart, certain medications or supplements. It can also be caused by excessive intake of caffeine, nicotine, drugs or alcohol. And it may be due to a cardiac anomaly at birth, genetic changes, sleep apnea, diabetes, among other conditions.

The alterations in the cardiac rhythm undoubtedly alert the patient and the physician that a thorough review of the causes of this Bradyarrhythmia, in the case of slow pulsations, or Tachycardia in the case of very fast pulsations, should be carried out. In this way, the specialist in Cardiac Arrhythmias will have the opportunity to provide an affective solution to the patient with advanced methods that have emerged in recent years. Your update in this sense is key and with this 100% practical program you have the opportunity to achieve it in 3 weeks in the best clinical center specialized in the area.

In its interest to offer programs up to date with new technologies and advances in medicine, TECH has established important agreements with the most complete and updated health centers. Thanks to the human, technical and material equipment they have, they will provide the specialist with the necessary conditions to get up to date in the management of patients with Cardiac Arrhythmias.

This is a 3-week Internship Program, during which the graduate will become part of a team of specialists of the highest level, with whom he will work actively in the management of the different patients who come to their respective offices during this period. They will have the support of an assistant tutor, who will ensure that all the requirements for which this Internship Program has been designed are met. Therefore, you will live an enriching academic experience that will allow you to improve your professional profile.

# 02

## Why Study an Internship Program?

The idea of the Internship Program emphasizes the specialist's need to update his knowledge in an up-to-date health care space with the latest technology and equipment. A place where he can attend real patients together with the most renowned experts in the cardiological and cardiovascular area. In this way, for 3 weeks, the intensive stay is established where you will be integrated into a multidisciplinary team that will allow you to take charge of the care of various cases of patients with signs and symptoms of cardiac arrhythmias, or who are already under treatment for follow-up. An investigative and practical work *in situ* where you will perform the clinical diagnosis, chronic management, pharmacological treatment or establish the most appropriate therapeutic strategies in each case, always hand in hand with the assigned tutor, which is a unique updating experience that only TECH can offer you.



*Delve into the mechanisms and pathogenesis of Ventricular Tachyarrhythmias with this 100% practical program"*

### 1. Updating from the latest technology available

To develop this Internship Program, TECH has joined the most specialized centers with the resources and latest advances in Cardiac Medicine. Therefore, the content that will be developed in the activity will contain a high level of specialization and will be in an avant-garde scenario with the latest methodology and technology.

### 2. Gaining In-Depth Knowledge from the Experience of Top Specialists

The large team of professionals that will accompany the specialist throughout the entire practical period is a first-rate endorsement and a guarantee of unprecedented updating. With a specifically designated tutor, the student will be able to see real patients in a state-of-the-art environment, which will allow him to incorporate in his daily practice the most effective procedures and approaches to treat Cardiac Arrhythmias.

### 3. Entering First-Class Clinical Environments

Thanks to its commitment to develop high quality programs, TECH selects in an extensive manner all the centers available for the Internship Program. Thanks to this, the specialist will have guaranteed access to a prestigious clinical environment in the area of Cardiac Medicine. He will test the effectiveness of the latest postulates and treatments for the patient affected with Cardiac Arrhythmia.



#### 4. Putting the acquired knowledge into daily practice from the very first moment

With this 100% practical program TECH allows the specialist to choose a reference clinical center, within the national or international territory. In this way, you will enjoy a global and advanced experience, where you will be in front of real cases in an avant-garde scenario that will allow you to get up to date with the most effective procedures for patients with Cardiac Arrhythmias.

#### 5. Expanding the Boundaries of Knowledge

Through this 100% practical program, the specialist will be able to expand his frontiers and catch up with the best professionals from different geographical areas, who practice in hospitals with the highest technology. A unique opportunity that only TECH, offers you to continue advancing in your career in an effective way.



*You will have a total practical immersion in the center of your choice"*

# 03 Objectives

In order to update the specialist on all scientific and technological advances in diagnosing and treating patients with cardiac arrhythmias, TECH has developed this 100% practical program in which during 120 hours of work and study in a state-of-the-art clinical center. You will be put in charge of the different cases that are presented day by day, in a rigorous way together with an assigned tutor who will guide and accompany you throughout the process, achieving a quality experience and advancement for your career.



## General Objectives

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- ♦ Master the latest techniques, modern scientific postulates and application of cutting-edge technologies in Cardiac Arrhythmia treatments
- ♦ Incorporate the most effective methods, approaches and clinical analysis into daily work, endorsed by a team of prestigious experts in the Cardiology and Cardiovascular area
- ♦ Learn the specific approach and common cases that occur in the clinical setting to diagnose and treat Cardiac Arrhythmias







## Specific Objectives

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- ◆ Understand the fundamental mechanisms that produce arrhythmias, including cellular physiology, the conduction system, cardiac anatomy of arrhythmias (with the addition of a radiological approach) and the role of genetics
- ◆ Review the most common antiarrhythmic drugs, focusing on their most important indications, contraindications and common adverse effects
- ◆ Review basic diagnostic techniques and common procedures in the Electrophysiology Department
- ◆ Analyze the key aspects of its diagnostic process, with a clinical and electrocardiographic approach. Review the electrocardiographic differential diagnosis between wide QRS tachycardias
- ◆ Delve in detail into the indication of pacemakers, their implantation technique, their basic operation, as well as the modes of programming and other aspects of follow-up
- ◆ Review the fundamental aspects of the most frequent channelopathies: Brugada Syndrome and Long QT Syndrome
- ◆ Delve into the prevention and management of ventricular arrhythmias, reviewing the indications for ICD in these pathologies
- ◆ Know in detail the therapeutic algorithm of arrhythmic storm
- ◆ Review the rhythm disorders associated with other less frequent cardiomyopathies
- ◆ Verify in depth the importance of the AF-Heart Failure relationship, from its epidemiology to its prognostic implication
- ◆ Review the role of antiarrhythmic drugs, especially ablation, in the management of AF in patients with heart failure
- ◆ Update on the assessment of ventricular arrhythmias in heart failure, delving into the role of genetics and MRI

# 04

## Educational Plan

This program consists of an intensive Internship in a specialized health center, where the professional will be hand in hand with a designated tutor who will accompany him throughout the process. You will complete a series of activities according to the syllabus defined by the TECH expert team and consequently, you will enjoy an enriching experience to get up to date with new diagnostic and therapeutic methods in the cardiovascular and cardiology area with the treatment of Cardiac Arrhythmias.

In this completely practical Internship Program, the activities are aimed at developing and perfecting the skills necessary to provide healthcare care in areas and conditions that require highly qualified professionals, and are oriented towards specific expertise for practicing the activity, in a safe environment for the patient and with highly professional performance.

Practical teaching will be carried out with the active participation of the student, carrying out the activities and procedures of each area of skill (learning to learn and learning to do), with the accompaniment and guidance of teachers and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for praxis of Medicine (learning to be and learning to relate).

The procedures described below will be the basis of the practical part of the training, and their implementation is subject to both the suitability of the patients and the availability of the center and its volume of work, the proposed activities being the following:





Module	Practical Activity
Diagnostic Techniques Used in Arrhythmias	Review the patient's physiology through basic tests such as electrocardiograms, stress tests, electrophysiologic tests and mapping
	Apply Holter in the patient to determine ambulatory electrocardiography
	Use the Tilt test for patients with frequent syncope or vertigo
	Apply the insertable Holter
	Use pharmacological tests
	Indicate and supervise the use of wearables and other devices for patient monitoring
Therapeutic Techniques in Arrhythmias and Heart Failure	Assessing the risk of ventricular arrhythmias in HF
	Prescribe drugs to control the heart rate and restore cardiac rhythm
	Recommend vagal maneuvers
	Perform cardioversion
	Indicate atrial fibrillation ablation when necessary
	Perform electrode removal
Use of devices in Cardiac Arrhythmias (Pacemaker, ICD and Resynchronizer)	Performing Pacemaker, ICD or Resynchronizer implantations
	Practice the Basic Pacemaker Programming
	Verify ICD, Resynchronizer or Pacemaker operation
	Program the discharge after implantation
	Comply with follow-up protocols in the office
Arrhythmic Syndromes, Sudden Death and Channelopathies	Perform electrocardiograms
	Administer Na channel blockers, such as Flecainide, Ajmaline or Procainamide to detect Brugada Syndrome
	Prescribe pharmacologic therapies with beta-blockers such as Propranolol and Nadolol for the prevention of Sudden Cardiac Death
	Prescribe the use of Implantable Cardioverter Defibrillator (ICD) in secondary prevention and in other cases
Indicate the genetic studies necessary to complete the diagnosis of arrhythmic syndromes	

# 05 Where Can I Do the Internship Program?

In its intention to provide highly specialized Internship Program, TECH has established agreements with important national and international hospitals for the implementation of this program. By enrolling the professional will witness a unique opportunity to incorporate new diagnostic and therapeutic methods in their daily clinical practice with patients with Cardiac Arrhythmias.



*Develop your full potential and share the most innovative professional experience in any of the following reference clinical centers"*





The student will be able to do this program at the following centers:



Medicine

### Hospital HM Modelo

Country: Spain City: La Coruña

Address: Rúa Virrey Osorio, 30, 15011, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care



Medicine

### Hospital HM Rosaleda

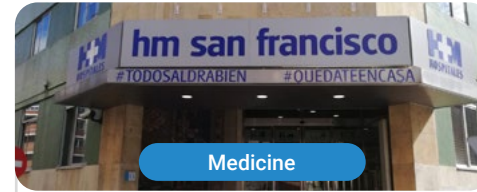
Country: Spain City: La Coruña

Address: Rúa de Santiago León de Caracas, 1, 15701, Santiago de Compostela, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Hair Transplantation
- Orthodontics and Dentofacial Orthopedics



Medicine

### Hospital HM San Francisco

Country: Spain City: León

Address: C. Marqueses de San Isidro, 11, 24004, León

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Update in Anesthesiology and Resuscitation
- Trauma Nursing



Medicine

### Hospital HM Regla

Country: Spain City: León

Address: Calle Cardenal Landázuri, 2, 24003, León

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Update on Psychiatric Treatment in Minor Patients



Medicine

### Hospital HM Nou Delfos

Country: Spain City: Barcelona

Address: Avinguda de Vallcarca, 151, 08023 Barcelona

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Aesthetic Medicine
- Clinical Nutrition in Medicine



Medicine

### Hospital HM Madrid

Country: Spain City: Madrid

Address: Pl. del Conde del Valle de Súchil, 16, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Palliative Care
- Anaesthesiology and Resuscitation



Medicine

### Hospital HM Torrelodones

Country: Spain City: Madrid

Address: Av. Castillo Olivares, s/n, 28250, Torrelodones, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care



Medicine

### Hospital HM Sanchinarro

Country: Spain City: Madrid

Address: Calle de Oña, 10, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care



Medicine

### Hospital HM Puerta del Sur

Country	City
Spain	Madrid

Address: Av. Carlos V, 70, 28938, Móstoles, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Palliative Care
- Clinical Ophthalmology



Medicine

### Hospital HM Vallés

Country	City
Spain	Madrid

Address: Calle Santiago, 14, 28801, Alcalá de Henares, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Gynecologic Oncology
- Clinical Ophthalmology



Medicine

### HM CIEC - Centro Integral de Enfermedades Cardiovasculares

Country	City
Spain	Madrid

Address: Av. de Montepíncipe, 25, 28660, Boadilla del Monte, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Cardiac Surgery
- Acute Coronary Syndrome



Medicine

### HM CIEC Barcelona

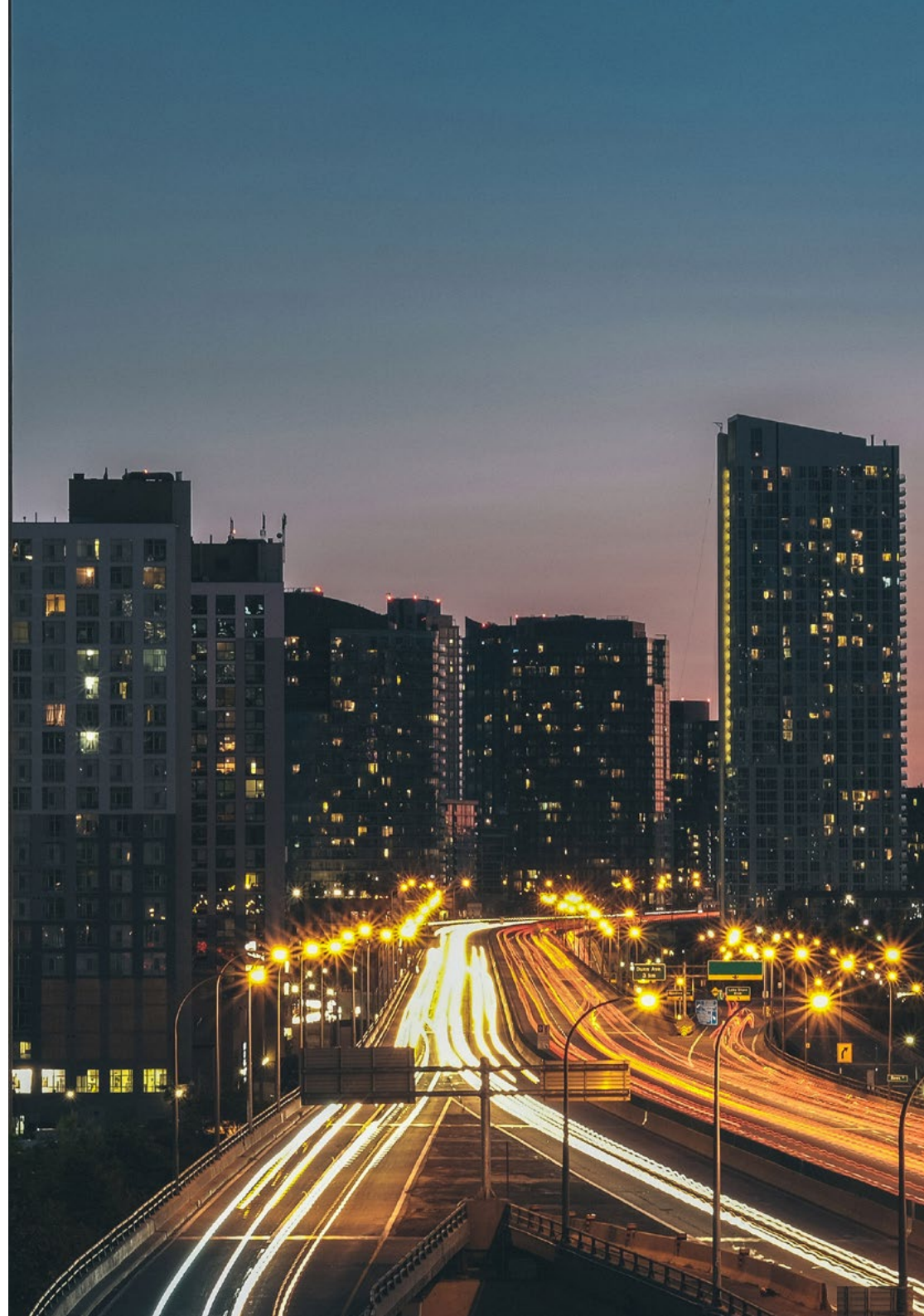
Country	City
Spain	Barcelona

Address: Avenida de Valcarca, 151, 08023, Barcelona

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Cardiac Arrhythmias
- Cardiac Surgery





Medicine

### Policlínico HM Arapiles

Country City  
Spain Madrid

Address: C. de Arapiles, 8, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Pediatric Dentistry



Medicine

### Policlínico HM Distrito Telefónica

Country City  
Spain Madrid

Address: Ronda de la Comunicación, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Optical Technologies and Clinical Optometry
- General and Digestive System Surgery



Medicine

### Policlínico HM Gabinete Velázquez

Country City  
Spain Madrid

Address: C. de Jorge Juan, 19, 1º 28001, 28001, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Clinical Nutrition in Medicine
- Aesthetic Plastic Surgery



Medicine

### Policlínico HM La Paloma

Country City  
Spain Madrid

Address: Calle Hilados, 9, 28850, Torrejón de Ardoz, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Advanced Operating Room Nursing
- Orthodontics and Dentofacial Orthopedics



Medicine

### Policlínico HM Las Tablas

Country City  
Spain Madrid

Address: C. de la Sierra de Atapuerca, 5, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Trauma Nursing
- Diagnosis in Physiotherapy



Medicine

### Policlínico HM Moraleja

Country City  
Spain Madrid

Address: P.º de Alcobendas, 10, 28109, Alcobendas, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Rehabilitation Medicine in Acquired Brain Injury Management



Medicine

### Policlínico HM Imi Toledo

Country City  
Spain Toledo

Address: Av. de Irlanda, 21, 45005, Toledo

Network of private clinics, hospitals and specialized centers distributed throughout Spain

**Related internship programs:**

- Electrotherapy in Rehabilitation Medicine
- Hair Transplantation

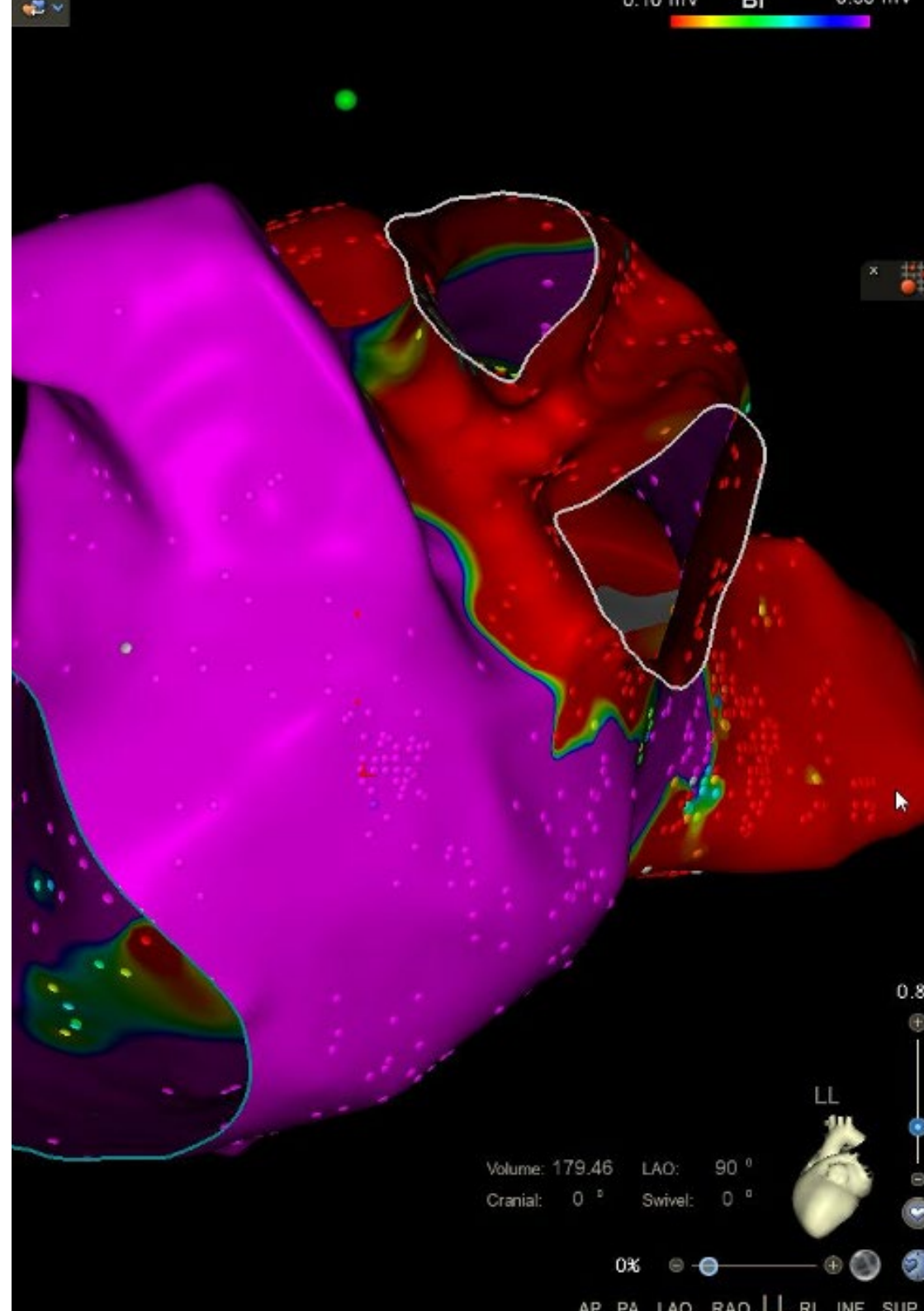
# 06 General Conditions

## Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the Internship Program period. In this way, the professional will not have to worry in case he has to face an unexpected situation and will be covered until the end of the internship program at the center.





## General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

**1. TUTOR:** During the Internship Program, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

**2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE:** If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

**5. EMPLOYMENT RELATIONSHIP:** The Internship Program shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. DOES NOT INCLUDE:** The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

# 07 Certificate

This **Internship Program in Cardiac Arrhythmias** contains the most complete and up-to-date program in the professional and academic landscape.

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

The certificate issued by TECH will reflect the grade obtained in the test.

Title: **Internship Program in Cardiac Arrhythmias**

Duration: **3 weeks**

Attendance: **from Monday to Friday, 8 consecutive hour shifts**

Total Hours: **120 h. of professional practice**



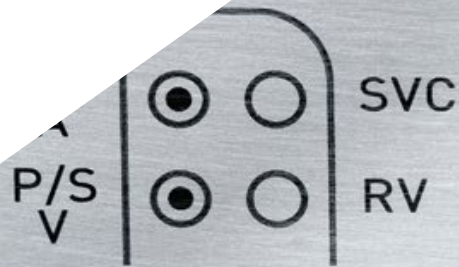
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Internship Program  
Cardiac Arrhythmias

# Internship Program Cardiac Arrhythmias

Lumax 740 VR-T D

Home Monitoring



IS-1  
DF-1



 **BIOTRONIK**

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