

Internship Program Cardiac Surgery





tech global
university

Internship Program
Cardiac Surgery

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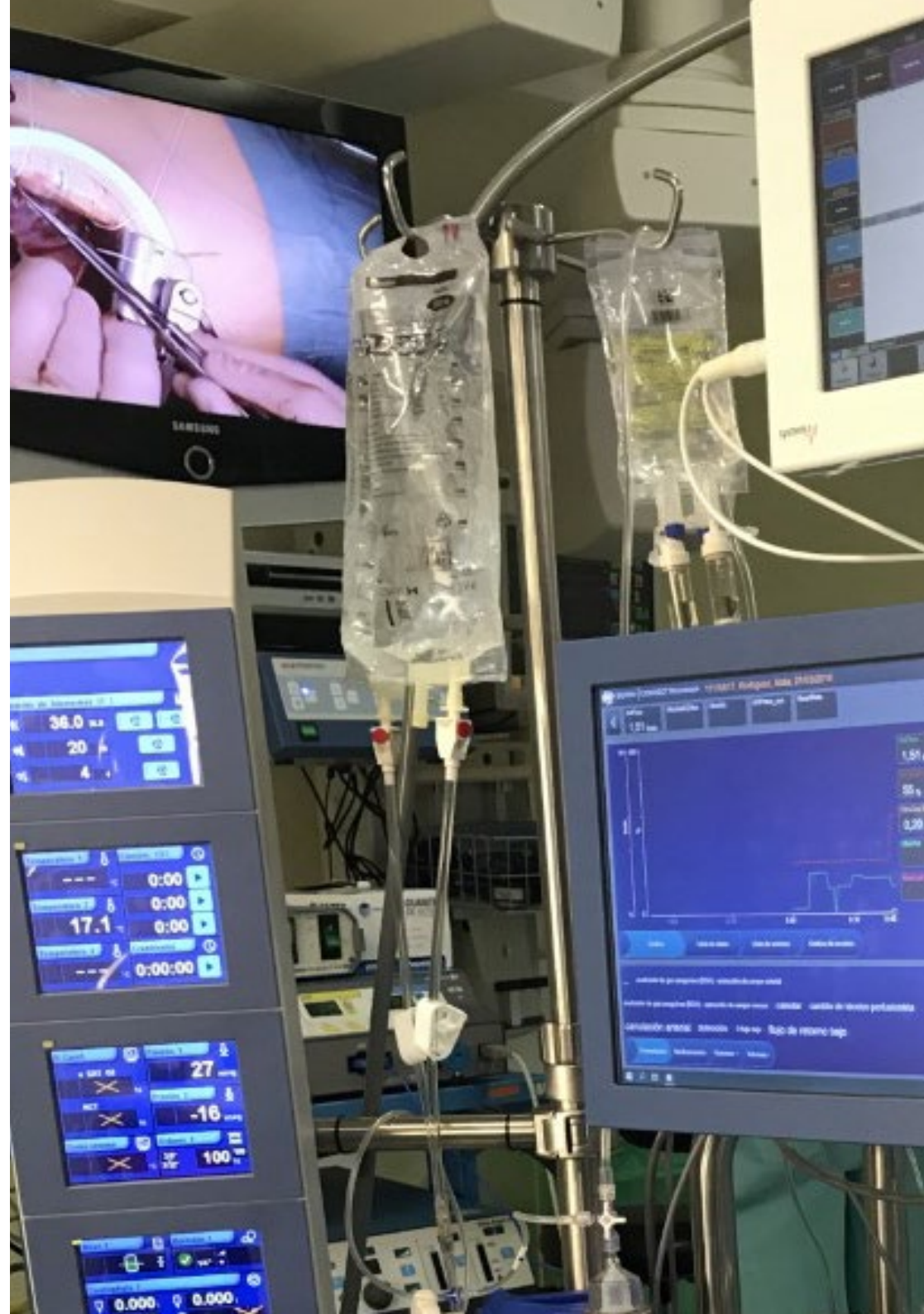
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01 Introduction

The technologies related to cardiac surgery have undergone constant progress in recent years. Through them, new techniques and procedures of robotic intervention, electrostimulation, transcatheter therapies have been introduced. Keeping up to date with all these advances is a complex task for these specialists, especially when they do not have academic programs with particular ideas to help them develop practical skills for these kinds of surgical interventions. TECH wants to provide a solution to this problem through a 100% on-site and intensive qualification, in a prestigious hospital center. The internship will focus on direct learning, attending real patients, under the supervision of innovative experts.



This learning experience, 100% practical, will boost your professional development towards a level of excellence within the medical practice of Cardiac Surgery”





Currently, Cardiac Surgery has become one of the medical scenarios that is most renewed and innovated from a scientific and technological point of view. This continuous evolution has meant a better quality of life for patients and the emergence of much less invasive interventional techniques that ensure a faster recovery and higher survival rates. At the same time, it is a challenge for specialists to keep a global follow-up of all these advances. This fact is even more serious due to the fact that, in the educational market, there are not enough programs focused on the practical learning of all these advantages.

For this reason, TECH has designed an academic modality, pioneer in its kind, which contrasts with other programs focused on Cardiac Surgery. Through this Internship Program, TECH offers physicians a 100% on-site, immersive and exhaustive study process, which will allow them to apply different surgical skills and the use of the most advanced instruments in the care of real patients. During this learning period, spread over 3 weeks, the specialist will acquire skills directly from the care of real patients from day one.

Surgeons will acquire this knowledge in a prestigious hospital facility equipped with the most modern technology. Access to these institutions is guaranteed thanks to the wide network of contacts and collaborations of TECH, the world's largest online university. Throughout the entire process, they will be accompanied by high-quality surgical experts and will have an assistant tutor who will monitor their progress on an ongoing basis.

02

Why Study an Internship Program?

Research and surgical techniques in the field of Cardiology are continuously evolving, in line with the growth of technologies in the sector. This is why hospital facilities today require qualified surgeons who are deeply up-to-date on all these advantages. With this TECH Internship Program, the physician will be able to access all this knowledge in a presential, direct, exhaustive and immersive way. This qualification will connect them, for 3 weeks, to specialized centers of international renown, where they will provide care to real patients, under the personalized guidance of a distinguished team of experts.



TECH puts in your hands the most innovative aspects of Cardiac Surgery so that you can become a renowned specialist in a fast and flexible way"

1. Updating from the latest technology available

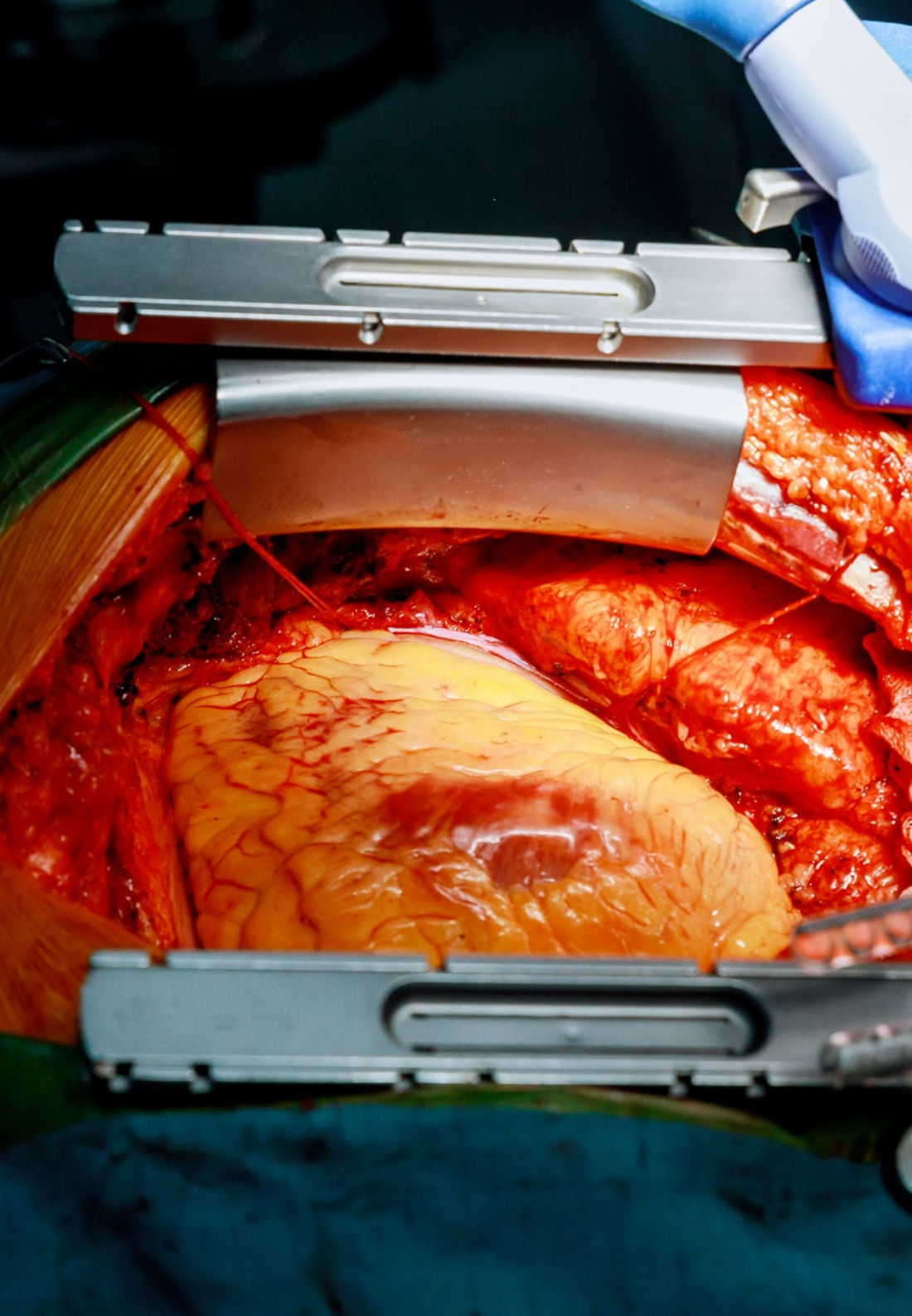
The most innovative surgical methodologies and tools will be available to the physician in this syllabus that focuses on the most important practical skills for Cardiac Surgery. At the same time, they will also be able to investigate the use of artificial cardiovascular valves and components for the sustainability of patient's health.

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

During this Internship Program, surgeons will work and learn together with leading experts in the field of Cardiac Surgery. They will also be supported by an assistant tutor who will involve them in daily work dynamics and will assign them specific tasks to strengthen their knowledge and skills.

3. Entering First-Class Clinical Environments of Cardiac Surgery

For this qualification, TECH has taken into account the health institutions with the highest level of care. The facilities selected for this academic modality of Internship, have the most updated technology and all its professionals are trained to provide scientific advice of the highest level. Therefore, and in a totally on-site and rigorous way, the specialist will be able to achieve their educational objectives in just 3 weeks.



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

This immersive, on-site internship stands out from other study programs because of its emphasis on practical skills and the use of modern surgical technologies from day one. In this way, this 100% practical qualification will provide each surgeon with a specific vision of the complexities that they may face in their daily professional practice, making use of the most recent innovations.

5. Expanding the Boundaries of Knowledge

TECH is the largest online educational institution in the educational market. For this reason, it has established partnerships with hospital institutions located in different latitudes. Therefore, its students will be able to choose between different centers, from distant geographical locations, to complete this first level practical experience of 120 hours of duration.



You will have full practical immersion at the center of your choice"

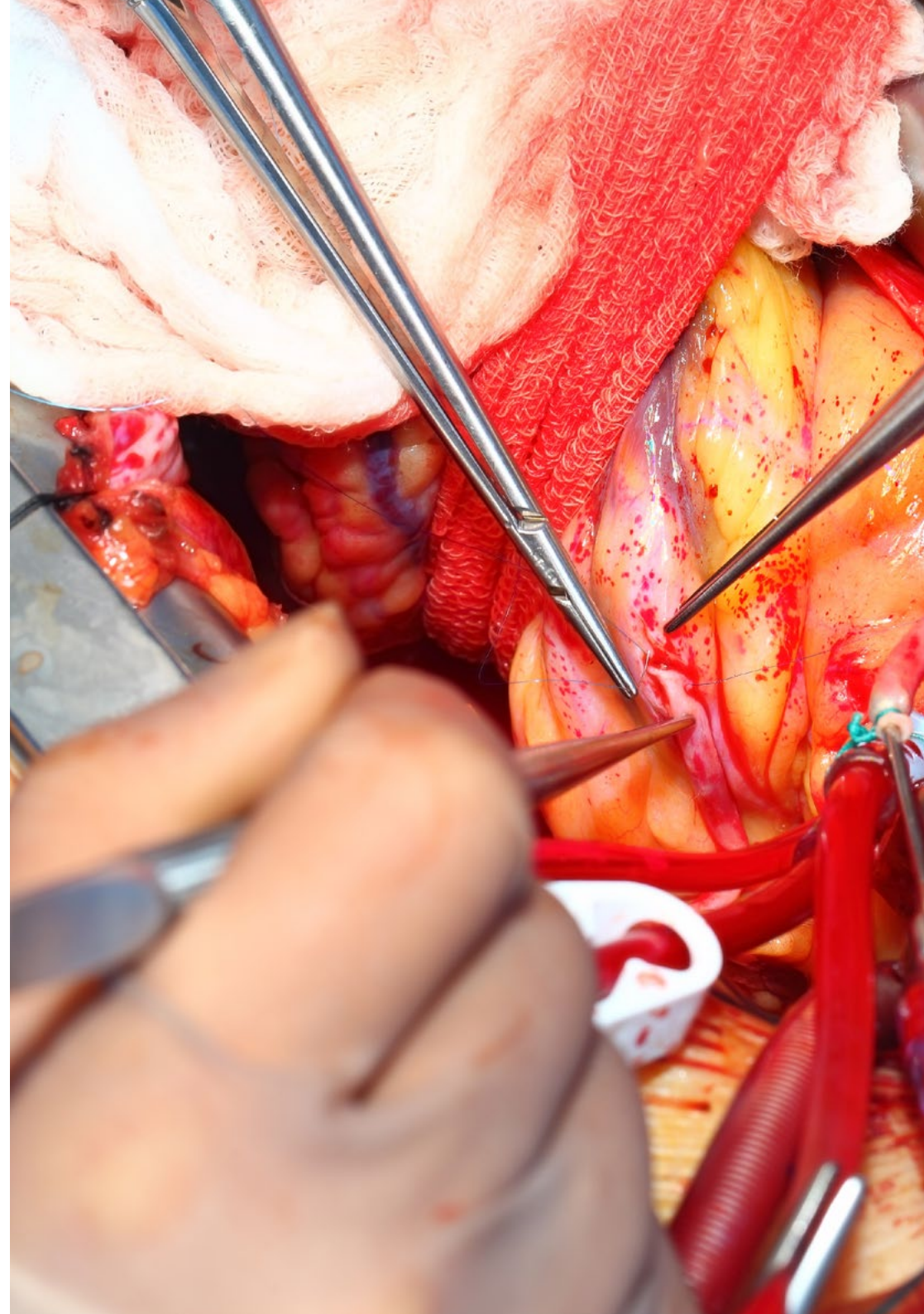
03 Objectives

This Internship Program in Cardiac Surgery is ideal to update the physician on the implementation of new protocols related to the heart surgical approach. Also, during this program, they will become familiar with the new technologies that today participate in this healthcare sector and will be able to complete complex procedures in the operating room, under the personalized guidance of great experts.



General Objectives

- Expand the knowledge of all cardiac diseases and their forms of treatment
- Analyze the importance of new technologies involved in the management and control of cardiac pathologies and imaging techniques
- Obtain the necessary knowledge to improve patient recovery, avoid complications and reduce mortality
- Approach comprehensively and from the surgical point of view, as appropriate, all valvular pathologies, ischemic heart, aortic pathology and congenital heart diseases
- Learn about other cardiac pathologies, transcatheter valve implantation and concomitant diseases





Specific Objectives

- ♦ Study embryology to understand the origin of cardiac anatomy and heart pathophysiology taking into account the conduction system, coronary anatomy, large vessels and peripheral vascular system
- ♦ Analyze hemostasis and the different pathways from of blood coagulation
- ♦ Know the new trends in cardiovascular pharmacology
- ♦ Broaden the knowledge and understanding of extracorporeal circulation as a whole
- ♦ Delve into the new technologies implemented for their management and control, among other methods of protection and monitoring
- ♦ Understand perioperative measures and strategies and monitoring techniques in the operating room
- ♦ Understand ways to improve for optimal recovery of the surgical patient
- ♦ In-depth study of the techniques to be applied prior to surgery to avoid complications and reduce mortality
- ♦ Achieve more efficient postoperative management by minimizing blood product transfusions
- ♦ Assess the diagnostic methods and natural history of coronary artery disease by obtaining a multi-angle view of ischemic heart disease
- ♦ Examine surgical complications of myocardial infarction and the techniques to treat them
- ♦ Understand the surgical approach to valvular pathologies
- ♦ Delve into the importance of the heart team in decision making for valve pathologies and the use of surgical techniques in their treatment, such as mini-incision surgery
- ♦ Review the main pathologies of the aorta artery by segments
- ♦ Observe the implications of acute aortic syndrome with its main surgical options
- ♦ Verify the different surgical options to correct congenital cardiopathies
- ♦ Learn about the surgical treatment alternatives for certain arrhythmias such as atrial fibrillation
- ♦ Review the electrophysiological mechanisms involved in the genesis and propagation of the cardiac impulse
- ♦ Master the implantation and explantation techniques of cardiac electrostimulation devices
- ♦ Understand the importance of transcatheter therapies TAVI and mitral
- ♦ Evaluate new technologies in Cardiac Surgery for the improvement of therapies
- ♦ Raise the level of interpretation of cardiovascular imaging
- ♦ Elaborate and understand studies through statistical analysis

04 Educational Plan

Through a comprehensive program, with a duration of 3 weeks, the doctor will work with great experts in Cardiac Surgery. For this purpose, they will have access to on-site and intensive training, with 8-hour shifts from Monday to Friday. In this way, they will be able to manage the most complex equipment, the most recent interventional protocols and master in general the internal dynamics of the heart surgery units.

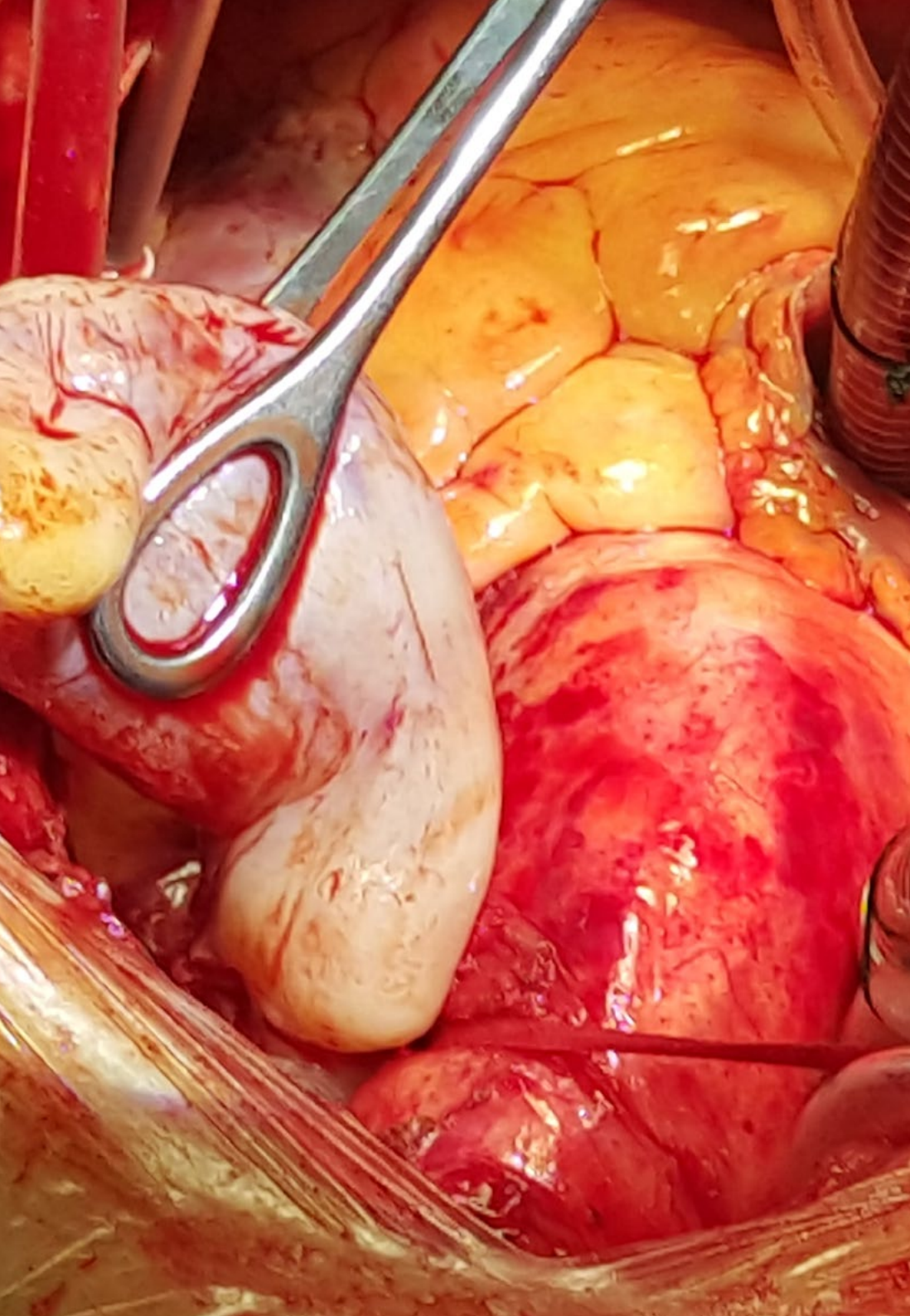
In this completely practical Internship Program, the activities are aimed at developing and perfecting the skills necessary to provide healthcare care in areas and conditions that require highly qualified professionals, and are oriented towards specific expertise for practicing the activity, in a safe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

For this academic process, the surgeon will be supported by a team of professionals with a distinguished trajectory in Cardiology. In addition, they will have an assistant tutor, an academic figure created to advise and supervise practical learning all the time.

The student will actively participate by performing activities and procedures related to each area of competence (learning to learn and learning to do), with the support and guidance of the teachers and other classmates to facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of medicine (learning to be and learning to relate to others).

The procedures described below will form 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 workload, with the proposed activities being as follows:





Module	Practical Activity
Minimally Invasive and Robotic Cardiac Surgery Procedures	Replace the aortic valve by robotic assistance
	Apply the labyrinth technique, by minimally invasive surgery, to treat Atrial Fibrillation
	Perform saphenous vein harvesting for coronary artery surgery by robotic assistance
	Atrial septal defect and patent foramen ovale closure with minimally invasive surgical tools
Surgical Techniques to Address Abnormal Heart Rhythms	Remove problematic areas of the heart that cause abnormal heart rhythm using Catheter Ablation
	Insert permanent pacemakers in the upper chest and secure their connection to the heart via leads
	Promote recovery of normal heart rhythm by inserting an automatic implantable defibrillator
	Assess the patient's condition and resistance to a total artificial heart implant to pump blood
Procedures Aimed at Improving Blood Flow Through the Coronary Arteries	Restore blood flow through Balloon Angioplasty
	Apply <i>coronary artery stent</i> to open blocked areas
	Implement Atherectomy with a small device placed at the end of a catheter
	Open a blocked artery by laser angioplasty
Surgical Trends for Various Heart Diseases	Manage angina pectoris and plaque buildup in the arteries through coronary artery bypass grafting
	Provide oxygen to the heart muscle and pump blood through intra-aortic balloon counterpulsation
	Improve the pumping function of one or both of the heart's pumping chambers through ventricular assist device implantation
	Remove and replace valves through leg and arm artery Valvulopathy
	Treat atrial fibrillation with small cuts in the cardiac muscle
	Replace a severely diseased heart by transplantation

05 Where Can I Do the Internship Program?

In order to keep the surgeon up to date on the most innovative heart surgery procedures, TECH provides an on-site and totally practical internship in a prestigious hospital center. This entity has the latest technologies and applies the most up-to-date procedures for this field of health, also offering a team of high-profile experts who will supervise the student's academic progress and help them complete tasks of varying complexity.



Get up-to-date on the main novelties of Cardiac Surgery in a renowned health institution that has the resources and technologies suitable for this medical area”





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



Medicine.

Hospital HM Modelo

Country	City
Spain	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 Nou Delfos

Country	City
Spain	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	City
Spain	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 Montepíncipe

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:

- Palliative Care
- Aesthetic Medicine



Medicine.

Hospital HM Torrelodones

Country	City
Spain	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	City
Spain	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.

HM CIEC Barcelona

Country	City
Spain	Barcelona

Address: Avenida de Vallcarca, 151, 08023 , Barcelona

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

Related internship programs:

- Cardiac Arrhythmias
- Cardiac Surgery





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



Enroll now and advance in a practical way in your field of work"

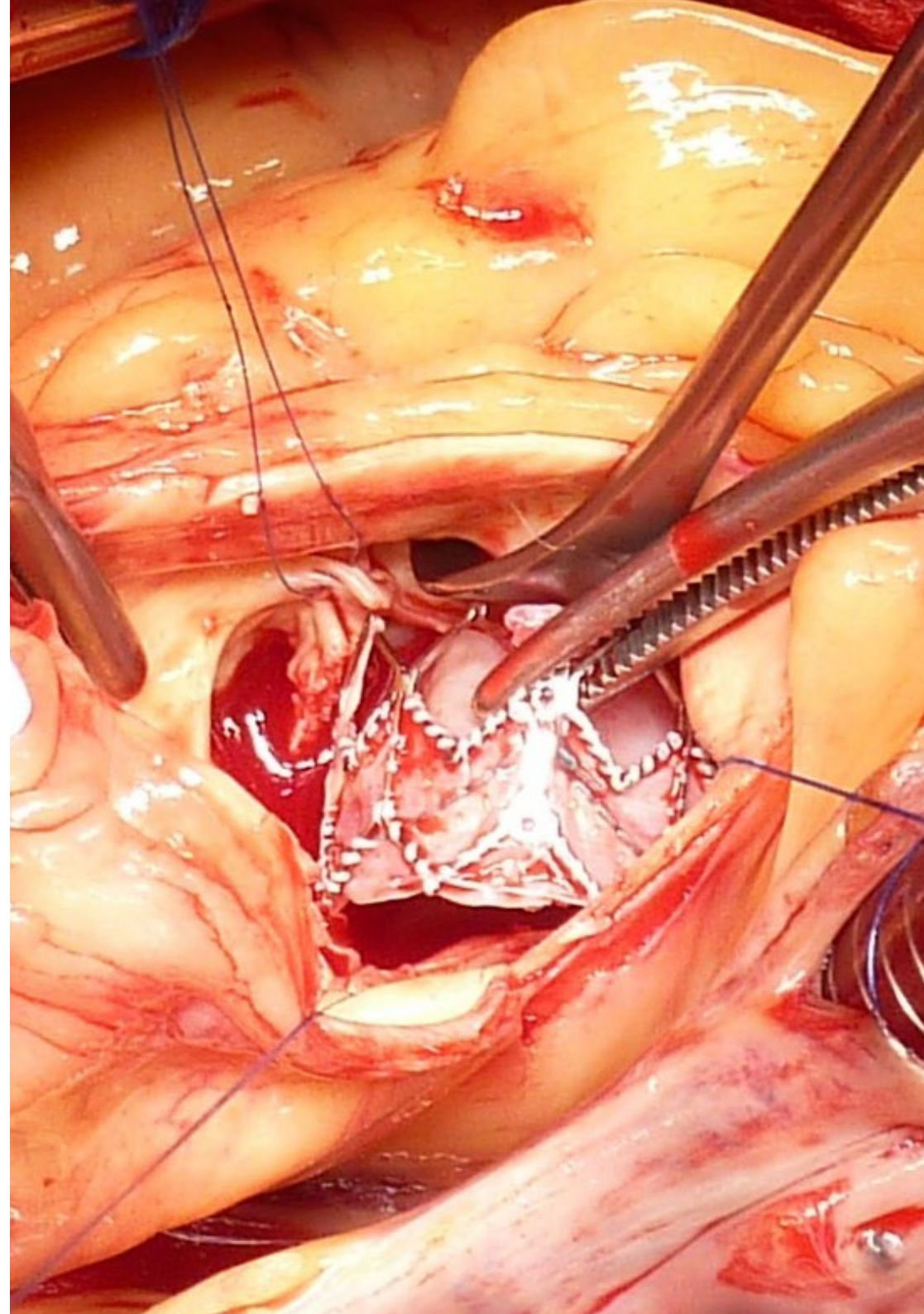
06 General Conditions

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 practical training period. That way professionals will not have to worry in case of having 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 program agreement shall be 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 private qualification will allow you to obtain a **Internship Program in Cardiac Surgery** 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.

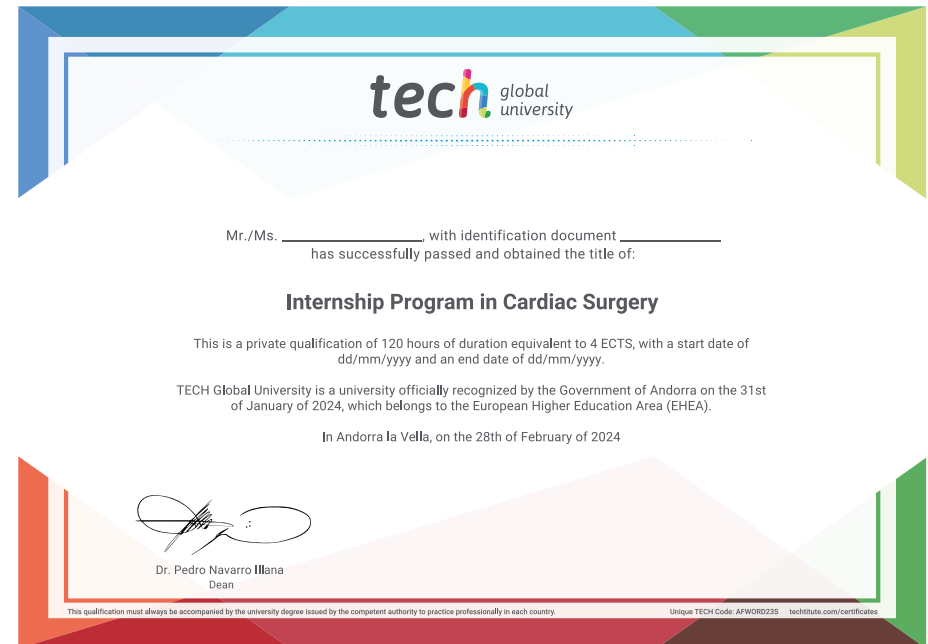
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Program: **Internship Program in Cardiac Surgery**

Duration: **3 weeks**

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

Accreditation: **4 ECTS**





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