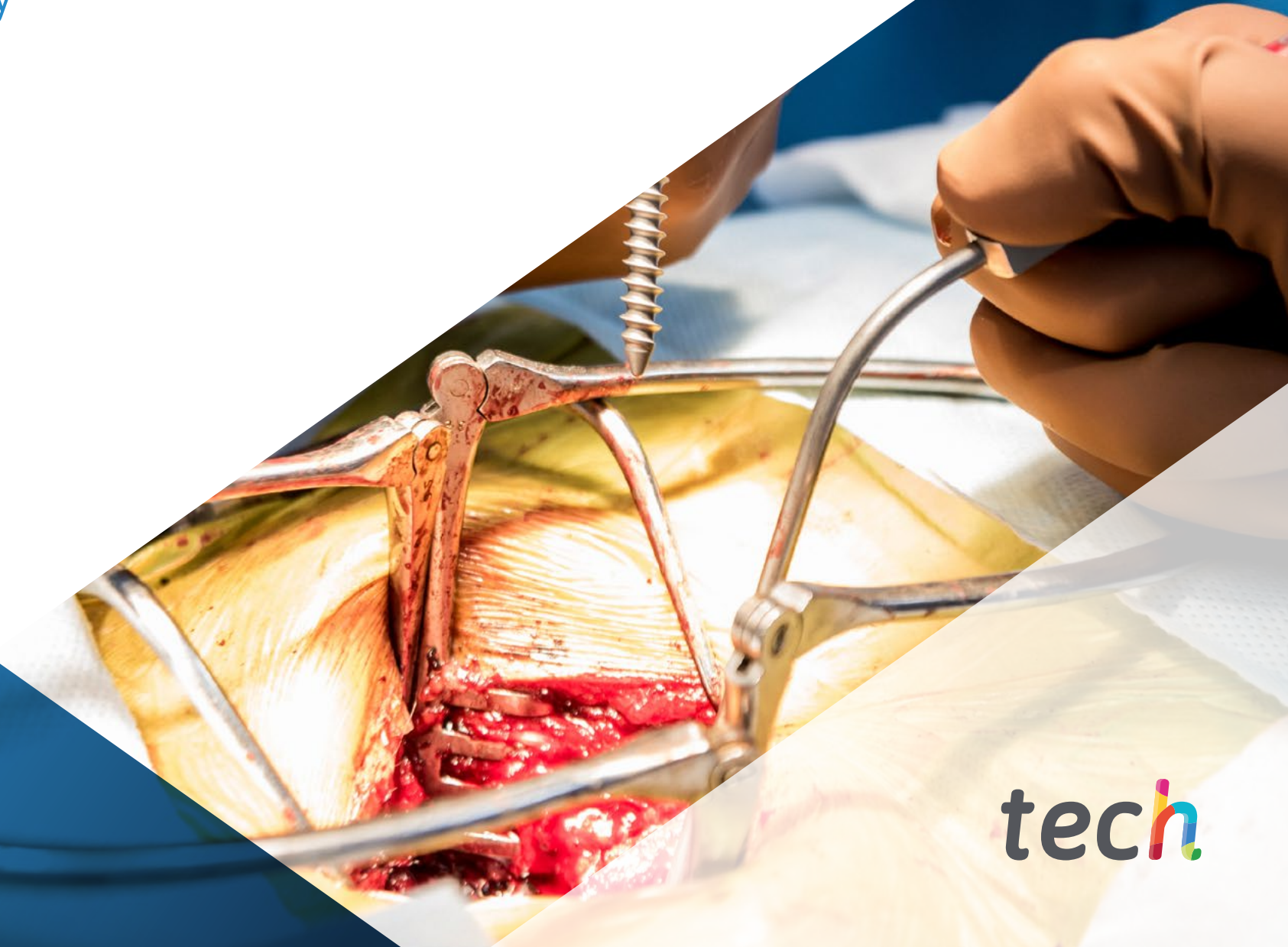


# Internship Program Spine Surgery



tech



**tech**

Internship Program  
Spine Surgery

# Index

01

Introduction

---

*p. 4*

02

Why Study an  
Internship Program?

---

*p. 6*

03

Objectives

---

*p. 8*

04

Educational Plan

---

*p. 10*

05

Where Can I Do the  
Internship Program?

---

*p. 12*

06

General Conditions

---

*p. 16*

07

Certificate

---

*p. 18*

# 01 Introduction

There is an increasing tendency towards subspecialization within the medical-surgical specialties, a relevant issue also in Spine Surgery, due to the wide range of lesions it covers. Hence the need for a complete and high quality scientific program to help and guide in this specific and exciting field, but, above all, with a practical training that allows to develop in real situations. Thanks to this program in Spine Surgery, the physician will be able to master both the basic aspects of the specialty and the new technical advances in this field. To achieve this, you will join a state-of-the-art medical team in a reference hospital center in the area for 3 weeks, accompanied by an assigned tutor.

“

*This Internship Program will allow you to learn about all the advances in Spine Surgery with the guidance of a reference professional"*





Between 70 and 85% of the adult population suffers back pain at some time in their lives. For this reason, Spine Surgery is one of the most demanded in the sector. These include some of the most complex, advanced and delicate interventions. For that reason, it is of vital importance that surgeons are constantly updated with the latest treatments for the different pathologies of the spine.

With this training program, physicians will have a complete vision of the pathologies of the spine and all the advances in diagnostic and therapeutic methods to address these types of procedures, as well as advances in the treatment of vertebral fractures, among other cases in the area. To this end, they will have the opportunity to learn in the field about the surgical practice and the aspects that directly affect the quality of life of patients and improve their pain.

This Internship Program in Spine Surgery will teach both the classic and usual practices used in specialized surgery centers, as well as the surgical techniques that are currently setting trends in the sector. This will allow the professional, in addition to expanding their personal knowledge, to be able to apply it with greater confidence and skill in making decisions in their daily clinical practice. It is essential for the physician to be able to respond adequately to the cases that arise, providing the most appropriate scientific and technological knowledge.

To improve your skills in this field, TECH presents this 100% practical program that will allow you to develop, with real patients and in a hospital setting with state-of-the-art resources, your maximum potential and growth in the surgical area. You will work with the best specialists, using the latest techniques based on scientific evidence, and achieving results that would have been difficult to achieve before.

# 02

## Why Study an Internship Program?

Advances in this area of medicine allow better prevention of risks and complications during the operation, as well as improving the precision of the surgery and minimizing the time during and after the intervention. Knowing how to apply them and how to preserve the patient's quality of life and safety throughout the procedure is the role of the specialist, and with the updating of their knowledge it is much easier. Thus, it will be possible to employ the most advanced techniques and the most modern resources. For this reason, TECH has developed this 100% practical program that contains everything necessary for the specialist to be updated in terms of Spine Surgery. During 3 intensive weeks, you will be integrated into a multidisciplinary team, where you will see first-hand both the latest scientific findings in the field and how to apply them to your own daily clinical practice.



*Take advantage of this unique opportunity to choose the hospital center of your choice for this 100% practical update on Spine Surgery"*

### 1. Updating from the latest technology available

The field of spine surgery has evolved in recent years. However, there are many risks involved in such an intervention process. For this reason, it is essential to use the most sophisticated technological means and materials in accordance with ISO standards and with the necessary quality to be able to be implanted in humans. During this program, the professional will be able to update themselves with the latest technology available in a reference hospital center.

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

By enrolling in this Internship Program, the specialist will be entering a modern clinical environment with the most experienced professionals that meet their expectations. Likewise, the content will be adjusted to the most recent findings of science regarding Spine Surgery procedures. Thanks to the support of an assigned tutor, you will be progressing towards your goal without complications.

### 3. Entering First-Class Clinical Environments

For this Internship Program, TECH has carefully selected all the available centers in different locations. Thanks to this, the specialist will have guaranteed access to a prestigious clinical environment and will be able to experience the day-to-day work of a modern and demanding area, always applying the latest theses and scientific postulates in their work methodology.



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

TECH proposes with this 100% practical program that the professional who wishes to be updated on the latest scientific findings in the area of study can do so from the first day. Therefore, it provides everything necessary for the specialist's comfort. Undoubtedly, a unique opportunity for those who wish to evolve in their career.

#### 5. Expanding the Boundaries of Knowledge

Thanks to this 3-week program to be carried out in a reference clinical center, TECH allows the specialist to choose the hospital center that best suits their personal needs and goals from a list of facilities available in different parts of the world. A unique opportunity for professional expansion and updating that only here becomes a reality.



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

# 03 Objectives

The general objective of the Internship Program in Spine Surgery is for the professional to update the diagnostic and therapeutic procedures of the specialty in an exclusively practical way. Through a hospital stay designed with clinical and academic rigor, under the guidance of renowned professionals, in a clinical center of the highest scientific quality and technological innovation. In this program, the professional will address the main interventions of the specialist, which will allow them to enhance their competencies in the medical care of their patients.



## General Objectives

---

- ♦ Develop an adequate plan to prevent complications in spine surgery procedures according to the most recent findings
- ♦ Incorporate the most effective methods, approaches and clinical analyses into daily work, backed by a team of prestigious experts in the field of spine surgery
- ♦ Know the current options in the management of spinal tumor through decision-making processes, therapeutic planning, surgical techniques and perioperative care







## Specific Objectives

---

- ♦ Assess the spine of patients in a correct and effective way, for a better understanding of the problems they suffer and to favor their better resolution
- ♦ Demonstrate solid clinical judgment in the therapeutic management of these patients based on selected cases
- ♦ Discuss multidisciplinary approaches and the role of conservative treatment in patients with chronic low back pain
- ♦ Identify key structures and assess risks related to local vascular and neurological anatomy
- ♦ Identify by fluoroscopy the targets for posterior and lateral approaches to the lumbar spine
- ♦ Perform a minimally invasive lateral approach to the L2-L3, L3-L4 and L4-L5 discs
- ♦ Address the disc using Neuro-monitoring and tubular system
- ♦ Identify entry points for insertion of the pedicle screw
- ♦ Conversion of the approach to a mini lumbotomy and access to the disc by resection of the psoas muscle
- ♦ Learn the diagnosis and treatment of coronal and sagittal spinal deformities
- ♦ Identify risk factors and know the diagnostic tests and evolutionary patterns
- ♦ Applied conservative therapies for the treatment of scoliosis. The use of corsets and functional therapies
- ♦ Apply the surgical treatment algorithms for the different scoliosis, taking into account new technologies
- ♦ Understand surgical principles and how they apply to each patient's needs and expectations
- ♦ Verify knowledge about the current options in the management of spine tumors through decision-making processes, therapeutic planning, surgical techniques and perioperative care through knowledge based on scientific evidence
- ♦ Learn the current management of low-grade primary malignant tumors, especially chondrosarcoma and chordoma
- ♦ Applied the therapeutic options and indications in acute spinal cord compression
- ♦ Learn the treatment and approach to spinal tumors
- ♦ Correctly select and interpret the most appropriate radiographic, computed tomography (CT) and magnetic resonance imaging (MRI) for the diagnosis of traumatic spinal injuries. vertebral
- ♦ Correctly classify upper cervical C 0-2, cervical subaxial spine, thoracolumbar spine and sacral fractures
- ♦ Compare surgical and conservative treatment alternatives for different levels including upper cervical spine C 0-2, subaxial and thoracolumbar and sacral
- ♦ Define the special features including vertebral fractures of patients with Ankylosing Spondylitis (AS), vertebral osteoporotic fractures and fractures of the immature pediatric spine
- ♦ Analyze the appropriate plan to prevent complications of spinal cord trauma
- ♦ Update on Minimally Invasive Techniques by reviewing all of them, from video-assisted surgery and microsurgery to XLIF techniques, including the most widely used TLIF intersomatic fusion techniques
- ♦ Identify grafting contribution, learning curve or approach to complications
- ♦ Determine surgical complications in minimally invasive surgical procedures in elderly patients
- ♦ Master the advances in the use of new instrumentation, in the improvement of manufacturing materials and in the use of new grafts

# 04

## Educational Plan

The Internship Program consists of a 3-week practical stay from Monday to Friday, with 8 consecutive hours of practical training with an assistant specialist. This stay will allow you to see real patients alongside a team of professionals of reference in the area of Spine Surgery, applying the most innovative diagnostic procedures for each case.

In this training proposal, of a completely practical nature, the activities are aimed at developing and perfecting the competencies necessary for the provision of health care in areas and conditions that require a high level of qualification, and which are oriented towards specific training for the exercise of the activity, in a safe environment for the patient and with high professional performance.

It is, without a doubt, an opportunity to learn by working in the innovative hospital of the future, where real-time health monitoring of patients is at the heart of the digital culture of its professionals. This is a new way of understanding and integrating health processes, and becomes the ideal teaching scenario for this innovative experience in the improvement of professional health competencies for the 21st century.

The hospital stay will allow the professional to complete a minimum number of clinical practice activities in the neurosurgery and orthopedics services, as well as in relation to other areas of the center, operating rooms, intensive care, diagnostic imaging, pathological anatomy or even outpatient clinics, which will allow them to put into practice diagnostic and therapeutic procedures.

The practical teaching will be carried out with the active participation of the student, performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees to facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of clinical medicine (learning to be and learning to relate).

The procedures described below will form the basis of the practical part of the training, and their completion 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:



*Receive specialized education in an institution that can offer you all these possibilities, with an innovative academic program and a human team that will help you develop your full potential"*

Module	Practical Activity
<b>Diagnostic Methods in Spine Surgery</b>	Perform the appropriate anamnesis of the patient and their environment
	Indicate the imaging study usually through RX, Computerized Axial Tomography, Magnetic Resonance, Fluorography, Densitometry
	Indicate Epidurography, study of the spine and spinal canal with the introduction of contrast substances in the epidural space
	Use of Venospondylography (WASH), examination of the spinal column with epidural and paravertebral venous lines in contrast
<b>Surgical approaches to the Spine</b>	Perform cervical spine approaches
	Perform thoracic spine approaches
	Perform lumbar spine approaches
	Perform lateral approaches
	Perform subsequent approaches
	Performing surgery for cervical radicular pain
<b>Advances in the treatment of vertebral deformities</b>	Apply advances in the design of new implants
	Apply advances in the management of neuromuscular scoliosis
	Apply advances in the management of congenital scoliosis. Overview and Diagnosis
	Apply advances in the management of juvenile idiopathic scoliosis
	Apply advances in the management of adult deformities
	Perform reconstructive surgery and vertebral osteotomies

Module	Practical Activity
<b>Advances in the treatment of vertebral fractures</b>	Apply advances in the management of thoracolumbar spine and sacral trauma
	Perform cementation techniques via MIS
	Diagnose and treat fractures in metabolic diseases of the spine and pediatric spine fractures
	Apply advances in the management of post-traumatic kyphosis
<b>Advances in minimally invasive surgery</b>	Practice minimally invasive surgical techniques for the treatment of cervical disc herniation
	Practice minimally invasive surgical techniques for the treatment of thoracic disc herniation
	Apply advances in the management of minimally invasive surgery in deformities
	Place interspinous and interlaminar devices
	Practice pain management techniques for minimally invasive surgery
	Treatment of fractures by minimally invasive techniques
<b>Emerging technologies for the treatment of low back pain</b>	Employ complementary therapies, such as Yoga, Chiropractic, Acupuncture, Dry Needling and Massage Therapy on the patient through multidisciplinary management
	Use of electrode and ultrasound therapy
	Indicate physiotherapy and orthopedic appliances depending on each patient's situation
	Practice surgery for radicular pain in the lumbar spine

# 05 Where Can I Do the Internship Program?

In its maxim of offering quality education within the reach of the majority of people, TECH has decided to broaden the academic horizons so that this training can be given in different centers around the national and international geography. A unique opportunity that allows the professional to continue to grow their career alongside the best specialists in the sector in various reference clinics.



*Choose the hospital center of your preference and develop this Internship Program with the comfort and quality you need"*





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 La Esperanza

Country: Spain City: La Coruña

Address: Av. das Burgas, 2, 15705, Santiago de Compostela, A Coruña

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

**Related internship programs:**

- Oncology Nursing
- Clinical Ophthalmology



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 Montepríncipe

Country: Spain City: Madrid

Address: Av. de Montepríncipe, 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: 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 Nuevo Belén

Country: Spain City: Madrid

Address: Calle José Silva, 7, 28043, Madrid

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

**Related internship programs:**

- General and Digestive System Surgery
- Clinical Nutrition in Medicine



Medicine

### Hospital HM Puerta del Sur

Country: Spain City: 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: Spain City: 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

### Policlínico HM Arapiles

Country: Spain City: 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 Rosaleda Lalín

Country City  
Spain Pontevedra

Address: Av. Buenos Aires, 102, 36500,  
Lalín, Pontevedra

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

**Related internship programs:**

- Advances in Hematology and Hemotherapy
- Neurological Physiotherapy



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

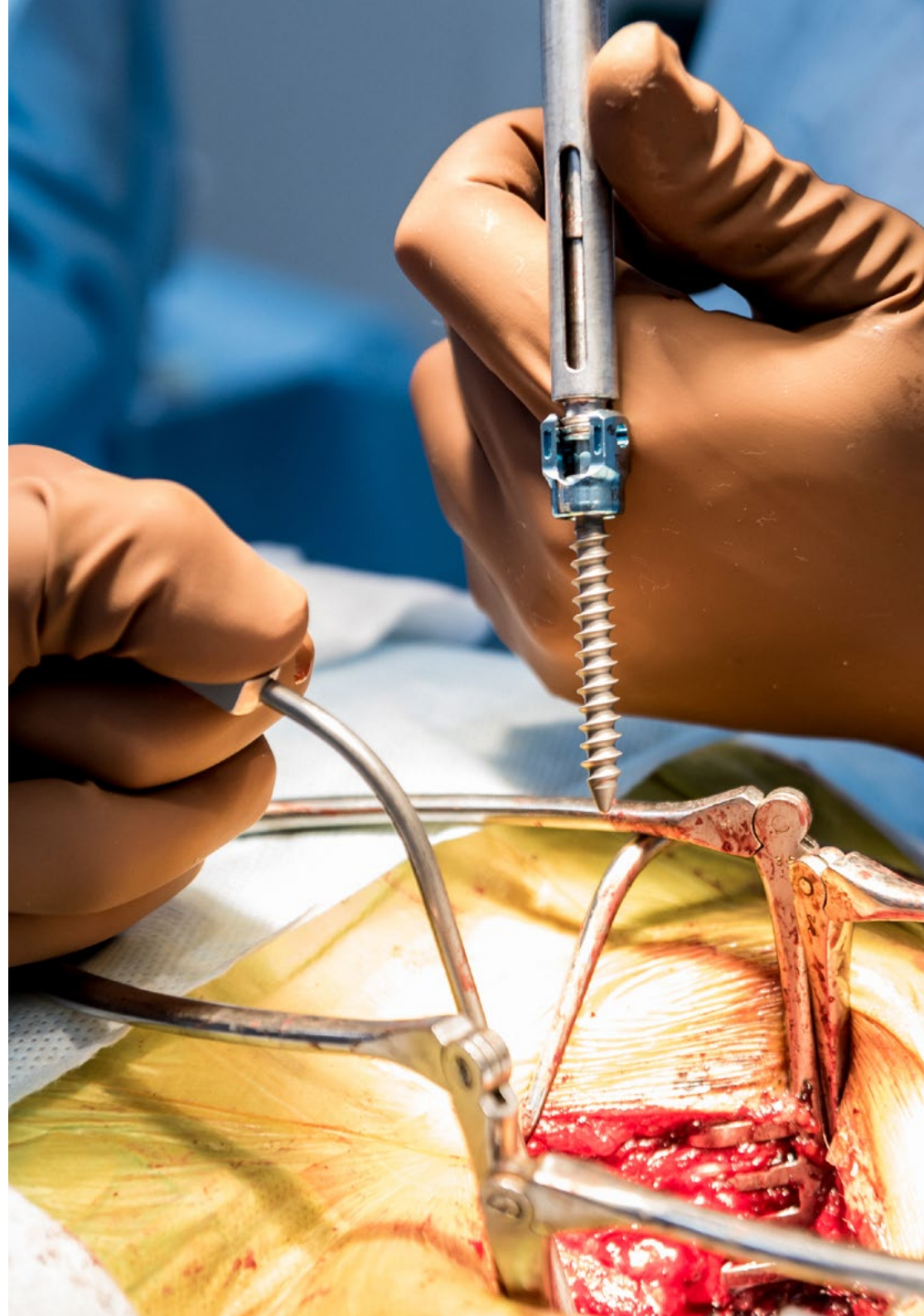
# 06 General Conditions

## 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 educational entity undertakes to take out civil liability insurance to cover any eventuality that may arise during the stay at the internship 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 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 Spine Surgery** 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 diploma issued by TECH will reflect the grade obtained in the test.

Title: **Internship Program in Spine Surgery**

Duration: **3 weeks**

Attendance: **Monday to Friday, shifts of 8-hour hours**

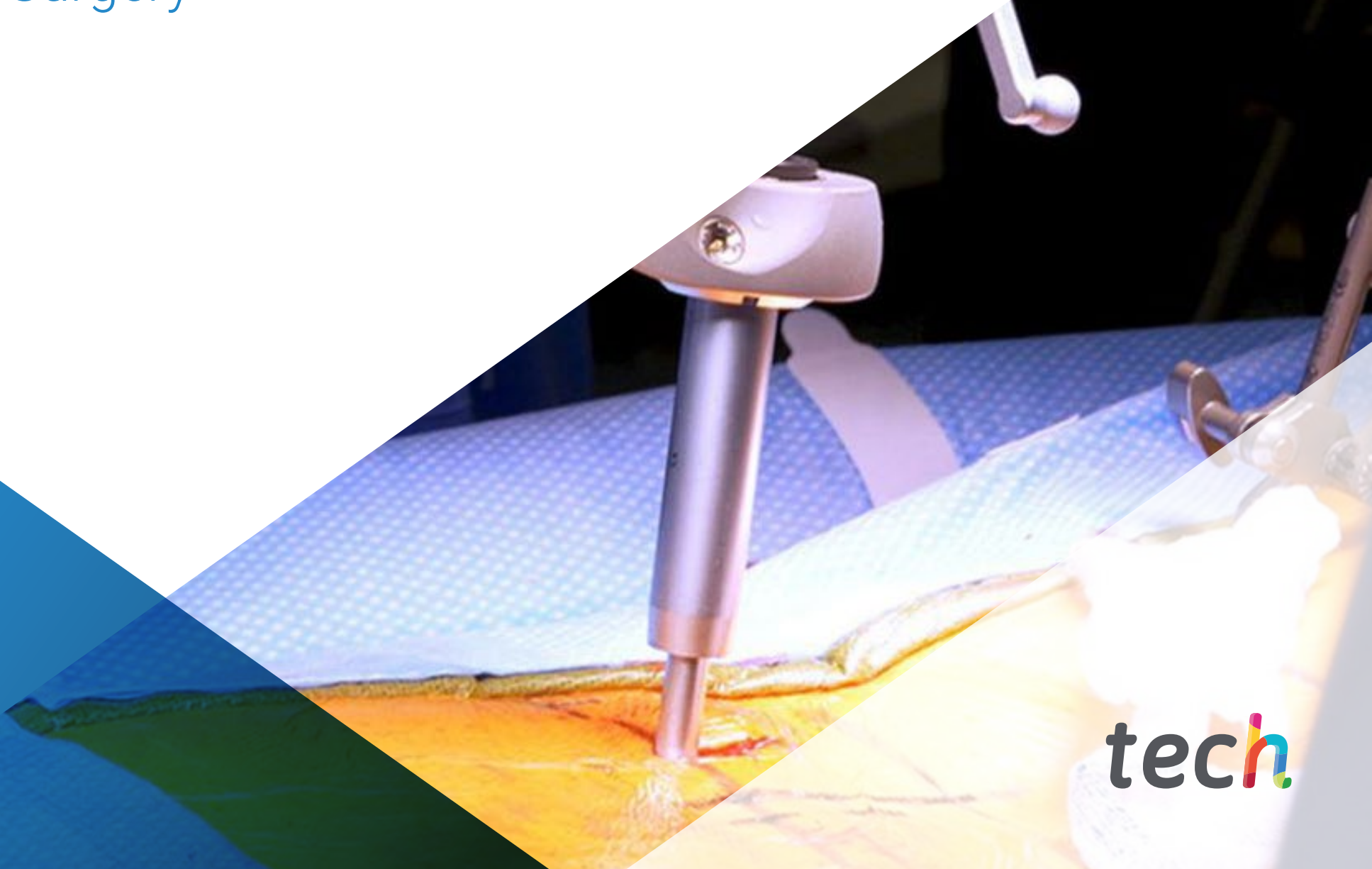
Total Hours: **120 h. of professional practice**



**tech**

Internship Program  
Spine Surgery

# Internship Program Spine Surgery



tech