

# Postgraduate Certificate

## Spinal Surgery in Elderly Patients





## Postgraduate Certificate Spinal Surgery in Elderly Patients

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 7 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/postgraduate-certificate/spinal-surgery-elderly-patients](http://www.techtitute.com/us/medicine/postgraduate-certificate/spinal-surgery-elderly-patients)

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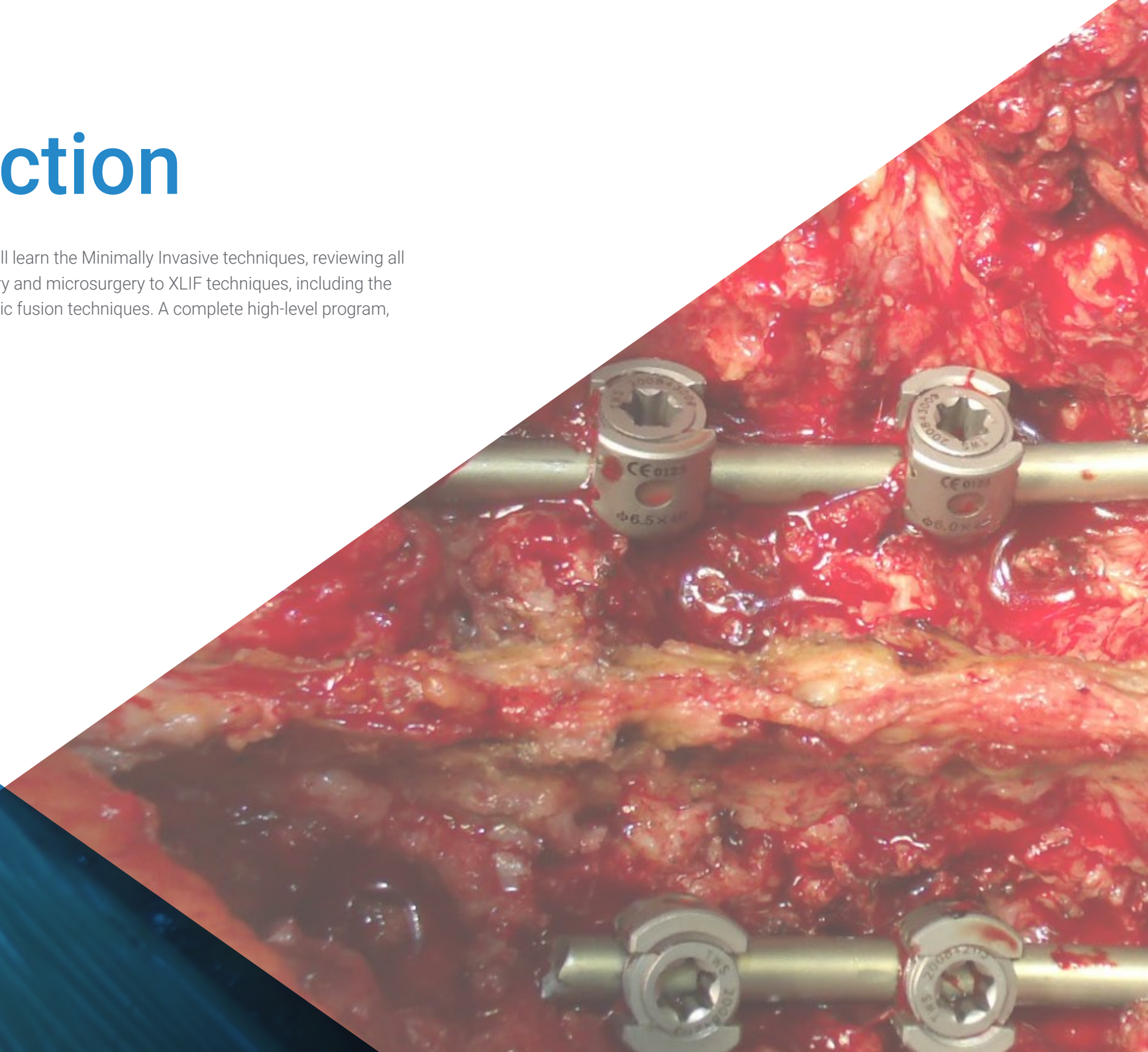
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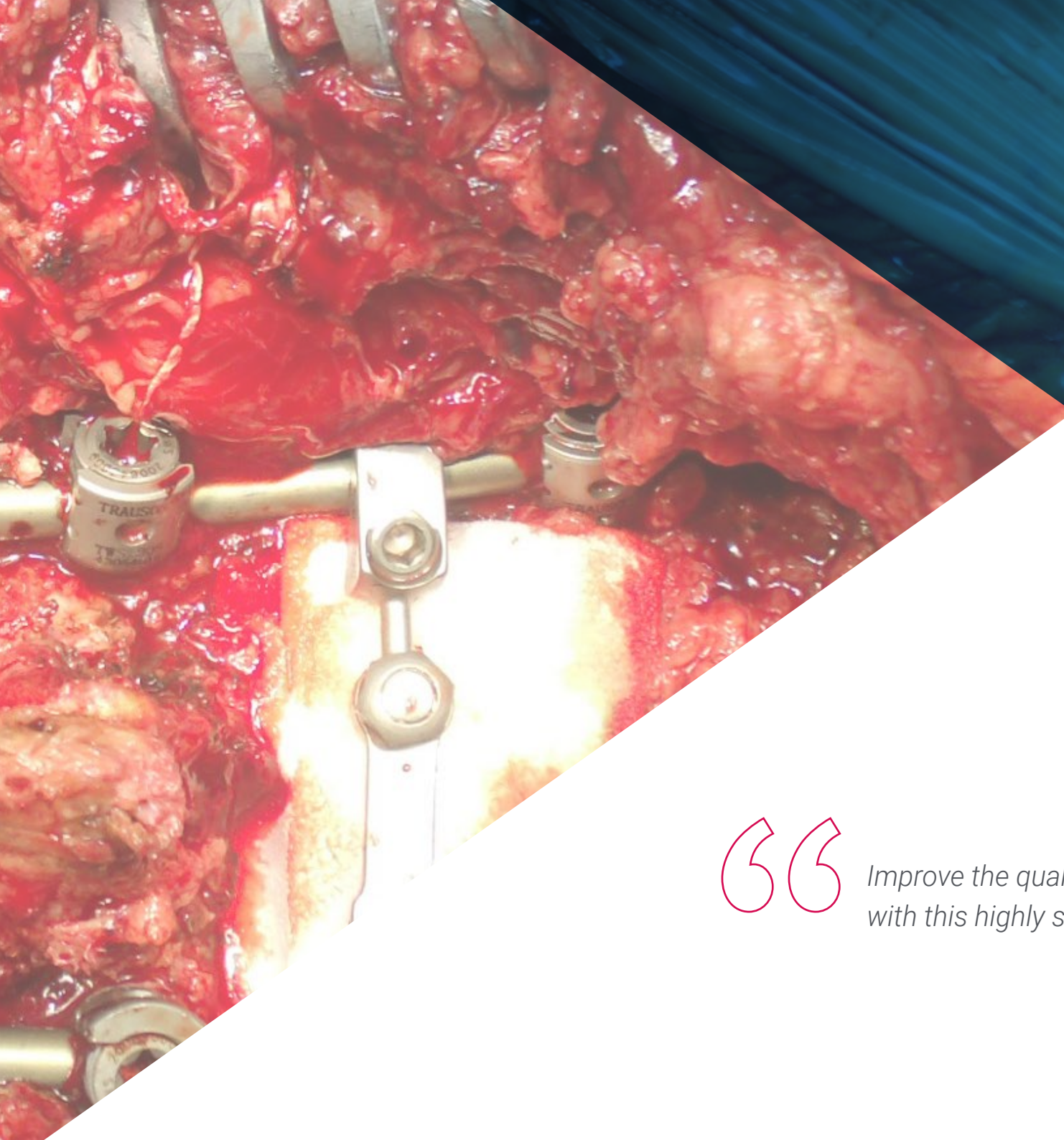
# 01

# Introduction

With this prestigious training you will learn the Minimally Invasive techniques, reviewing all of them, from video-assisted surgery and microsurgery to XLIF techniques, including the most implemented TLIF intersomatic fusion techniques. A complete high-level program, designed by working professionals.







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*Improve the quality of care for your patients  
with this highly scientifically rigorous training”*

There is an increasing trend towards subspecialization within the medical-surgical specialties. There are so many different areas in the human body, that it is difficult to be up to date in the knowledge of a specialty as broad as Spinal Surgery. Hence, the need for a complete and quality scientific program to help and guide in this specific and exciting field.

With this course, the professional will have a complete vision of the knowledge derived from the Pathology of the Vertebral Column. The program will highlight advances in surgical practice that directly affect patient's quality of life and improvement of pain. These will be transmitted so that the specialists can have the most up-to-date view possible of the knowledge available in the field. For this purpose, experts in Spinal Surgery from Spain and South America will collaborate with us.

This program will teach the surgical techniques that are currently setting trends in the sector, used in the Specialized Surgery Centers. This will allow the professional, in addition to expanding his personal knowledge, to be able to apply it with greater skill in his daily clinical practice.

This **Postgraduate Certificate in Spinal Surgery in Elderly Patients**, contains the most complete and up-to-date scientific program on the market. The most important features:

- ◆ Latest technology in online teaching software.
- ◆ Highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand.
- ◆ Practical cases presented by practising experts.
- ◆ State-of-the-art interactive video systems.
- ◆ Teaching supported by telepractice.
- ◆ Continuous updating and recycling systems.
- ◆ Self-regulating learning: full compatibility with other occupations.
- ◆ Practical exercises for self-evaluation and learning verification.
- ◆ Support groups and educational synergies: questions to the expert, debate and knowledge forums.
- ◆ Communication with the teacher and individual reflection work.
- ◆ Content that is accessible from any fixed or portable device with an Internet connection.
- ◆ Supplementary documentation databases are permanently available, even after the course.



*This Postgraduate Certificate is the best investment you can make to acquire the best and most up-to-date training in Spinal Surgery in Elderly Patients"*

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*Apply the latest trends in Spinal Surgery in Elderly Patients, in the daily practice of your profession"*

Our teaching staff is composed of medical professionals, practising specialists. In this way we ensure that we can offer you the training update we are aiming for. A multidisciplinary team of doctors trained and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will put at the service of the course the practical knowledge derived from their own experience: one of the differential qualities of this Postgraduate Certificate.

The efficiency of the methodological design of this master's degree, enhances the student's understanding of the subject. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: with the help of an innovative interactive video system, and learning from an expert, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*You will have the latest multimedia tools, designed by experts in Herniated Discs, which will favor the speed of assimilation and learning*

*This program uses the latest advances in educational technology, based on e-learning methodology*





# 02 Objectives

This Postgraduate Certificate will provide students with the theory and practice necessary to approach with ease and confidence pediatric surgical pathologies that can be treated by minimally invasive techniques, thus benefiting child patients.







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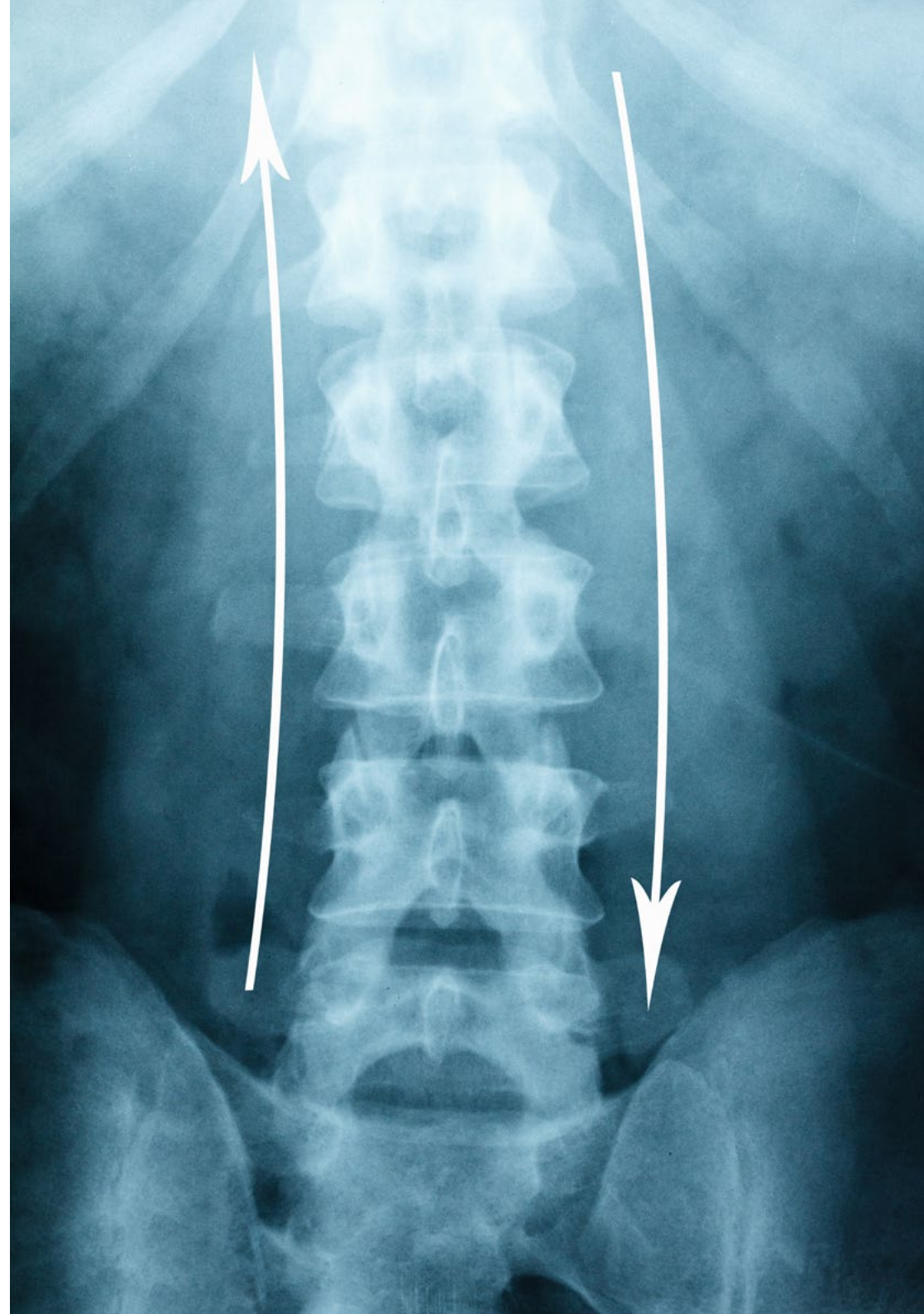
*Our goal is to train highly qualified professionals  
for work experience”*



## General Objectives

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- ◆ Complement the training of specialists in Pediatric Surgery with special interest in minimally invasive techniques.
- ◆ Adequately prepare these professionals to face with guarantee and quality the different pediatric pathologies that can be addressed through these access routes.
- ◆ Enable students to offer professional assistance backed by an accredited teaching program.





## Specific Objectives

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- ◆ Know the surgical complications in minimally invasive surgical procedures in elderly patients.
- ◆ Learn the problems with instrumentation, such as the consequences of combining weak bone with rigid instrumentation.



*An opportunity created for professionals who are looking for an intensive and effective course, with which to take a significant step in the practice of their profession"*



03

# Course Management

For our master's degree to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record in the field of education. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





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*An impressive teaching staff, made up of professionals from different areas of expertise, will be your teachers during your training: a unique opportunity not to be missed”*

## International Guest Director

Awarded by the American Association of Neurological Surgeons for his advances in this clinical field, Dr. Jeremy Steinberger is a renowned physician specialized in the treatment of various spinal disorders. His philosophy is based on developing individualized therapeutic plans according to the specific needs of each patient, using minimally invasive techniques.

In this way, he has carried out his work in health institutions of international reference such as the Mount Sinai Health System in New York. Among his main contributions, he has led a wide range of surgical interventions that have managed to significantly reduce patients' chronic pain and, therefore, their quality of life. At the same time, he has developed different clinical protocols that have contributed to reduce the risks associated with post-surgical complications.

On the other hand, he has balanced these functions with his facet as a Scientific Researcher. In this sense, he has written numerous specialized articles on subjects such as preserving the mobility of individuals affected by spinal cord injuries, the use of emerging technology tools such as Robotics to guide operations and even the use of Virtual Reality to optimize precision during procedures. Thanks to this, he has managed to consolidate himself as a reference that has driven innovation in his field of work.

Committed to excellence, he has actively participated as a speaker at various international scientific congresses. In these events, he has shared his vast experience and the results of his research on Minimally Invasive Spinal Surgery; in addition to exposing the advantages of the use of cutting-edge instruments such as Augmented Reality in the treatment of diseases. This has allowed professionals to optimize their daily clinical practice, increasing the quality of care services and also improving the health of multiple people in the long term.





## Dr. Steinberger, Jeremy

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- Director of Minimally Invasive Surgery at Mount Sinai Health System, New York, United States
- Specialist in Neck and Spinal Pain Management
- Clinical Researcher with an extensive scientific production
- Internship in Orthopedic Spinal Surgery at Hospital for Special Surgery, New York
- Residency in Complex Spinal Surgery at Mount Sinai School of Medicine, New York
- PhD in Medicine from Yeshiva University
- Awarded on different occasions for his advances in the area of Spinal Surgery
- Member of: American Association of Neurological Surgeons, Society of Lateral Access Surgery and AO Spine

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Dr. Losada Viñas, Jose Isaac

- Coordinator of the Spine Unit of Alcorcón Foundation University Hospital
- PhD in Medicine and Surgery from the University of Navarra.
- Member of the Communication Committee of GEER (Raquis Diseases Study Group).
- National Basic Research Award SECOT 1995
- Numerous national and international articles and books



### Dr. González Díaz, Rafael

- Head of the Spinal Surgery Unit at Niño Jesús Hospital (pediatric surgery) and at Rosario Hospital and Sanitas la Moraleja Hospital in Madrid (adult and pediatric surgery).
- Doctor of Medicine and Surgery, Extraordinary Prize. University of Salamanca
- Specialist in Orthopedic and Trauma Surgery. Spine Surgery
- Master's Degree in Medical Management and Clinical Management by the School of Health/UNED
- Former president of the Spanish Spinal Society GEER (Study Group of Spine Diseases).
- Secretary General of SILACO (Ibero-Latin American Spine Society).
- Author of numerous articles and book chapters. Editor of two books on spinal surgery.
- Direction of 5 doctoral theses on spine pathology.

## Professors

### **Diez Ulloa, Máximo Alberto**

- ◆ Head of Rachis Unit, Serv COT. U.C.H. Santiago de Compostela.

### **Dr. García de Frutos, Ana**

- ◆ Spine Unit of the Vall d'Hebron Hospital in Barcelona and in the ICATME Spine Unit at the Quirón-Dexeus Clinic in Barcelona.

### **Dr. Hernández Fernández, Alberto**

- ◆ Spine Unit, COT Service, Donostia University Hospital.

### **Dr. González Díaz, Rafael**

- ◆ Head of Section, Spine Unit. COT Service. Niño Jesús Pediatric University Hospital.

### **Dr. Martín Benlloch, J. Antonio**

- ◆ Dr Peset Hospital Valencia. Head of Spine Section, COT Service. Dr Peset University Hospital Valencia

### **Dr. Barriga Martin, Andrés**

- ◆ Head of the COT department at Paraplegics National Hospital of Toledo.

### **Dr. Sanfeliu Giner, Miguel**

- ◆ Head of the Spine Unit Section. COT service. General Hospital of Valencia.

### **Sr. Hidalgo Ovejero, Angel**

- ◆ Head the COT Department. Ubarmin Hospital. Pamplona

### **Dr. Marín, Miguel**

- ◆ Spine Unit. COT service. Alcorcón Foundation University Hospital. Madrid

### **Dr. Delgado, David**

- ◆ COT service. Alcorcón Foundation University Hospital. Madrid

### **Dr. Tomé Bermejo, Félix**

- ◆ Head of COT Villalba Hospital. Madrid.

### **Dr. Hualda, Alvaro**

- ◆ COT service. Alcorcón Foundation University Hospital. Madrid

### **Dr. Betegón Nicolas, Jesús**

- ◆ Spine Unit, COT Service, León University Hospital.

### **Dr. Sacramento, Cristina**

- ◆ COT service. Clinical University of Navarra Madrid.



04

# Structure and Content

The structure of the contents has been designed by a team of expert surgeons, which encompasses all the updates in spinal pathology.





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*This Postgraduate Certificate has a quality program adapted to the latest trends in the field of spinal surgery”*

## Module 1. Spinal Surgery in the Elderly

- 1.1. General Aspects of the Elderly Spine.
  - 1.1.1. Medical Aspects to be Taken into Consideration in the Elderly Patient Undergoing Spinal Surgery.
  - 1.1.2. Anesthetic Aspects to be Taken into Consideration in the Elderly Patient who is Undergoing Spinal Surgery.
- 1.2. Management of Vertebral Fractures in Elderly Patients.
  - 1.2.1. Conservative Treatment of Fractures in the Elderly.
  - 1.2.2. Odontoid Fractures in Elderly Patients: Functional and Quality of Life Outcomes of Patients With and Without Surgery.
  - 1.2.3. Fractures in Elderly Patients with Ankylopoietic Spondylitis.
  - 1.2.4. Quality of Life in Elderly Patients with Fractures.
  - 1.2.5. Surgical Treatment of Osteoporotic Compression Fractures in the Elderly.
    - 1.2.5.1. Vertebroplasty Role.
    - 1.2.5.2. Kyphoplasty Role.
    - 1.2.5.3. Structural Osteoplasty Role.
    - 1.2.5.4. Vesselplastia.
    - 1.2.5.5. Use of Biologicals.
- 1.3. Conservative Treatment of Spinal Pain in the Elderly.
  - 1.3.1. Rehabilitation in the Elderly Patient.
  - 1.3.2. Alternative Therapies. Yoga, Acupuncture. AquaGym, Pilates...
  - 1.3.3. Use of Spinal Injections in Spinal Pain.
  - 1.3.4. Use of Oral Medication. Aines, Morphics. In Low Back Pain in the Elderly.
- 1.4. Treatment of Tumors in Elderly Patients.
  - 1.4.1. Treatment of Bone Metastases in the Spine of the Elderly Patient.
  - 1.4.2. Minimally Invasive Approaches.
- 1.5. Surgical Aspects of Scoliosis in Elderly Patients.
  - 1.5.1. The Sagittal Profile in the Over 65 Years of Age: Characteristics and Radiographic Analysis.
  - 1.5.2. Clinical Evaluation of the Sagittal Plane: How to Integrate Sagittal Balance into Clinical Practice.
  - 1.5.3. Scoliosis in Elderly Patients: Prevalence. Pathophysiology. Classification. Indications and Objective of Surgery.
  - 1.5.4. Levels of Fusion in Scoliosis of Elderly Patients. Spinal Instrumentation.
  - 1.5.5. Dual Versus All Posterior Approach in Scoliosis in the Elderly.
  - 1.5.6. Vertebral Osteotomies. How to Choose the Correct Surgical Approach.
- 1.6. Specific Surgical Complications in the Elderly Patient.
  - 1.6.1. Coronal and Sagittal Imbalance. Flat-back. Prevention. Treatment.
  - 1.6.1. Pseudarthrosis and Infection After Deformity Surgery in the Elderly Patient
  - 1.6.1. Adjacent Disc/Segment Syndrome (Proximal and Distal).
  - 1.6.1. Surgical Complications. How to Minimize Postoperative Complications, Who is at Risk and What is the Risk.
  - 1.6.1. Proximal Junctional Kyphosis and Progressive Deformity. How to Minimize and Manage it.
- 1.7. Other Degenerative Pathologies.
  - 1.7.1. Cervical Myelopathy in the Elderly.
  - 1.7.2. Degenerative Kyphosis: Influence of Osteoporotic Fractures.
  - 1.7.3. Lumbar Degenerative Spondylolisthesis and Spondylolisthesis.
  - 1.7.4. Thoracolumbar Spinal Cord Compression in the Elderly.
  - 1.7.5. Minimally Invasive Surgery in Patients over 65 Years of Age.





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*A unique, key and decisive training experience to boost your professional development”*

05

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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.



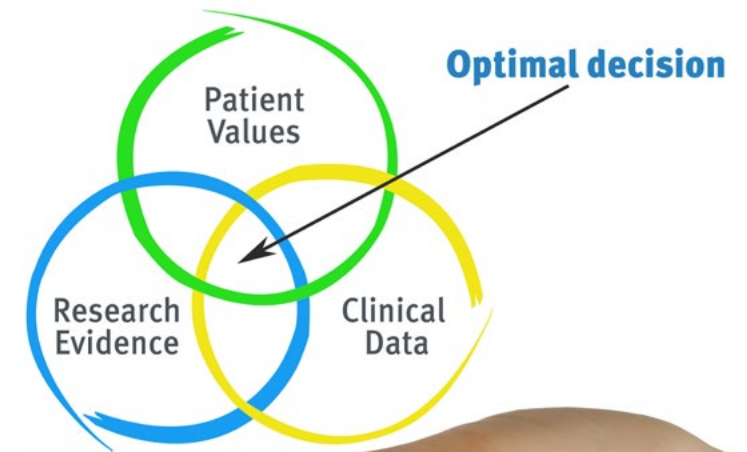
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*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

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. Gervas, 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 professional medical 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 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.
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.



## 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*



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 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 (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 really 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 multimedia content presentation training system 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.



# 06 Certificate

The Postgraduate Certificate in Spinal Surgery in Elderly Patients guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Global University.



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*Include in your training a Postgraduate Certificate in Spinal Surgery in Elderly Patients: a highly qualified added value for any professional in the field of medicine"*

This program will allow you to obtain your **Postgraduate Certificate in Spinal Surgery in Elderly Patients** 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** title 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.

Title: **Postgraduate Certificate in Spinal Surgery in Elderly Patients**

Modality: **online**

Duration: **6 weeks**

Accreditation: **7 ECTS**





health future  
confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service information  
knowledge present quality  
online development languages  
virtual classroom



## Postgraduate Certificate Spinal Surgery in Elderly Patients

- » Modality: online
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# Postgraduate Certificate

## Spinal Surgery in Elderly Patients

