

# Postgraduate Diploma

## Pain and Aging in Rehabilitation Medicine





## Postgraduate Diploma Pain and Aging in Rehabilitation Medicine

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 21 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-pain-aging-rehabilitation-medicine](http://www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-pain-aging-rehabilitation-medicine)

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# 01

# Introduction

The treatment of chronic pain in geriatrics is one of the main areas of focus that brings into play different approaches that must work together in order to be effective. In Rehabilitation Medicine, the advances that have been made in the treatment of pain have a very interesting effect on professional practice in this field. This programme will enable students to learn new approaches that will allow them to offer leading care to their geriatric patients with pain through intervention in rehabilitation medicine.







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*Include in your approach the most prominent advances in the care and attention of patients with pain from a rehabilitation medicine perspective”*

Achieve or maintain an appropriate quality of life for geriatric patients by managing their pain in a way that allows sufferers to experience the wellbeing they need. In this sense, rehabilitation medicine is a highly interesting way to achieve this.

To do this, professionals must assess and explore the patient's resistance and physiological reserves in order to establish the appropriate framework for action, home care, residential care, day care centers, social centers or private clinics.

This work should include treatments for pre-frailty, frailty, pain, trauma, neurological, respiratory and/or pelvic floor disorders, gerontological syndromes or cognitive impairment, side effects of drugs and/or biopsychosocial conditions that may complicate the clinical picture.

It is therefore essential to know the tools of physiotherapy and the appropriateness of its application in each case, such as active exercise, manual therapy, electrotherapy being able to work in interdisciplinary team, with appropriate communication tools; understanding the concept of person-centered care, having the most up-to-date knowledge of support devices and even the support of current technology can be key to success in physiotherapy treatment.

This **Postgraduate Diploma in Pain and Aging in Rehabilitation Medicine** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Geriatric Rehabilitation Medicine
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*Learn from your own computer, the latest advances and developments in the approach to pain caused by aging and its common pathologies”*

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*A system created to enhance your learning with the convenience of a program which can be adapted to your pace and current study needs”*

*A dynamic and effective program that will take students through a high-intensity professional development for your professional capacity.*

*Using the most efficient audiovisual systems, this Postgraduate Diploma will allow students to learn through direct and realistic observation.*

The program includes, in its teaching staff, professionals from the sector who bring to this program the experience of their work, in addition to recognized specialists from prestigious reference societies and universities.

The multimedia content, developed with the latest educational technology, will provide professionals with situated and contextual learning, i.e., a simulated environment that will provide immersive training, designed for training oneself in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.



# 02

# Objectives

Designed to bring about change in the work capacity of the professionals who take it, this postgraduate diploma offers the most up-to-date knowledge on pain and aging in rehabilitation medicine. The objective is to provide the student with specialized knowledge by creating a well-structured foundation to identify the clinical signs associated with the different needs and developments, providing a broad and contextual view of the activity in this field today.





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*A fully comprehensive and up-to-date Postgraduate Diploma, created with the most advanced study methods, to transform knowledge into effective intervention skills”*



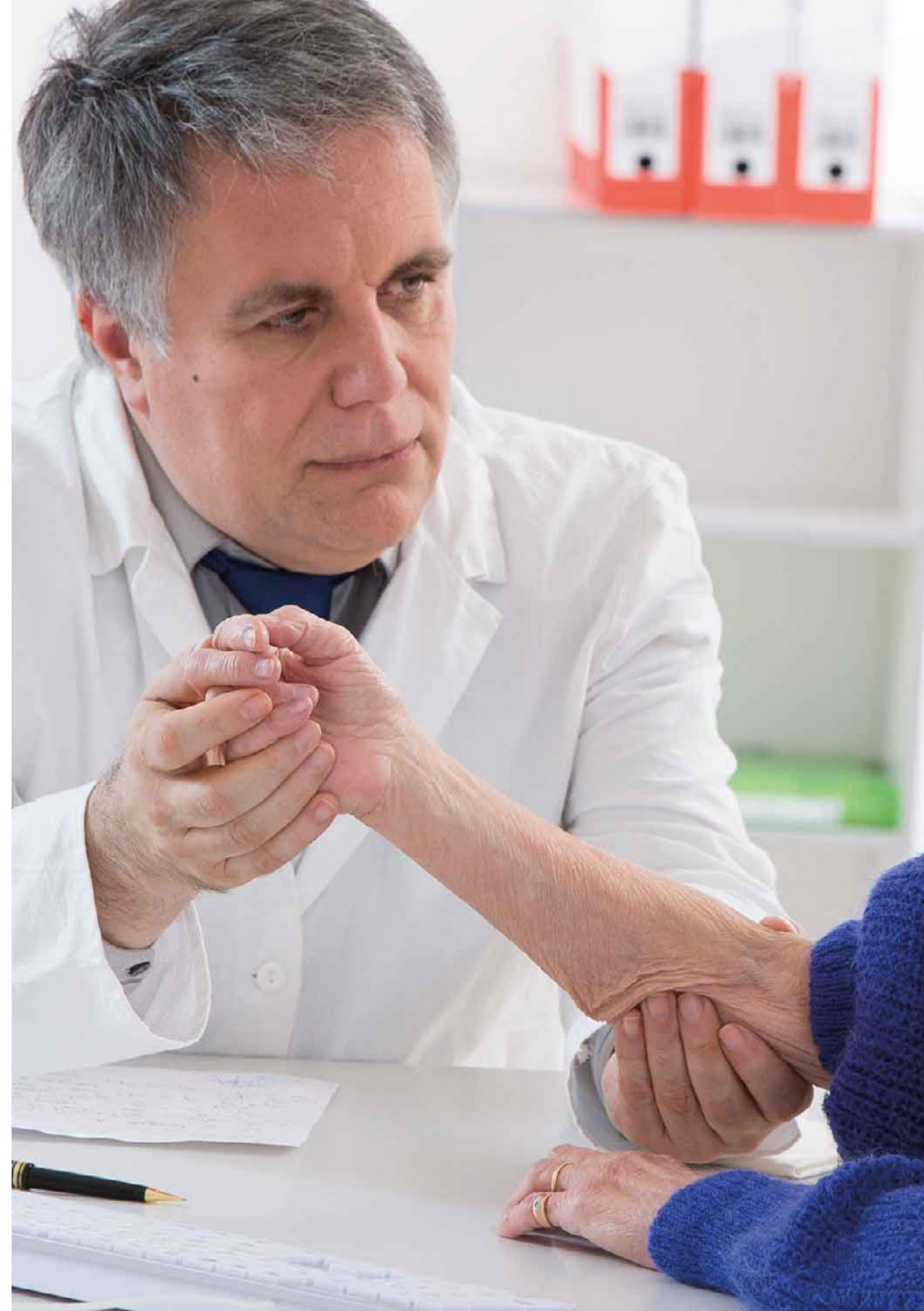
## General Objective

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- Develop a critical and reasoned attitude, based on the most recent scientific evidence, towards the physiotherapeutic diagnosis in elderly patients and be able to apply adequate treatment in order to reduce functional impotence, frailty and deterioration, therefore favoring an improvement to physical and mental health in old age



*Take the opportunity to keep up-to-date with the latest developments in Pain and Aging in Rehabilitation Medicine”*





## Specific Objectives

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### Module 1. Clinical Reasoning in Physiogeriatrics

- ♦ Explain active aging from the patient's point of view
- ♦ Define the fields of action of physiotherapy in geriatrics
- ♦ Define the role of Physiotherapy in palliative care units
- ♦ Define the use of new technologies in Physiogeriatrics
- ♦ Explain what interdisciplinary teams in geriatrics consist of
- ♦ Define the composition and functioning of the interdisciplinary team
- ♦ Explain the main functions within the interdisciplinary team
- ♦ Establish the differential diagnosis: "Red and Yellow Flags"
- ♦ Describe the major geriatric syndromes
- ♦ Explain what "Red and Yellow Flags" consist of
- ♦ Define the most common "Red flags" in clinical practice
- ♦ Explain the proper approach to the physical therapy session in geriatrics
- ♦ Describe the physiotherapeutic examination and assessment of the geriatric patient
- ♦ Define the effects on the neuromusculoskeletal system of certain drugs

### Module 2. Person-Centered Care (PCA)

- ♦ Describe the decalogue of person-centered care
- ♦ Explain the process of transformation from a service model to a PCA model
- ♦ Explain the provision of physical therapy services in an ACP model

### Module 3. Pain and aging developments according to current scientific evidence

- ♦ Explain the anatomy and physiology of pain transmission
- ♦ Define the different types of pain
- ♦ Describing pain and aging from a biopsychosocial paradigm
- ♦ Define the different pain syndromes in geriatrics
- ♦ Explain how to perform a proper pain assessment
- ♦ Explain the pharmacological treatment of pain in the geriatric patient
- ♦ Explain the physiotherapeutic treatment of the geriatric patient

03

# Course Management

The program's teaching staff includes specialists in the field of rehabilitation medicine, who bring their work experience to this specialization. In addition, other recognized specialists collaborate in its design and preparation which means that the program is developed in an interdisciplinary manner.





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*A selection of expert professors in geriatric rehabilitation will be in charge of providing students with the most current knowledge in this field”*

## International guest conductor

Dr. Tracy Friedlander is an eminent international expert, specialized in Physiotherapy and Rehabilitation of the elderly. Her extensive knowledge and skills in this field have enabled her to implement innovative procedures and improve the quality of life of various patients over the years.

Thanks to her high level of care, the scientist has been selected as Medical Director of the Comprehensive Acute Inpatient Rehabilitation Unit at Johns Hopkins Bayview Medical Center. She has also been part of the medical teams at the prestigious Johns Hopkins Hospital.

Her main area of expertise is Neurological Rehabilitation. In this field, the expert has scientific publications referenced in peer-reviewed journals of high impact in the health community. As such, she has focused her efforts on helping patients to control Spasticity, a muscle control disorder, through various therapeutic approaches.

In addition, some of her most outstanding research in recent years is related to the rehabilitation of patients subjected to long periods of mechanical ventilation when infected with the SARS-CoV-2 virus. She is also fully qualified to treat joint pain, fibromyalgia and chronic pain and fatigue.

Dr. Friedlander also holds official certifications from the American Board of Physical Medicine and Rehabilitation. All of this is backed by her excellent knowledge in the precise and advanced care of spinal cord injuries. On the other hand, this specialist has an excellent academic background. She graduated from Emory University in Atlanta and obtained her medical degree from the University of Maryland. She also completed her internship at Mercy Medical Center and her residency in Physical Medicine and Rehabilitation at Sinai Hospital in Baltimore.



## Dr. Friedlander, Tracy

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- Director of the Department of Physical Medicine and Rehabilitation at Johns Hopkins Hospital.
- Medical Director of the Comprehensive Acute Inpatient Rehabilitation Unit at Johns Hopkins Bayview Medical Center
- Specialist in Neurorehabilitation and Spasticity Management
- Official certifications from the American Board of Physical Medicine and Rehabilitation
- Specialist in Physical Medicine and Rehabilitation at Sinai Hospital of Baltimore
- Medical Graduate from the University of Maryland, Baltimore
- Member of:
  - American Academy of Physical Medicine and Rehabilitation
  - American Spinal Cord Injury Association
  - Maryland Society for Physical Medicine and Rehabilitation

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

## Guest Director



### Mr. Castillo Martín, Juan Ignacio

- ♦ Chief of Physical Medicine and Rehabilitation Service. 12 de Octubre Hospital. Madrid
- ♦ Doctor Specialist in Physical and Rehabilitation Medicine, Ruber Juan Bravo Hospital Complex
- ♦ Rehabilitation Doctor in Traffic Accidents unit of the Ruber Juan Bravo Hospital Complex
- ♦ Rehabilitation Doctor Recoletas Cuenca Hospital
- ♦ Coordinator of continuing education of the Spanish Society of Cardiology in Exercise Testing with Oxygen Consumption
- ♦ Associate Professor Universidad Complutense de Madrid. Faculty of Medicine
- ♦ Teaching coordinator in continuing education courses at the Madrid Regional Ministry of Health: "Tertiary prevention in chronic cardiopathic patients" Cardiac Rehabilitation"
- ♦ Degree in Medicine and Surgery. University of Salamanca
- ♦ Master's Degree in Cardiac Rehabilitation. SEC-UNED
- ♦ Master in Disability Assessment Autonomous University Madrid
- ♦ Master Child Disability. Complutense University of Madrid
- ♦ Doctorate Course: Neurosciences University of Salamanca
- ♦ Member of the Spanish Society of Cardiology



## Management



### Ms. García Fontalba, Irene

- ♦ Physiotherapist and Director at Cal Moure'S
- ♦ Member of the Girona Territorial Section of the Association of Physiotherapists of Cataluña
- ♦ Creator of the blog "fisios y otras historias"
- ♦ Coordinator of the social networks group of professionals for health promotion in Girona
- ♦ More than ten years working in geriatric pathology and processes involving pain at home and in private practice

## Professors

### Dr. Pino Giráldez, Mercedes

- ♦ Specialist in Physical Medicine and Rehabilitation
- ♦ Assistant Rehabilitation Physician at the University Hospital 12, Octubre, Madrid
- ♦ Specialist in Physical Medicine and Rehabilitation, University Hospital of Guadalajara
- ♦ Assistant Rehabilitation Physician at Rey Juan Carlos I Hospital, Madrid
- ♦ Assistant Rehabilitation Physician at Torrejón de Ardoz Hospital
- ♦ Rehabilitation Physician Assistant at the University Hospital of Guadalajara
- ♦ Medical Rehabilitation Specialist at the Jiménez Díaz Foundation Hospital
- ♦ Degree in Medicine and Surgery from the University of Alcalá de Henares
- ♦ Specialist in Childhood Disability by Complutense University of Madrid
- ♦ MIR Physical Medicine and Rehabilitation

### Dr. Blesa Esteban, Irene

- ♦ Resident Intern. 12 de Octubre Hospital, Madrid
- ♦ Expert in musculoskeletal ultrasonography
- ♦ Doctorate from the Faculty of Medicine at the Autónoma de Madrid University
- ♦ Course on Neuropathic Pain Management for Medicine
- ♦ Course on Evaluation and prescription of therapeutic exercise
- ♦ Course in Life Support for Residents
- ♦ Supervision of doctoral thesis: Diagnosis of congenital heart disease in the first trimester of pregnancy ultrasound

**Dr. García, Sofía**

- ♦ Specialist in Physical Medicine and Rehabilitation, Madrid Health Service
- ♦ Specialist Doctor in Physical Medicine and Rehabilitation, Children's Rehabilitation Unit, 12 de Octubre University Hospital, Madrid
- ♦ Specialist Doctor in Physical Medicine and Rehabilitation, Language Rehabilitation Center
- ♦ Specialist Doctor, Pelvic Floor Unit, 12 de Octubre University Hospital
- ♦ Specialist Doctor in Cardiac Rehabilitation, Cardiac Rehabilitation Unit, 12 de Octubre University Hospital
- ♦ Specialist Doctor, Facial Paralysis and Neurorehabilitation Unit, La Paz University Hospital
- ♦ Specialist Doctor, Neurorehabilitation Unit, 12 de Octubre University Hospital
- ♦ Specialist Doctor in Respiratory Rehabilitation, Gregorio Marañón University General Hospital
- ♦ Specialist Doctor in Spinal Cord injury Rehabilitation, National Hospital for Paraplegics
- ♦ Degree in Medicine from San Pablo University School of Medicine
- ♦ Master's Degree in Musculoskeletal Ultrasound and Ultrasound-Guided Interventionism, San Pablo University

**Dr. Jiménez, Henar**

- ♦ Specialist in Physiotherapy and Sports Rehabilitation
- ♦ Resident Intern. 12 de Octubre University Hospital, Madrid
- ♦ Degree in Medicine
- ♦ Expert in Physiotherapy and Sports Rehabilitation at Isabel I of Castilla International University
- ♦ Course on the Safe Use of Medication in the Madrid Health Service

**D. Cuesta Gascón, Joel**

- ♦ PhD in Physiotherapy and Rehabilitation. La Paz University Hospital, Madrid
- ♦ PhD in Physiotherapy and Rehabilitation. Dr. Rozalén Medical and Rehabilitation Center, Madrid
- ♦ Resident of Physical Medicine and Rehabilitation at the University Hospital 12 de Octubre
- ♦ Rehabilitation Doctor in Regenerative Medicine
- ♦ Teacher of the Specialization Course in Neuropathic Pain at La Princesa Hospital
- ♦ Organizer and speaker at "See you on the 12th". "Fundamentals and Physiology of Sport"
- ♦ Speaker at " AMIR 2020 Academy postMIR Conference" on the specialty of Physical Medicine and Rehabilitation
- ♦ Master's Degree in Clinical Medicine, Francisco de Vitoria University
- ♦ Degree in Medicine from the Camilo José Cela University
- ♦ Expert in Musculoskeletal Ultrasound

**Ms. Díaz Zamudio, Delia**

- ♦ Specialist in Rehabilitation and Physical Medicine
- ♦ Resident Intern of Rehabilitation and Physical Medicine in the Rehabilitation Department of the 12 de Octubre University Hospital
- ♦ Assistant specialist in the Rehabilitation Service of the 12 de Octubre University Hospital
- ♦ Honorary Collaborator of the Department of Physical Medicine and Rehabilitation and Hydrology at 12 de Octubre Hospital
- ♦ Degree in Medicine and Surgery. Faculty of Medicine. University of Seville
- ♦ Rehabilitation and Physical Medicine Specialist, Rehabilitation Service, University Hospital of Denia
- ♦ Rehabilitation and Physical Medicine Specialist, Rehabilitation Service of the University Hospital Alto Deba, Mondragón

**Dr. González García, María Dolores**

- ◆ Specialist in Physical Medicine and Rehabilitation
- ◆ Head of Neurologic Rehabilitation. 12 de Octubre Hospital, Madrid
- ◆ Area Specialist Physician, Doce de Octubre Hospital, Madrid
- ◆ Degree in Medicine and Surgery by the University of Alcalá. Alcalá de Henares, Madrid
- ◆ Specialization in Physical Medicine and Rehabilitation as Medical Intern Resident (MIR) in the Rehabilitation Service at the University Hospital 12 de Octubre, Madrid, 2002-2006

**Dr. Soto Bagaria, Luis**

- ◆ Physiotherapist Researcher at Vall d'Hebron Research Institute
- ◆ Physiotherapist and researcher at Parc Sanitari Pere Virgili
- ◆ Physiotherapist and Collaborator for the R & D department, SARquavita
- ◆ Head researcher at Mapfre Quavita for the PhD in Public Health and Research Methodology
- ◆ Master's Degree in Neuromusculoskeletal Physiotherapy
- ◆ Master in Clinical Trials. International University of Cataluna
- ◆ Member of the research team on aging, frailty and transitions at Re-Fit BCN

**Dr. Gil Gracia, Samuel**

- ◆ Physiotherapist and Osteopath in free practice in Béziers
- ◆ Physiotherapist. Iriteb Center - Dos de Mayo, Badalona
- ◆ Member of the Spanish Society of Physiotherapy and Pain SEFID, Fisioterapia sin Red society
- ◆ Author of the videoblog Soy Paciente de Samu, a channel of divulgation on physiotherapy
- ◆ Specializing in Musculoskeletal Pain
- ◆ Master's Degree in Osteopathy at Gimbernat University
- ◆ Graduate in Physiotherapy at Gimbernat University

**Dr. Jiménez Hernández, Daniel**

- ♦ Expert in Physiotherapy and Education Physiotherapy
- ♦ Physiotherapist
- ♦ Trainer of PCA professionals
- ♦ Professor at the Central University of Cataluna
- ♦ PhD in Educational from the Central University of Cataluna
- ♦ Official Master's Degree in Inclusive Education. Central University of Cataluna
- ♦ Diploma in Physiotherapy Gimbernat University, EUG-UAB
- ♦ Member of the research groups: attention to diversity and Mental Health and Social Innovation at UVic

**Dr. Gómez Orta, Roger**

- ♦ Physiotherapist and Orthopedic Technician, Qvitec Centre D' Ajudes Tècniques
- ♦ Co-founder of Qvitec
- ♦ Responsible for the seating and positioning clinic service at Qvitec
- ♦ Specialist and trainer in patient management of Handicare products in Spain
- ♦ Graduate in Physiotherapy







**Dr. Hernandez Espinosa, Joaquín**

- ◆ Specialist in Respiratory Physiotherapy
- ◆ Director of Residential Center Hotel Senior Citizens Pineda
- ◆ Postgraduate in Respiratory Physiotherapy. Autonomous University of Barcelona
- ◆ Ethical Care Consultant at Fundacio Vella Terra
- ◆ COVID-19 Emergency equipment management at Fremap Gent Gran
- ◆ Graduate in Physiotherapy at the University School of Physiotherapy Gimbernat,
- ◆ Graduate in Physiotherapy at Autonomous University of Barcelona
- ◆ Member of the Ethics Committee L'Onada Serveis

**Dr. Buldón Olalla, Alejandro**

- ◆ Expert in physical activity and sport physiotherapy
- ◆ Physiotherapist in the Amavir group and in home care for the elderly
- ◆ Founder of the blog [fisioconectados.com](http://fisioconectados.com)
- ◆ Expert in physical activity and sport physiotherapy. Rey Juan Carlos University
- ◆ Graduate in Physiotherapy Rey Juan Carlos University
- ◆ Master's Degree in Social Networks and Digital Learning

# 04

# Structure and Content

The development of the Postgraduate Diploma has been carried out according to the educational efficiency criteria offered by TECH. Through a complete and concrete syllabus, students will go through all the essential learning areas proposed, gradually acquiring the necessary skills to put the necessary knowledge into practice. A very well-developed learning framework tailored to student needs that will allow them to learn in a continuous, efficient manner.







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*A teaching program structured in didactic units of significant importance, including all the areas that rehabilitation medicine should consider when caring for patients with frailty”*

## Module 1. Clinical Reasoning in Physiogeriatrics

- 1.1. Past, Present and Future of Physiotherapy in Geriatrics
  - 1.1.1. Brief History
    - 1.1.1.1. Origin of Discipline Beyond our Borders
    - 1.1.1.2. Origin of the Discipline in Spain
    - 1.1.1.3. Conclusions
  - 1.1.2. Current Status of the Update in Rehabilitation Medicine in Geriatrics
  - 1.1.3. Future of the Update in Rehabilitation Medicine in Geriatrics
    - 1.1.3.1. New Professional Technologies
- 1.2. Active ageing
  - 1.2.1. Introduction
  - 1.2.2. Concept of Active Aging
  - 1.2.3. Classification
  - 1.2.4. Active Aging from the Patients Point of View
  - 1.2.5. Role of the Physical Communication Management in Active Aging Programs
  - 1.2.6. Example of Intervention
- 1.3. Update on Rehabilitation Medicine in Geriatrics and Context of Action
  - 1.3.1. Introduction and Definitions
  - 1.3.2. Fields of Action
    - 1.3.2.1. Residential Centers
    - 1.3.2.2. Socio-sanitary
    - 1.3.2.3. Primary Care
    - 1.3.2.4. Discipline of Work in Palliative Care Units
  - 1.3.3. Areas of the Future in Geriatric Medicine
    - 1.3.3.1. New Technologies
    - 1.3.3.2. Physiotherapy and Architecture
- 1.3.4. Interdisciplinary Teams in Geriatrics
  - 1.3.4.1. Multidisciplinary or Interdisciplinary Teams?
  - 1.3.4.2. Composition and Functioning of the Interdisciplinary Team
  - 1.3.4.3. Main Functions within the Interdisciplinary Team
- 1.4. Differential Diagnosis. Red and Yellow Flags
  - 1.4.1. Introduction and Definitions
    - 1.4.1.1. Differential Diagnosis
    - 1.4.1.2. Diagnosis in Rehabilitation Medicine
    - 1.4.1.3. Geriatric Syndromes
    - 1.4.1.4. Red and Yellow Flags
  - 1.4.2. Most Common Red Flags in Clinical Practice
    - 1.4.2.1. Urinary Infection
    - 1.4.2.2. Oncologic Pathology
    - 1.4.2.3. Heart Failure
    - 1.4.2.4. Fractures
- 1.5. Approach to the Session on Update on Rehabilitation Medicine in Geriatrics
  - 1.5.1. Examination and Assessment of the Geriatric Patient
    - 1.5.1.1. Assessment Components
    - 1.5.1.2. Most Commonly Used Scales and Tests
  - 1.5.2. Determination of Treatment Objectives
  - 1.5.3. Organización de la sesión de tratamiento
  - 1.5.4. Organization of the Professional's Own Work
  - 1.5.5. Treatment Follow-up in the Elderly Patient
- 1.6. Pharmacology, Effects on the Neuromusculoskeletal System
  - 1.6.1. Introduction
    - 1.6.1.1. Drugs Influencing Gait
  - 1.6.2. Drugs and Risk of Falls



**Module 2. Person-Centered Care (PCA)**

- 2.1. Definition, Concepts and Basic Principles
  - 2.1.1. Decalogue of People-Centered Care
    - 2.1.1.1. What is and What is Not PCA? Its Principles
    - 2.1.1.2. Clarifying Concepts. Glossary of Terms
  - 2.1.2. Origin and Conceptual Basis of PCA
    - 2.1.2.1. References from Psychology
    - 2.1.2.2. Referents from Social Intervention
    - 2.1.2.3. Quality of Life Benchmarks
    - 2.1.2.4. References from the Study of Disability
    - 2.1.2.5. Civil Rights Referents from the Civil Rights of Individuals
    - 2.1.2.6. Referrals from Gerontological Resources
    - 2.1.2.7. Legal and Regulatory Aspects
- 2.2. The PCA Model
  - 2.2.1. Paradigm and Intervention Model
- 2.3. Good Practices in PCA
  - 2.3.1. Definition and Concept of BBPP
  - 2.3.2. Areas of Good Practices
  - 2.3.3. Good Practice, the Path to Good Practice
  - 2.3.4. Key Good Practices
- 2.4. The Process of Transformation from a Service Model to a PCA Model
  - 2.4.1. How to Build an Apprenticeship?
  - 2.4.2. Transformation of Services
  - 2.4.3. Transformation of People
- 2.5. Provision of Services in an PCA Model
  - 2.5.1. Person-Centered Physiotherapy vs. Individualized Physiotherapy
  - 2.5.2. Epistemology of People-Centered Physiotherapy

- 2.6. Stocks
  - 2.6.1. Introduction
  - 2.6.2. Stocks
    - 2.6.2.1. The Reception of the Professional
    - 2.6.2.2. Assessment and Evaluation Processes
    - 2.6.2.3. The Intervention
    - 2.6.2.4. Interrelationship With Co-Workers
    - 2.6.2.5. Interrelation with the Physical Environment
    - 2.6.2.6. Interrelation with the Community

**Module 3. Pain and aging, update according to current scientific evidence**

- 3.1. Anatomy and Physiology of Pain Transmission
  - 3.1.1. Peripheral Elements
  - 3.1.2. Nociceptors
  - 3.1.3. Nociceptor Depolarization
  - 3.1.4. Peripheral Sensitization of Nociceptors
- 3.2. Dorsal Ganglion
  - 3.2.1. Spinal Cord
  - 3.2.2. Posterior Horn
- 3.3. Ascending Pain Pathways
  - 3.3.1. Brain
  - 3.3.2. Concept of the Pain Matrix
  - 3.3.3. Brain Areas Related to Pain
  - 3.3.4. Descending Pain Pathways
  - 3.3.5. Descending Inhibition
  - 3.3.6. Descending Facilitation

- 3.4. Types of Pain
  - 3.4.1. Introduction
  - 3.4.2. Temporal
    - 3.4.2.1. Acute Pain
    - 3.4.2.2. Chronic Pain
  - 3.4.3. Pathophysiology
    - 3.4.3.1. Nociceptive Pain
    - 3.4.3.2. Somatic
    - 3.4.3.3. Visceral
    - 3.4.3.4. Neuropathic Pain
    - 3.4.3.5. Nociceptive vs. Neuropathic Pain
  - 3.4.4. Central Sensitization
    - 3.4.4.1. Wind-up Responses Mediated by C-Fibers
    - 3.4.4.2. Long-Term Empowerment
    - 3.4.4.3. Changes in the Phenotype of Posterior Horn Neurons and Apoptosis of GABAergic Neurons and Aberrant Connections
    - 3.4.4.4. Excitatory Changes in the Cerebral Cortex
- 3.5. Pain and Aging
  - 3.5.1. Aging
  - 3.5.2. Characteristics of Aging
  - 3.5.3. Prevalence
  - 3.5.4. Physiological Changes of Aging
  - 3.5.5. Physical and Neurological Changes with Impact on Pain Chronification
    - 3.5.5.1. Differences in Pain Perception
    - 3.5.5.2. Increased Chronic Inflammation in Aging
    - 3.5.5.3. Disruption of the Circadian Cycle in Aging
    - 3.5.5.4. Neurodegeneration and Implications for Learning
    - 3.5.5.5. Elderly Depression
    - 3.5.5.6. Sedentary Lifestyle and Frailty in the Elderly
    - 3.5.5.7. Under-Recognized and Under-Treated Pain
- 3.6. Pain Syndromes in Geriatrics
  - 3.6.1. Introduction
  - 3.6.2. Cervical Osteoarthritis
  - 3.6.3. Occipital Neuralgia
  - 3.6.4. Cervicogenic Dizziness
  - 3.6.5. Vertebral Fracture due to Osteoporosis
  - 3.6.6. Lumbar Osteoarthritis and Facet Syndrome
  - 3.6.7. Central Canal Stenosis in the Lumbar Spine
  - 3.6.8. Hip Osteoarthritis
  - 3.6.9. Shoulder Rotator Cuff Rupture
  - 3.6.10. Knee Osteoarthritis
- 3.7. Pain Assessment
  - 3.7.1. Introduction
  - 3.7.2. Communicative Framework - Communicative Skills During the Interview
    - 3.7.2.1. Beginning of the Session - Welcome
    - 3.7.2.2. Interview - Identify Reasons for Consultation
    - 3.7.2.3. Closing of the Session - Dismissal
  - 3.7.3. Main Problems in Communicating with the Elderly Patient
    - 3.7.3.1. Medical History
    - 3.7.3.2. Clinical Features of Pain
    - 3.7.3.3. Location and Quality
    - 3.7.3.4. Chronology and Behavior
  - 3.7.4. Current and Previous Treatment
  - 3.7.5. Pain in Patients with Cognitive Impairment
  - 3.7.6. Scales for Assessing Pain
    - 3.7.6.1. One-dimensional Scales
    - 3.7.6.2. Multidimensional Scales

- 3.7.7. Musculoskeletal Examination
- 3.7.8. Observation and Visual Inspection
- 3.7.9. Examination of the Pain Area
- 3.7.10. Movement and Muscle Assessment
- 3.7.11. Joint Assessment
- 3.7.12. Muscular Strength Assessment
- 3.8. Pharmacological Treatment of Pain in the Geriatric Patient
  - 3.8.1. Drugs for Pain
  - 3.8.2. Aines
  - 3.8.3. Coxibs
  - 3.8.4. Paracetamol
  - 3.8.5. Metamizole
  - 3.8.6. Opioid Drugs
  - 3.8.7. Phytotherapy
  - 3.8.8. Adjuvant Drugs
- 3.9. Pain Treatment
  - 3.9.1. Introduction
  - 3.9.2. Biopsychosocial Approach to Pain
  - 3.9.3. Response Problems and Passive Manual Therapy as the Only Treatment
  - 3.9.4. Integration of the Mechanisms of Pain, Function, Impairment and Psychosocial Factors
    - 3.9.4.1. Integration of Pain Mechanisms
    - 3.9.4.2. Integration of Function and Impairment
    - 3.9.4.3. Integration of Psychosocial Factors
  - 3.9.5. Mature Organism Model
  - 3.9.6. Integrated or Multimodal Treatment Strategies
    - 3.9.6.1. Educational
    - 3.9.6.2. Guide to Explain Pain
    - 3.9.6.3. Manual Therapy
    - 3.9.6.4. Mechanical Stimulation

- 3.9.7. Peripheral Mechanism
- 3.9.8. Spinal Mechanisms
- 3.9.9. Supraspinal Mechanisms
- 3.9.10. Therapeutic Exercise and Physical Reactivation
  - 3.9.10.1. Resistance Exercise
  - 3.9.10.2. Aerobic Exercise
  - 3.9.10.3. Multimodal Exercise
  - 3.9.10.4. Aquatic Exercise



*Students will learn in such a way that what has been learned becomes fixed and transformed into knowledge, through a structured program that will cover all the points of interest you need to revise your intervention in geriatric rehabilitation”*

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# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, 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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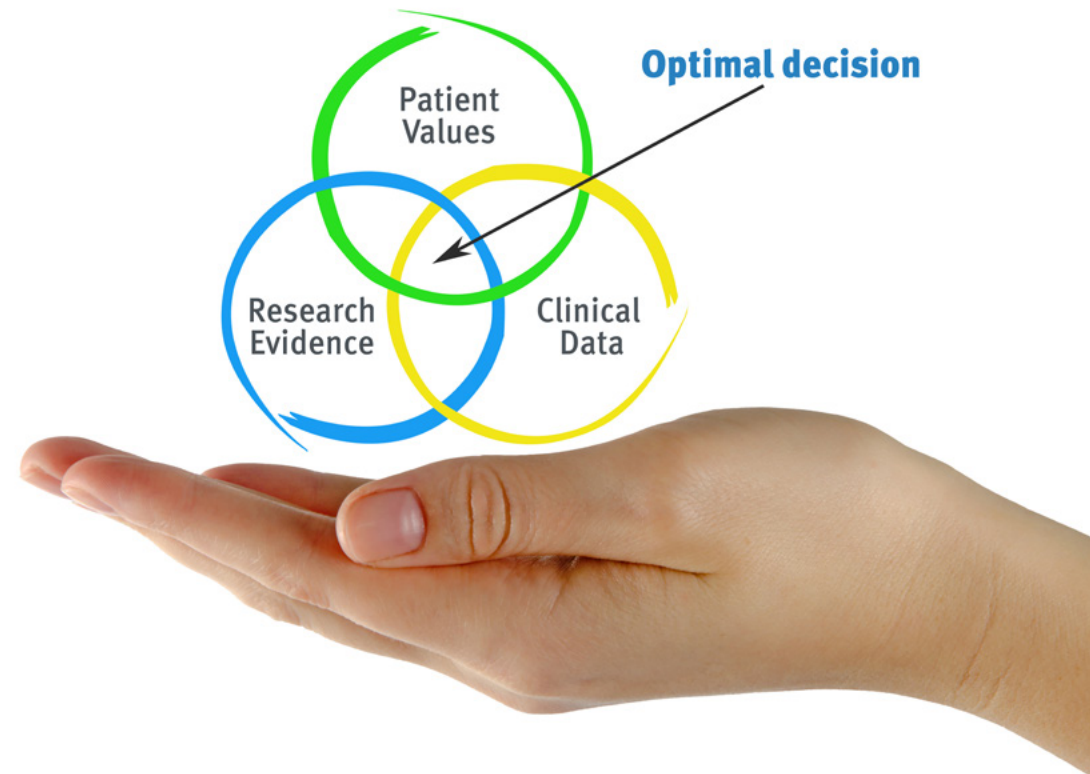
*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*



## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately 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 will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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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 achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into 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.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This 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, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving 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 Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*Relearning 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 (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.







#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 06 Certificate

The Postgraduate Diploma in Pain and Aging in Rehabilitation Medicine guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.





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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*



This private qualification will allow you to obtain a **Postgraduate Diploma in Pain and Aging in Rehabilitation Medicine** 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.

Title: **Postgraduate Diploma in Pain and Aging in Rehabilitation Medicine**

Modality: **online**

Duration: **6 months**

Accreditation: **21 ECTS**



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

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



**Postgraduate Diploma**  
Pain and Aging in  
Rehabilitation Medicine

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 21 ECTS
- » Schedule: at your own pace
- » Exams: online



# Postgraduate Diploma

## Pain and Aging in Rehabilitation Medicine

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