Advanced Master's Degree
Neurological Physiotherapy

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Advanced Master's Degree
Neurological Physiotherapy

» Modality: **online**
» Duration: **2 years**
» Certificate: **TECH Global University**
» Credits: **120 ECTS**
» Schedule: **at your own pace**
» Exams: **online**

Website: **www.techtitute.com/us/physiotherapy/advanced-master-degree/advanced-master-degree-neurological-physiotherapy**

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01
Introduction

In recent times there have been great advances made in both the field of neuroscience, as well as Physiotherapy, as a science and treatment for neurological diseases, which means physiotherapists have to update their knowledge both about the functioning of the nervous system, and about how to evaluate and therapeutically approach a person with ABI (Acquired Brain Injury) or neurodegenerative diseases, since each injury is different and will manifest differently in each patient.

This, coupled with the public's awareness of the need for specialized professionals, is leading to an increase in the demand for physical therapists who understand how the nervous system works after an injury and how to minimize the sequelae through this understanding.

Include among your professional expertise the specialization in Neurological Physiotherapy, a unique opportunity to help your patients control their diet in order to prevent certain diseases"

The increase in the incidence of neurodegenerative diseases and Acquired Brain Injury (ABI), especially in stroke survivors, means that neurorehabilitation and, therefore, physiotherapy indispensable.

This Advanced Master's Degree in Neurological Physiotherapy aims to provide physiotherapists with the necessary arsenal of knowledge based on current scientific evidence, allowing them to understand the anatomy of the nervous system, the pathophysiology and the complete approach to treatment when faced with any of the consequences of injuries that result in these diseases, achieving significant patient improvement by applying the latest techniques.

The wide range of neurodegenerative diseases, the diagnosis complexity, the diversity of their evolution and prognosis, their multiple clinical manifestations, and the rapid scientific and technological progress all require specialized neurorehabilitation professionals for coordinated intervention in patients. Physiotherapists are a fundamental component in any multidisciplinary team, because these diseases cause alterations in various body activities, such as movement, balance, breathing, speech or heart functions.

Likewise, this program aims to be a compendium of the most up-to-date evidence and scientific knowledge about the nervous system and its rehabilitation following a supervening injury. As a result, it is proposed as an Advanced Master's Degree for physiotherapists who have never dealt with people with ABI but are interested in directing their professional future towards dealing with this type of patients. Likewise, professionals who are already a neurological physiotherapist, whether or not dealing with ABI, will find an opportunity to update their knowledge and reach a higher level of specialization in this field.

That is why it is necessary for physical therapists to specialize in the treatment of these diseases in order to help affected individuals improve symptoms, relieve pain, improve functional capacity, slow down the disabling process of the disease, and stimulate independence and physical functions, as physical therapy has proven to be effective in alleviating the consequences of neurodegenerative diseases.

This Advanced Master's Degree offers the opportunity to deepen and update knowledge in this field, with the use of the most current educational technology. It provides a comprehensive overview of neurology and neurodevelopment, focusing on the most important and innovative aspects of treatments in pediatric neurology. All this in a 100% online specialization, which will expand knowledge and, therefore, professional skills and expertise in a simple way, allowing students to adapt their study time to the rest of their daily commitments.

This **Advanced Master's Degree in Neurological Physiotherapy** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- Clinical cases presented by experts in Neurology Physiotherapy
- The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Latest diagnostic and therapeutic developments in Neurological Physiotherapy
- The presentation of hands-on workshops on procedures, diagnostic and therapeutic techniques
- Contains real images in high resolution and practical exercises where the self-assessment process can be carried out to improve learning
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- Special emphasis on test-based medicine and research 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

This program has been carefully designed for professionals seeking the highest qualification with the best educational material while working on real cases and learning from the best professionals in the field"

This Advanced Master's Degree is the best investment you can make when selecting a refresher program for two reasons: in addition to updating your knowledge of Neurological Physiotherapy, you will obtain a degree from the world's largest online institution: TECH"

We offer you the best teaching methodology, with a multitude of practical contents that will allow you to study in a more comprehensive and effective way

Increase your decision-making confidence by updating your knowledge through this Advanced Master's Degree program, created to teach the best

The teaching staff includes professionals from the field physiotherapy, who contribute their experience to this specialization program, as well as renowned specialists from leading scientific societies.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive program designed to learn in real situations.

This program is designed around Problem-Based Learning, whereby doctors must try to solve different professional practice situations that arise during the program. For this purpose, professionals will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of Neurological Physiotherapy with extensive teaching experience.

02
Objectives

This Advanced Master's Degree in Neurological Physiotherapy is designed to offer a complete, detailed and up-to-date vision of this subject matter to physiotherapists who work with patients suffering from these diseases. A high-level specialization to offer in-depth education to professionals.

This Advanced Master's Degree will allow you to acquire or update your knowledge in Neurological Physiotherapy, so as to offer personalized attention to your patients"

General Objectives

- Acquire new knowledge in neuroscience applied to neurodegenerative diseases
- Promote a critical attitude that favors clinical practice based on the most recent scientific evidence and clinical reasoning
- Motivate physiotherapists to specialize in the field of neurological physiotherapy
- Provide comprehensive treatment plans
- Encourage physiotheraptis to specialize in the field of neurological rehabilitation
- Update the physiotherapist's knowledge in neuroscience applied to clinical practice
- Promote clinical practice based on and informed by scientific evidence and clinical reasoning
- Facilitate comprehensive care for neurological patients and all its complexity

Specific Objectives

- Gain in-depth knowledge of the major neurodegenerative diseases and syndroms and their characteristics

- Apply patient examination and assessment through clinical cases

- Analyze the scales and assessment tests through a systematic review

- Acquire in-depth knowledge of the different methods and concepts used by neurological physiotherapists

- Gain a deep understanding of the different therapeutic tools used by other professionals on the team

- Study the writing model for physiotherapy reports and their correct drafting

- Discover the anatomical and functional bases of the nervous system

- Provide students with a more extensive knowledge of postural physiology, all through the use of new technologies

- Elaborate readaptation programs to effort, balance and coordination re-education through case studies

- Define and explain the use of different assistive devices for daily activities

- Delve deeper into the anatomical and functional bases of the nervous system involved

- Acquire skills for the treatment of spasticity

- Teach students the analysis of movement, using explanatory videos

- Identify the various symptoms and clinical manifestations according to the area of involvement

- Learn to identify and address swallowing disorders, respiratory insufficiency, urinary incontinence, etc.

- Develop working methods and new trends in physiotherapy for patients with this disease, through case studies

- Recognize the physiotherapeutic treatment implications of the different cognitive domains that are either injured or intact in movement impairment

- Develop working methods and new trends in physiotherapy for patients with this disease, through case studies

- Identify the various symptoms and clinical manifestations of the different motor neuron affectations

- Describe the different surgical and orthotic treatments to prevent or correct deformities

- Apply innovative treatments in each of the pathologies through practical examples: crenotherapy, hydrokinesitherapy, relaxation techniques, etc.

- Describe the work strategies used in acuatic therapy for the re-education of gait and daily activities

- Understand in depth the relationship between cortical atrophy in different areas (frontal, temporal, parietal and occipital) with aphasia, apraxias and agnosias

- Delve deeper into and differentiate the different psychiatric manifestations

- Define strategies to access disoriented and/or disconnected patients

- Describe strategies to promote caregiver treatment adherence

- Develop the role of physical therapists in managing and treating dementia patients

- Conceptualize the functions of the cerebellum and its main clinical manifestation: ataxia

- Design therapeutic exercise programs to improve coordination and balance

- Design the necessary strategies for autonomous gait acquisition

- Apply the knowledge of postural physiology, using explanatory videos and through practice

- Assess the prognosis for recovery from neurological damage as a function of age by means of a normative neurodevelopment review

- Assess pediatric age for its specific and age-specific characteristics

- Develop the different specific approach models for pediatric physiotherapy

- Gain in-depth understanding of the implication of the educational and family environment in child rehabilitation

- Delve deeper into the anatomical and functional bases of the nervous system involved in affected areas

- Detect the different symptoms and clinical manifestations

- Associate and discern other pathologies previously studied: clinical manifestations, diagnostic imaging, examination, treatment, etc.

- Detect pain and discover the different ways to approach it

- Specialize physiotherapists in applying physiotherapy techniques adapted to the therapeutic possibilities (radiotherapy, chemotherapy, surgery) and to the specific injuries detected (motor, sensory, cognitive sequelae)

- Know the structural anatomical bases of the nervous system.

- Know the functional anatomical bases of the nervous system.

- Gain up-to-date knowledge of the physiology of movement

- Analyze the neurophysiological processes of motor learning

- Review the different theories of motor control

- Gain up-to-date knowledge in neuroscience applicable to neurological injuries

- Differentiate what is and what is not ABI

- Delve deeper into the epidemiology of ABI

- Understand the implications of ABI according to patient age

- Identify various symptoms and syndromes according to ABI involvement area

- Learn to identify hemineglect and to know its implications for patients and therapeutic approaches

- Learn to recognize the pusher syndrome and to update knowledge about it for its implications in therapeutic approaches

- Understand the difference between cerebellar versus basal ganglia symptomatology

- Distinguish spasticity from other tone disturbances

- Recognize apraxia and its implications for patients and therapeutic approaches

- Learn to identify foreign hand syndrome

- Interpret radiological findings on CT scans

- Interpret radiological findings on MRI scans

- Know the different types of complementary radiodiagnostic tests

- Learn to perform a complete neurological examination

- Plan therapeutic approaches according to the neurological examination and physiotherapeutic assessment findings

- Learn examination techniques for the differential diagnosis of the different neurological signs and symptoms

- Know pathological reflexes and identify them

- Review assessment scales and tests

- Learn how to write physiotherapy reports

- Learn to interpret medical or other specialist reports to extract relevant information

- Know the different methods and concepts used by neurological physiotherapists

- Perform a review of the scientific evidence of the different methods, concepts and therapeutic tools

- Know the therapeutic tools used by other professionals on the clinical team

- Know the expertise of other professionals on the clinical team to refer patients when necessary

- Review the most useful orthoses and support products for patients with ABI

- Learn to identify communication disorders to refer patients to the competent professional and include them in the patient's overall picture

- Learn to identify swallowing disorders to refer patients to the competent professional and include them in the patient's overall picture

- Know the different cognitive domains

- Recognize the implication of the different cognitive domains, whether injured or intact, in movement affection and the implications they have in physiotherapeutic approaches

- Identify behavioral disorders secondary to ABI to refer patients to the competent professional and include them in the patient's overall picture

- Consider patient and family emotional states and how they affect the approach and rehabilitation

- Review the most frequent complications ABI patients to prevent or alleviate them

- Learn how to identify pain and how to deal with it

- Identify the factors that cause shoulder pain, how to prevent it and how to deal with it once it appears

- Recognize respiratory complications and know how to approach them from a physical therapy perspective

- Learn to identify signs or symptoms of complications that should be referred to other professionals

- Review normative neurodevelopment to identify the prognosis in ABI rehabilitation according to age

- Learn how to assess pediatric age for its specific and age-specific characteristics

- Know the specific approach models for pediatric physiotherapy in ABI

- Review the expertise of other professionals in pediatric teamwork

- Learn about the involvement of the educational field in the rehabilitation of children with ABI
- Review the neurophysiology of consciousness
- Learn how to assess the degree of alteration of consciousness
- Learn to estimate a prognosis based on examination and evolution
- Identify the onset of pain in the case of altered consciousness
- Learn how to program a physiotherapeutic approach protocol
- Understand the work of other professionals on the team to carry out therapeutic programs
- Review possible complications to avoid or mitigate them
- Know the characteristics of geriatric patients with ABI
- Review the typical comorbidities in the elderly
- Learn how to create a rehabilitation program with the rest of the team
- Know the options at hospital discharge to make the best decision for patients regarding their residence and rehabilitation
- Learn how to adapt the environment to make it as functional as possible
- Know the role of the family and legal guardians
- Review the most commonly used technical aids for geriatric patients with ABI

We offer you a high-level specialization to meet our goal of academic excellence but, above all, to help you compete with the best"

03
Skills

After passing the assessments for the Advanced Master's Degree in Neurological Physiotherapy, you will have acquired the necessary professional skills to carry out high quality practice, in line with the latest scientific evidence and based on the largest collection of knowledge and experience currently available on the teaching market.

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After having completed the Advanced Master's Degree, students will have acquired the necessary skills to have greater confidence in daily practice"

General Skills

- Apply the most advanced physiotherapy techniques in patients with neurodegenerative diseases, substantially improving their quality of life

- Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context

- Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study

- Integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments

- Know how to communicate conclusions, knowledge, and supporting arguments to specialized and non-specialized audiences in a clear and unambiguous way

- Acquire the learning skills that will enable them to continue studying in a manner that will be largely self-directed or autonomous

Specific Skills

- Gain up-to-date knowledge in the use of therapeutic tools to address patient injuries and treatments
- Understand nervous system anatomy and pathophysiology
- Gain in-depth knowledge of the neurodegenerative diseases you may treat in your practice
- Perform patient evaluations and offer the most appropriate techniques to advance their rehabilitation
- Successfully readapt the body in neurodegenerative disease patients
- Locate patient pain points and apply the most appropriate therapies
- Apply the most appropriate treatments for children with neurodegenerative diseases
- Treat patients through digital physiotherapy using telecare tools
- Delve deeper into the epidemiology of ABI
- Describe the implications of ABI according to patient age
- Explain the therapeutic tools used by other professionals on the clinical team
- Define the expertise of other professionals on the clinical team to refer patients when necessary
- Explain the different types of complementary radiodiagnostic tests

- Learn to perform a complete neurological examination
- Plan therapeutic approaches according to the neurological examination and physiotherapeutic assessment findings
- Explain the work of other professionals on the team to carry out therapeutic programs
- Review possible complications to avoid or mitigate them
- Gain up-to-date knowledge of the physiology of movement
- Analyze the neurophysiological processes of motor learning
- Explain the characteristics of geriatric patients with ABI
- Review the typical comorbidities in the elderly
- Learn how to jointly create a rehabilitation program with the rest of the team
- Define the different methods and concepts used by neurological physiotherapists
- Perform a review of the scientific evidence of the different methods, concepts and therapeutic tools
- Define the different cognitive domains
- Recognize the implication of the different cognitive domains, whether injured or intact, in movement affection and the implications they have in physiotherapeutic approaches

04

Course Management

The teaching staff on the program includes renowned experts in Neurological Physiotherapy, who contribute their work experience to this specialization program. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner. A teaching staff of specialists chosen for their professional careers and teaching skills that will allow you to learn directly from the experience of the best in the industry.

A teaching staff made up of the best professionals in the sector, which will allow you to learn from the direct experience of the most renowned specialists in this field"

Management

Dr. Pérez Redondo, José Ramón

- Physiotherapist specialized in neurology and neurosurgery in acute and critical patients
- Degree in Physiotherapy, European University of Madrid 2013-2014
- Certificate in Physiotherapy from the School of Physiotherapy, Podiatry and Nursing at the Complutense University of Madrid (1994-1997)
- 5 levels of the Postgraduate Specialization Course in Osteopathic Manual Physical Therapy, organized by the Department of Human Anatomy and Embryology, Faculty of Medicine, University of Alcalá de Henares (1999-2003)
- Course on Radiology and Imaging Techniques for Physiotherapists and Occupational Therapists, organized by Fuenlabrada Hospital 2006
- Neurodynamic Mobilization Course for Physiotherapists (40 hours), organized by Fuenlabrada Hospital 2009
- Course on Functional Re-education in Parkinson's Disease (100 hours), organized by the Federation of Health and Social and Health Sectors of Comisiones Obreras 2009
- President of the Scientific Committee for the II National Conference on Myofascial Pain and Dry Needling 2015

Professors

Ms. Jiménez Cubo, Alba

- Neurorehabilitation Physiotherapist Step by Step Foundation, Llobregat Hospital since 2020
- Degree in Physiotherapy from Sant Cugat del Vallès Gimbernat University Schools, 2013-2017
- Currently enrolled in the Master's Degree in Neurological Stimulation Vic University
- Master's Degree in Nervous System Sciences Neurorehabilitation, University Rovira i Virgili, 2018-2019
- Training and Research at MBODYCR (www.mbodycr.com) since 2020
- End-of-degree Paper Director Torrelavega Gimbernat University Schools since 2020
- Member of SCBF (Catalan-Balearic Society of Physiotherapy) and SCN (Catalan Neurological Society)

Ms. Casanueva Pérez, Carolina

- Physiotherapist in the Neonatology Hospitalization and Pediatrics Unit
- Pediatric Physiotherapist at San Carlos Clinical Hospital since 2005
- Physiotherapist at UCM
- CO in Osteopathy, EOM
- Expert Certificate in Sport Physiotherapy from UCM
- Expert Certificate in Advanced Manual Therapy from UCM
- Expert Certificate in Neurological Physiotherapy from UCM
- Co-author of physical therapy protocols HCSC

Dr. Rodríguez López, Carlos

- Founding partner of Sinapse Neurología (Center for Integral Attention to Neurological Pathology) working as a team with physiotherapists, occupational therapists, speech therapists, psychologists and other professionals related to central injuries in Galicia and Cantabria since 2010
- PhD from University of La Coruña, specialized in the mechanical influence of the peripheral nerve in brain damage 2017
- Degree in Physiotherapy from UDC 2001
- First cycle of Medicine 1998-2001
- Master's Degree in Dependency Management and Research (UDC-University of La Coruña) 2011-2012
- Expert Certificate in Neurological Physiotherapy (UDC)
- CEO of Mbody®, training and research courses for Physiotherapists, Occupational Therapists, Speech Therapists and Neuropsychologists on: Movement, Peripheral Nerve, Pain and Therapeutic Exercise in Nervous System injuries 2019
- Content developer and instructor for 22-hour introductory courses on the INN® concept (Integrating Neurodynamics into Neurorehabilitation), since 2009
- Collaboration with Nora Kern in developing the INN concept in Europe with courses for physiotherapists, occupational therapists and speech therapists since 2009
- Associate Professor at the Gimbernat European University, Cantabria since 2008
- Researcher in a collaboration project with Richard Ellis (PhD, Auckland University) to teach and publish studies in common, and with Annina Shmid (PhD, Oxford University) among others, to publish papers on neural mechanics in neurological patients

Ms. Hermida Rama, Josefa

- Physiotherapist in the Rehabilitation Service at San Carlos Clinical Hospital from 1991 to the present
- Certificate in Physiotherapy from Complutense University of Madrid (1988-1991)
- Graduate in Physiotherapy from the Faculty of Nursing, Physiotherapy and Podiatry at the Complutense University of Madrid (2012-2013)
- Associate Professor of Clinical Stays at the Faculty of Nursing, Physiotherapy and Podiatry from the academic year 2008-2009 to the present
- Expert Certificate in Neurological Physiotherapy, Madrid E.U. Nursing, Physiotherapy and Podology UCM (25 credits) Class of 2005/2006
- Advanced Course Basic Study for Arm and Hand Function Recovery in Adult Neurological Patients by the Bobath Concept Madrid (36 hours), June 2011

Mr. Almirón Taborga, Marcos

- Coordinator for Sinapse Cantabria since 2019, Torrelavega, Cantabria
- Degree in Physiotherapy, University School of Physiotherapy Gimbernat-Cantabria, 2012-2013
- Diploma in Physiotherapy University School of Physiotherapy Gimbernat-Cantabria, 2009-2012
- Currently enrolled in the Master's Degree in Advances in Neurorehabilitation University School of Physiotherapy Gimbernat-Cantabria
- Head of Development at Mbody since 2020, A Coruña
- Professor for the Degree in Physiotherapy at University School of Physiotherapy Gimbernat-Cantabria since 2019, Torrelavega, Cantabria

Ms. Sánchez Palomares, Raquel

- Director and Physiotherapist at Neurofis Rehabilitation Center Since 2005
- Degree in Physiotherapy from the Pontificia de Comillas University (Madrid) 1995-1998
- Homologation for the Physiotherapist Degre in Austria 1999
- Associate Professor head of the internship program for Master's Degree Students in Neurology, European University of Madrid Vitoria, Neurofis Physiotherapy Center Since 2015
- Associate Professor head of the internship program for undergraduates at the Catalonia International University, Gimbernat University of Cantabria, European University of Madrid and Francisco de Vitoria University, Neurofis Physiotherapy Center since 2012

05
Structure and Content

The content structure has been designed by a team of professionals from the best research centers and universities. Aware of the current relevance of specialization and the need to support each study and its application with solid evidence-based science, they have created an educational program in which each topic will address one of the relevant areas of knowledge that highly competent professionals should have. All this comprises a syllabus of high educational intensity and unparalleled quality, which includes state-of-the-art virtual theory and practice, and which will propel you to the most complete level of mastery in this area.

"

This Advanced Master's Degree is an unparalleled opportunity to obtain, in a single specialization, all the necessary knowledge in Neurological Physiotherapy, including the most recent advances in intervention techniques and protocols"

Module 1. Introduction to Neurodegenerative Diseases

1.1. Introduction
    1.1.1. Definition
    1.1.2. Classification
    1.1.3. Epidemiology
1.2. Clinical Epidemiology/Symptoms
    1.2.1. Symptoms
    1.2.2. Signs
1.3. Diagnostic Imaging
    1.3.1. Structural Imaging
    1.3.2. Functional Imaging
1.4. Assessment Scales
1.5. Neurological Examination
    1.5.1. Cranial Nerves, Pathological Reflexes
    1.5.2. Tone, Sensitivity, Osteotendinous Reflexes
    1.5.3. Manipulation, Coordination, Balance and Gait
1.6. Digital Physiotherapy and Reporting
    1.6.1. Telephysiotherapy
    1.6.2. Scheduled Consultation via ICT
    1.6.3. Drafting Physiotherapy Reports
    1.6.4. Interpreting Medical Reports
1.7. Multidisciplinary Team
    1.7.1. Doctor
    1.7.2. Occupational Therapists
    1.7.3. Speech Therapists
    1.7.4. Neuropsychologists
    1.7.5. Orthopedic Technician
1.8. Physiotherapy Approach
    1.8.1. Movement Facilitation Techniques
    1.8.2. Neurodynamics
    1.8.3. Hydrotherapy
    1.8.4. Therapeutic Exercise
    1.8.5. Robotics and Virtual Reality

1.9. Patient Complications
    1.9.1. Pain
    1.9.2. Cardiorespiratory System
    1.9.3. Musculoskeletal Complications
1.10. Patient, Caregiver and Family Information and Counseling

Module 2. Parkinson's Disease and Other Related Neurodegenerative Diseases (Progressive Supranuclear Palsy, Corticobasal Degeneration, Multiple Systemic Atrophy)

2.1. Introduction
    2.1.1. Anatomy
    2.1.2. Physiology
    2.1.3. Classification
2.2. Epidemiology
2.3. Etiology
    2.3.1. Transmission Mode
    2.3.2. Frequency
    2.3.3. Starting Age
2.4. Evolution
2.5. Prognostic Factors
2.6. Evaluation/Diagnosis
    2.6.1. Clinical Manifestations
    2.6.2. Diagnostic Imaging
    2.6.3. Neurological Examination
    2.6.4. Neurological Assessment Scales
2.7. Treatment
    2.7.1. Medical-Surgical Treatments
    2.7.2. Physiotherapy
    2.7.3. Occupational Therapy, Speech Therapy and Neuropsychology
2.8. Orthopedics
    2.8.1. Support Products
    2.8.2. Orthoses

Module 5. Huntington's Disease

5.1. Introduction
    5.1.1. Anatomy
    5.1.2. Physiology
    5.1.3. Classification
5.2. Epidemiology
5.3. Etiology
    5.3.1. Transmission Mode
    5.3.2. Frequency
    5.3.3. Starting Age
5.4. Evolution
5.5. Prognostic Factors
5.6. Evaluation/Diagnosis
    5.6.1. Clinical manifestations
    5.6.2. Diagnostic Imaging
    5.6.3. Neurological Examination
    5.6.4. Neurological Assessment Scales
5.7. Treatment
    5.7.1. Medical-Surgical Treatments
    5.7.2. Physiotherapy
    5.7.3. Occupational Therapy, Speech Therapy and Neuropsychology
5.8. Orthopedics
    5.8.1. Support Products
    5.8.2. Orthoses
5.9. Readaptation
    5.9.1. Social Aspects/Support
    5.9.2. Comprehensive Care for Patients, Families and Caregivers
5.10. Early Prevention and Detection

Module 6. Neuromuscular Diseases and Polyneuropathies

6.1. Introduction
    6.1.1. Anatomy
    6.1.2. Physiology
    6.1.3. Classification
6.2. Epidemiology
6.3. Etiology
    6.3.1. Transmission Mode
    6.3.2. Frequency
    6.3.3. Starting Age
6.4. Evolution
6.5. Prognostic Factors
6.6. Evaluation/Diagnosis
    6.6.1. Clinical Manifestations
    6.6.2. Diagnostic Imaging
    6.6.3. Neurological Examination
    6.6.4. Neurological Assessment Scales
6.7. Treatment
    6.7.1. Medical-Surgical Treatments
    6.7.2. Physiotherapy
    6.7.3. Occupational Therapy, Speech Therapy and Neuropsychology
6.8. Orthopedics
    6.8.1. Support Products
    6.8.2. Orthoses
6.9. Readaptation
    6.9.1. Social Aspects/Support
    6.9.2. Comprehensive Care for Patients, Families and Caregivers
6.10. Early Prevention and Detection

Module 7. Alzheimer's Disease and Other Neurodegenerative Dementias: Frontotemporal Dementia, Lewy Body Dementia, Vascular Dementia

7.1.   Introduction
   7.1.1.   Anatomy
   7.1.2.   Physiology
   7.1.3.   Classification
7.2.   Epidemiology
7.3.   Etiology
   7.3.1.   Transmission Mode
   7.3.2.   Frequency
   7.3.3.   Starting Age
7.4.   Evolution
7.5.   Prognostic Factors
7.6.   Evaluation/Diagnosis
   7.6.1.   Clinical Manifestations
   7.6.2.   Diagnostic Imaging
   7.6.3.   Neurological Examination
   7.6.4.   Neurological Assessment Scales
7.7.   Treatment
   7.7.1.   Medical-Surgical Treatments
   7.7.2.   Physiotherapy
   7.7.3.   Occupational Therapy, Speech Therapy and Neuropsychology
7.8.   Orthopedics
   7.8.1.   Support Products
   7.8.2.   Orthoses
7.9.   Readaptation
   7.9.1.   Social Aspects/Support
   7.9.2.   Comprehensive Care for Patients, Families and Caregivers
7.10.   Early Prevention and Detection

Module 8. Cerebellum Degenerative Diseases: Hereditary Ataxias: *Friedreich's Ataxia* and *Machado-Joseph Ataxia*

8.1.   Introduction
   8.1.1.   Anatomy
   8.1.2.   Physiology
   8.1.3.   Classification
8.2.   Epidemiology
8.3.   Etiology
   8.3.1.   Transmission Mode
   8.3.2.   Frequency
   8.3.3.   Starting Age
8.4.   Evolution
8.5.   Prognostic Factors
8.6.   Evaluation/Diagnosis
   8.6.1.   Clinical manifestations
   8.6.2.   Diagnostic Imaging
   8.6.3.   Neurological Examination
   8.6.4.   Neurological Assessment Scales
8.7.   Treatment
   8.7.1.   Medical-Surgical Treatments
   8.7.2.   Physiotherapy
   8.7.3.   Occupational Therapy, Speech Therapy and Neuropsychology
8.8.   Orthopedics
   8.8.1.   Support Products
   8.8.2.   Orthoses
8.9.   Readaptation
   8.9.1.   Social Aspects/Support
   8.9.2.   Comprehensive Care for Patients, Families and Caregivers
8.10.   Early Prevention and Detection

Module 9. Neurodegenerative Diseases in Childhood

9.1.   Introduction
    9.1.1.   Classification
    9.1.2.   Epidemiology
9.2.   Neurodevelopment
    9.2.1.   Pediatric
    9.2.2.   Infantile
9.3.   Early Prevention and Detection
9.4.   White Matter Diseases
9.5.   Gray Matter Diseases
9.6.   Other Progressive Neurological Diseases
9.7.   Evaluation
    9.7.1.   Clinical Manifestations
    9.7.2.   Neurological Examinations
9.8.   Physiotherapeutic Treatments
    9.8.1.   Physiotherapeutic Interventions
    9.8.2.   Support Products
9.9.   Treatments
    9.9.1.   Doctor
    9.9.2.   Occupational Therapy, Speech Therapy and Neuropsychology
9.10.   Readaptation
    9.10.1. Social Aspects
    9.10.2. Family Care

Module 10. Neoplasms or Nervous System Tumors

10.1.   Introduction
    10.1.1. Anatomy
    10.1.2. Physiology
    10.1.3. Classification
10.2.   Epidemiology
10.3.   Etiology
    10.3.1. Transmission Mode
    10.3.2. Frequency
    10.3.3. Starting Age
10.4.   Evolution
10.5.   Prognostic Factors
10.6.   Evaluation/Diagnosis
    10.6.1. Clinical Manifestations
    10.6.2. Diagnostic Imaging
    10.6.3. Neurological Examination
    10.6.4. Neurological Assessment Scales
10.7.   Treatment
    10.7.1. Medical-Surgical Treatments
    10.7.2. Physiotherapy
    10.7.3. Occupational Therapy, Speech Therapy and Neuropsychology
10.8.   Orthopedics
    10.8.1. Support Products
    10.8.2. Orthoses
10.9.   Readaptation
    10.9.1. Social Aspects/Support
    10.9.2. Comprehensive Care for Patients, Families and Caregivers
10.10. Early Prevention and Detection

Module 11. Neuroanatomy and Neurophysiology

Module 12. ABI (Acquired Brain Injuries)

Module 13. ABI Patient Evaluation

13.1.   Medical History
13.2.   Neuroimaging
    13.2.1.   Structural Imaging
    13.2.2.   Functional Criteria
13.3.   Neurological Examination
    13.3.1.   Cranial Nerves
    13.3.2.   Pathological Reflexes
    13.3.3.   Muscular
        13.3.3.1. Osteotendinous Reflexes
        13.3.3.2. Tone
        13.3.3.3. Strength
    13.3.4.   Sensitivity
        13.3.4.1. Sensitivity
        13.3.4.2. Gnoses
    13.3.5.   Coordination
    13.3.6.   Balance
    13.3.7.   Gait
    13.3.8.   Manipulation
13.4.   Neurological Assessment Scales
13.5.   Writing Reports
    13.5.1.   Drafting Physiotherapy Reports
    13.5.2.   Interpreting Medical Reports

Module 14. Therapeutic Approaches to ABI Patients

14.1.   Physiotherapy
    14.1.1.   Facilitating Movement
    14.1.2.   Neurodynamics
    14.1.3.   Mirror Therapy
    14.1.4.   Approach in Context
    14.1.5.   Task-Oriented Approach
    14.1.6.   Intensive Treatments
    14.1.7.   Well-Side Restriction Therapy
    14.1.8.   Dry Needling for Spasticity
    14.1.9.   Therapeutic Exercise
    14.1.10. Hydrotherapy
    14.1.11. Electrotherapy
    14.1.12. Robotics and Virtual Reality
14.2.   Equipment
    14.2.1.   Work Models
    14.2.2.   Medicine
        14.2.2.1. Pharmacology
        14.2.2.2. Botulinum Toxin
    14.2.3.   Speech Therapy
        14.2.3.1. Communication Disorders
        14.2.3.2. Swallowing Disorders
    14.2.4.   Occupational Therapy
        14.2.4.1. Autonomy
        14.2.4.2. Occupation
    14.2.5.   Cognitive Deficit Implications on Movement
    14.2.6.   Neuropsychology
        14.2.6.1. Cognitive Domains
        14.2.6.2. Behavioral Disorders
        14.2.6.3. Psychological Care for Patients and Family
14.3.   Orthopedics
    14.3.1.   Orthotics and Support Products
    14.3.2.   Low-Cost Material
14.4.   Acute, Subacute and Chronic Phases in ABI

Module 15. ABI Patient Complications

15.1. Pain
- 15.1.1. Comprehensive Pain Assessment
- 15.1.2. Shoulder Pain
- 15.1.3. Neuropathic Pain

15.2. Respiratory System
- 15.2.1. Associated Respiratory Complications
- 15.2.2. Respiratory Physiotherapy

15.3. Epilepsy
- 15.3.1. Injury Prevention
- 15.3.2. Injury Recovery

15.4. Musculoskeletal Complications
- 15.4.1. Comprehensive Assessment
- 15.4.2. Physiotherapy Applied to These Complications
- 15.4.3. Monitoring Injuries

15.5. Spinal Cord Injury Complications
- 15.5.1. Characteristics of Such Complications
- 15.5.2. Physiotherapy Approach

Module 16. ABI in Childhood

16.1. Normative Neurodevelopment
- 16.1.1. Features
- 16.1.2. Aspects to Consider

16.2. Pediatric Exploration in Physiotherapy
- 16.2.1. Exploration
- 16.2.2. Neurological Assessment Scales

16.3. Intervention
- 16.3.1. Physiotherapy
- 16.3.2. Rest of the Team
    - 16.3.2.1. Medicine
    - 16.3.2.2. Speech Therapy
    - 16.3.3.3. Occupational Therapy
    - 16.3.3.4. Neuropsychology
    - 16.3.3.5. Educational Team

Module 17. ABI and Altered States of Consciousness

17.1. What Altered States of Consciousness Are
- 17.1.1. Arousal
- 17.1.2. *Awareness*
- 17.1.3. Neuroanatomy
- 17.1.4. Neurophysiology
- 17.1.5. Neuroplasticity
- 17.1.6. Prognosis

17.2. Evaluation
- 17.2.1. Physical Exploration
- 17.2.2. Neurological Assessment Scales
- 17.2.3. Pain

17.3. Intervention
- 17.3.1. Physiotherapy
    - 17.3.1.1. Stimulation
    - 17.3.1.2. Movement
    - 17.3.1.3. Environment

Module 18. ABI in Geriatrics

18.1. Distinguishing Features of ABI in Geriatrics
- 18.1.1. Pluripathology
    - 18.1.1.1. Advantages and Disadvantages Associated with Age
- 18.1.2. Physiotherapeutic Treatments
    - 18.1.2.1. The Importance of Setting Team Objectives

18.2. Institutionalization vs. Main Residence
- 18.2.1. Adapting the Environment
- 18.2.2. The Role of the Family
- 18.2.3. Legal Guardians
- 18.2.4. Technical Assistance

06
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.

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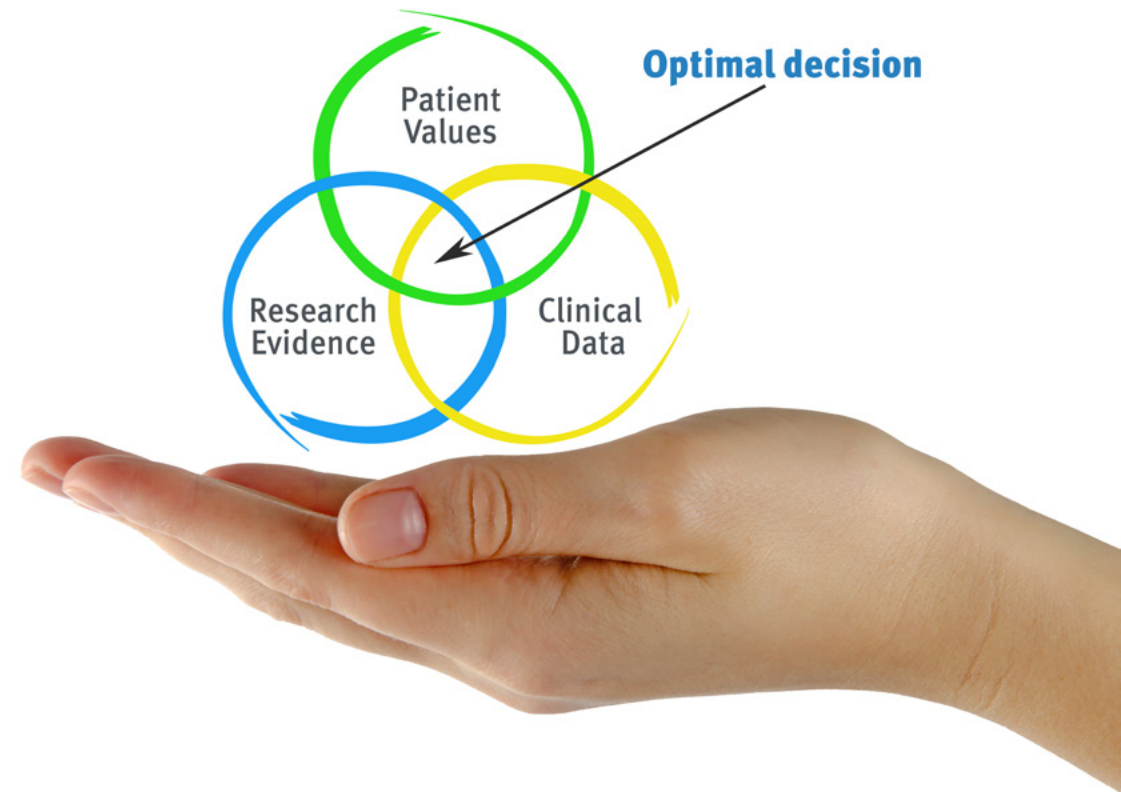
According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that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

"

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. Physiotherapists/kinesiologists 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 physiotherapist/kinesiologist 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 Harvard 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.

The physiotherapist/kinesiologist 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

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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 we trained more than 65,000 physiotherapists/kinesiologists with unprecedented success in all clinical specialties, regardless of the workload. 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 learning, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for 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 our learning system is 8.01, according to the highest international standards.
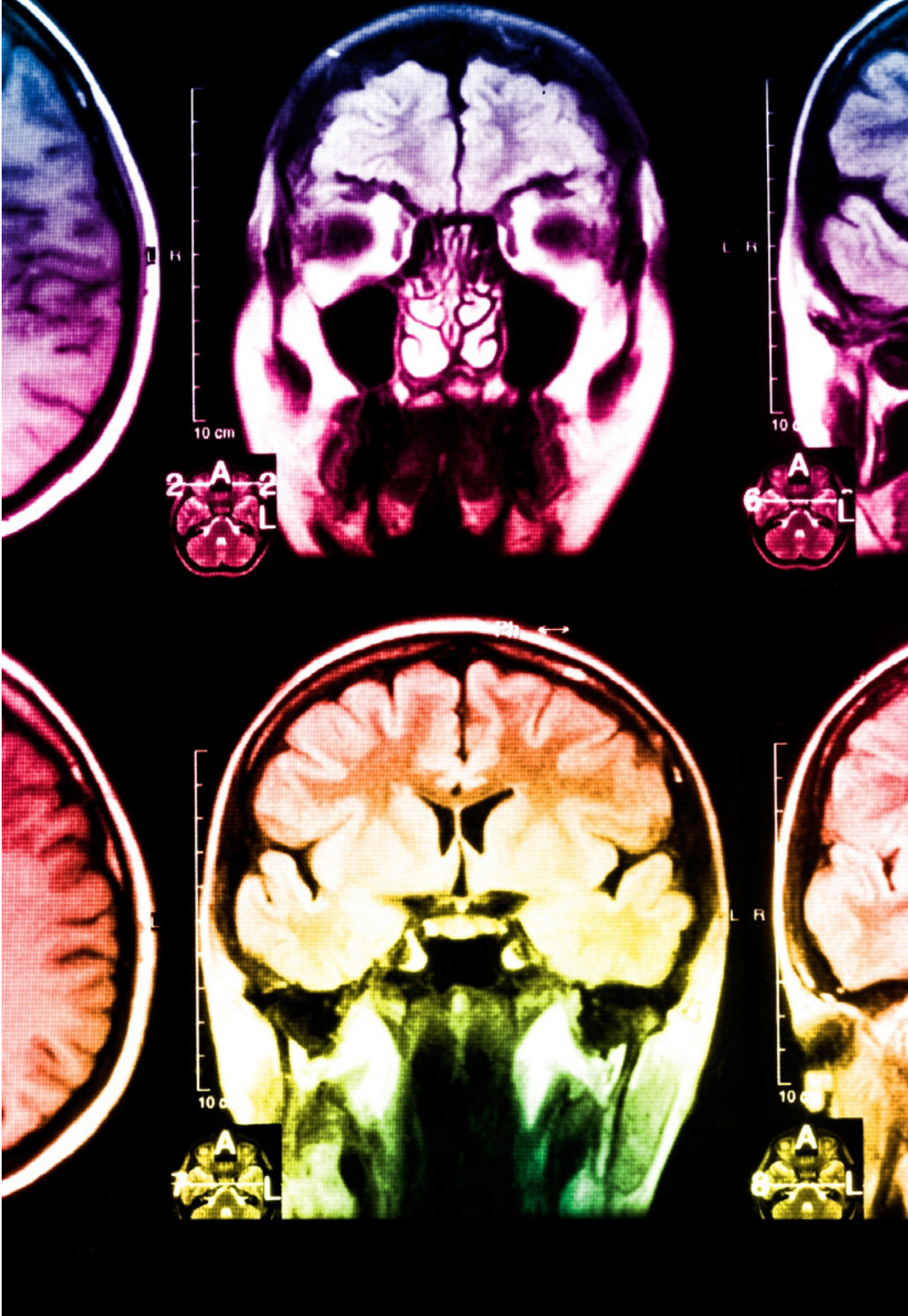
This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really 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.

Physiotherapy Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current Physiotherapy techniques and procedures. 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 them as many times as you want.

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.

20%

15%

15%

3%

20%

17%

7%

3%
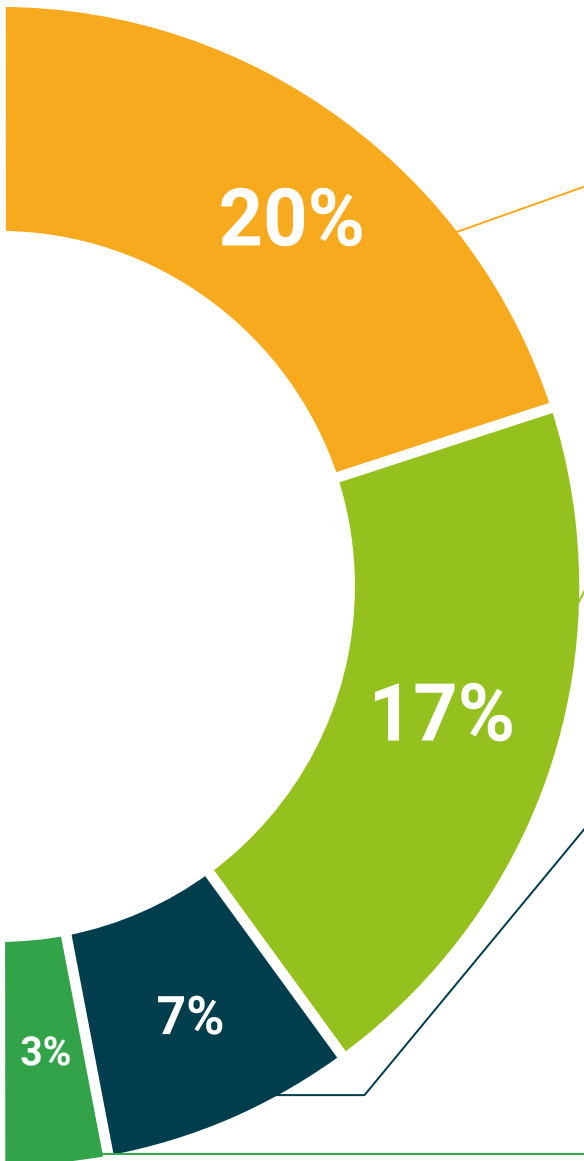
Expert-Led Case Studies and Case Analysis

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.

07

Certificate

This Advanced Master's Degree in Neurological Physiotherapy guarantees, in addition to the most rigorous and up-to-date education, access to a Advanced Master's Degree issued by TECH Global University.

" *Successfully complete this program and receive your university qualification without travel or laborious paperwork"*

This private qualification will allow you to obtain a **Advanced Master's Degree diploma in Neurological Physiotherapy** 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.
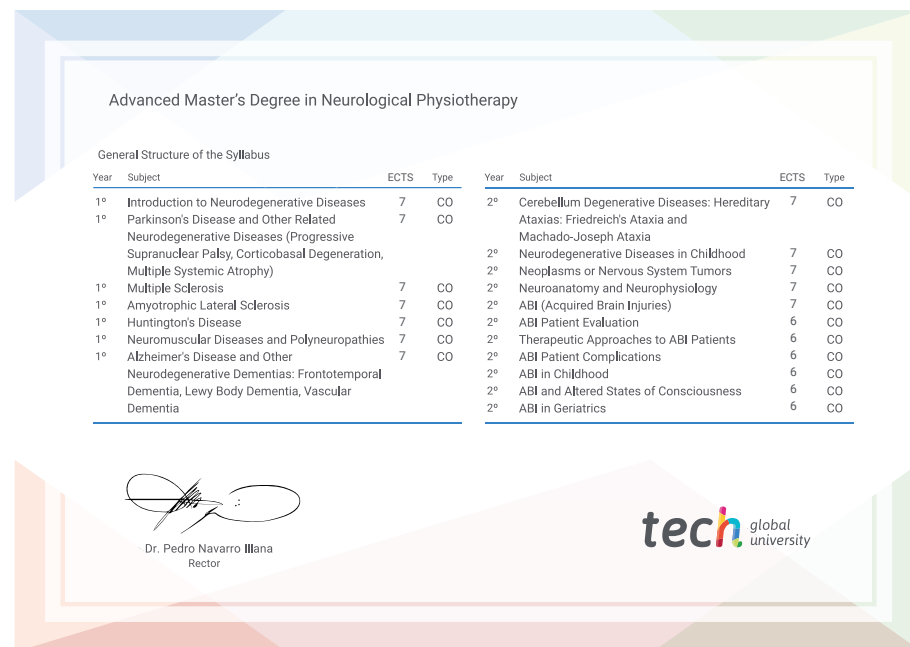
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Advanced Master's Degree in Neurological Physiotherapy**

Modality: **online**

Duration: **2 years**

Accreditation: **120 ECTS**

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tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Advanced Master's Degree in Neurological Physiotherapy

This is a private qualification of 3,600 hours of duration equivalent to 120 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.   Unique TECH Code: AFWORD23S   techtitute.com/certificates

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Advanced Master's Degree in Neurological Physiotherapy

General Structure of the Syllabus

Year	Subject	ECTS	Type	Year	Subject	ECTS	Type
1°	Introduction to Neurodegenerative Diseases	7	CO	2°	Cerebellum Degenerative Diseases: Hereditary Ataxias: Friedreich's Ataxia and Machado-Joseph Ataxia	7	CO
1°	Parkinson's Disease and Other Related Neurodegenerative Diseases (Progressive Supranuclear Palsy, Corticobasal Degeneration, Multiple Systemic Atrophy)	7	CO	2°	Neurodegenerative Diseases in Childhood	7	CO
				2°	Neoplasms or Nervous System Tumors	7	CO
1°	Multiple Sclerosis	7	CO	2°	Neuroanatomy and Neurophysiology	7	CO
1°	Amyotrophic Lateral Sclerosis	7	CO	2°	ABI (Acquired Brain Injuries)	7	CO
1°	Huntington's Disease	7	CO	2°	ABI Patient Evaluation	6	CO
1°	Neuromuscular Diseases and Polyneuropathies	7	CO	2°	Therapeutic Approaches to ABI Patients	6	CO
1°	Alzheimer's Disease and Other Neurodegenerative Dementias: Frontotemporal Dementia, Lewy Body Dementia, Vascular Dementia	7	CO	2°	ABI Patient Complications	6	CO
				2°	ABI in Childhood	6	CO
				2°	ABI and Altered States of Consciousness	6	CO
				2°	ABI in Geriatrics	6	CO

Dr. Pedro Navarro Illana
Rector

tech global university

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*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.

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Advanced Master's Degree
Neurological Physiotherapy

» Modality: **online**
» Duration: **2 years**
» Certificate: **TECH Global University**
» Credits: **120 ECTS**
» Schedule: **at your own pace**
» Exams: **online**

Advanced Master's Degree
Neurological Physiotherapy

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