

# Postgraduate Diploma

## Advances in Motor and Paroxysmal Disorders in Pediatric Neurology





## Postgraduate Diploma

### Advances in Motor and Paroxysmal Disorders in Pediatric Neurology

Course Modality: **Online**

Duration: **6 months**

Certificate: **TECH Technological University**

**16 ECTS Credits**

Teaching Hours: **400 hours**

Website: [www.techtitute.com/medicine/postgraduate-diploma/postgraduate-diploma-advances-motor-paroxysmal-disorders-pediatric-neurology](http://www.techtitute.com/medicine/postgraduate-diploma/postgraduate-diploma-advances-motor-paroxysmal-disorders-pediatric-neurology)

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# 01

# Introduction

Pediatric Neurology and Neurodevelopment as a specific training area within Pediatrics has become a spearhead in the modern development of this specialty. At present the body of knowledge in Neuropediatrics is in a state of exponential growth in terms of care, teaching and research.

The rise of assisted reproduction and the improvement of neonatal care techniques lead to a higher rate of multiple and premature births with increased survival rates.





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*The Postgraduate Diploma in Advances in Motor and Paroxysmal Disorders in Pediatric Neurology contains the most complete and updated scientific program on the market"*

General pediatricians cannot encompass the complexity of all pediatric subspecialties. As they progress in their development, each one of them acquires a specific body and entity to become its own specialty. In addition, the particularities of child development and its variability according to age and other factors do not allow neurologists for adults to cope with the existing demand.

All this, together with the great diversity and complexity of neurological disorders in childhood, means that more and more neuropediatric units are needed and the demand for highly trained professionals in this area is increasing.

The weight of neuropediatrics within general pediatrics almost exceeds 25% of the overall demand in specialized care units in our country. This figure, together with the significant increase in overall pediatric demand and despite the current birth rate, suggests a significant increase in the coming years.

More and more authors are reporting an increase in the diagnosis of various neurological pathologies typical of childhood, such as disorders within the autism spectrum, learning disabilities, and even neoplasms affecting the central nervous system. This is leading to the development of units structured on the basis of care processes oriented towards specific pathologies and therefore to a need for extremely high need specialization.

In many pediatric neurology units in our environment, subspecialties are being created in which professionals are monographically dedicated to an area within neuropediatrics. There is a certain tendency to assimilate to the adult neurology model. There are units for Learning Disorders, Developmental Disorders, Movement Disorders, Headaches...

The average age of specialists in Neuropediatrics in our country also deserves to be taken into account, since in the coming years many of the entrepreneurs in this area of specialization are expected to reach retirement age.

The **Postgraduate Diploma in Advances in Motor and Paroxysmal Disorders in Pediatric Neurology** contains the most complete and updated scientific program on the market. The most important features of the program include:

- Clinical cases presented by experts in the different specialties. 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.
- News on Motor and Paroxysmal Disorders
- Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- With a special emphasis on evidence-based medicine and research methodologies in Motor and Paroxysmal Disorders.
- All of this will be complemented by 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.



*Increase your competencies  
in Advances in Motor and  
Paroxysmal Disorders in  
Pediatric Neurology”*

“

*This Postgraduate Diploma may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Advances in Motor and Paroxysmal Disorders in Pediatric Neurology, you will obtain a Postgraduate Diploma from TECH Technological University*"

Forming part of the teaching staff is a group of professionals in the world of neuropediatric, who bring to this course their work experience, as well as a group of renowned specialists, recognised by esteemed scientific communities.

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 immersive training program to train in real situations.

This program is designed around Problem Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the course. This will be done with the help of an innovative interactive video system developed by renowned experts in the field of pediatric neurology with extensive teaching experience.

*Increase your confidence in decision making by updating your knowledge through this Postgraduate Diploma in Advances in Motor and Paroxysmal Disorders in Pediatric Neurology.*

*Don't miss the opportunity to update your knowledge on Advances in Motor and Paroxysmal Disorders in Pediatric Neurology to improve patient care.*



02

# Objectives

The main objective of the program is the development of theoretical and practical learning, so that the physician can master in a practical and rigorous way the study of Advances in Motor and Paroxysmal Disorders in Pediatric Neurology.





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*This refresher program will generate a sense of security in the performance of the physician's praxis, which will help you grow personally and professionally"*



## General Objectives

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- Update the specialist's knowledge in the different syndromic disorders of this discipline, through evidence-based medicine.
- Promote work strategies based on a comprehensive approach and multidisciplinary care in the patient's social environment that become a reference model for achieving excellence in care.
- Encourage the acquisition of technical skills and abilities, through a powerful audio-visual system, and the possibility of development through online simulation workshops and/or specific training.
- Encourage professional stimulus through continuing education and research.



*Take the opportunity and take the step to get up to date on the latest developments in Advances in Motor and Paroxysmal Disorders in Pediatric Neurology"*





## Specific Objectives

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- ◆ Perform a correct anamnesis in pediatric neurology.
- ◆ Explain the procedure for neurological examination of newborns and infants.
- ◆ Define the correct neuropsychological examination for school children.
- ◆ Apply neurological assessment scales.
- ◆ Explain how to perform psychomotor developmental assessment in a thorough and rigorous manner.
- ◆ Identify warning signs in the evaluation of psychomotor development.
- ◆ Explain the usefulness of genetic studies and biochemical studies.
- ◆ Describe the etiology and risk factors of Cerebral Palsy.
- ◆ Explain Juvenile Myasthenia Gravis and other neuromuscular junction disorders.
- ◆ Describe the symptoms, diagnosis and treatment of psychomotor developmental delay and mental retardation.

03

# Course Management

This program includes in its teaching staff health professionals of recognized prestige, who belong to the field of pediatric neurology and who pour into this training the experience of their work.

In addition involved, renowned specialists, members of prestigious national and international scientific communities, are in designing and preparing the program.





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*Learn from leading professionals, the latest  
Advances in Motor and Paroxysmal Disorders in  
Pediatric Neurology”*

## Management



### Dr. Fernández Fernández, Manuel Antonio

- Degree in Medicine and Surgery
- Pediatrician.
- Medical Specialist in Child Neurology
- Director of the Andalusian Institute of Pediatric Neurology. Sevilla, España
- Accreditation in Neuropediatrics by the Spanish Society of Pediatric Neurology (SENEP).
- Master's Degree in Healthcare Services Management and Planning. CTO Business School
- Professional Master's Degree in Entrepreneurship from GADE Business School
- Master's Degree in Leadership and Management Skills from GADE Business School.
- Master's Degree in Clinical Trials from the University of Seville
- Master's Degree in Attention Deficit and/or Hyperactivity Disorder from Pablo de Olavide University.
- Master's Degree in Autism Spectrum Disorders from the University of La Rioja
- Expert in Attention Deficit and/or Hyperactivity Disorder throughout life from the University of Alcalá de Henares.
- Advisor to the Institute for Professional Excellence
- European Cum Laude Forum Advisor
- IACAPAP Child and Adolescent Mental Health Manual Reviewer
- Coordinator of the ADHD group of the SEMA (Spanish Society of Adolescent Medicine).
- External Expert Evaluator of the Andalusian Health Quality Agency (ACSA).
- Expert Evaluator of research projects of the Andalusian Ministry of Health.
- Expert in evaluation and research programs of the European Commission.

## Management



### Dr. Fernández Jaén, Alberto

- Degree in Medicine and Surgery
- Specialist in Child Neurology
- CADE Medical Director
- Head of the Child Neurology Department
- Quiron University Hospital, Madrid

## Professors

### Dr. Noelia Gilibert Sánchez

- ♦ Neuropsychologist
- ♦ Curricular Internship at INANP Andalusian Institute of Pediatric Neurology

### Dr. Carla Carvalho Gómez.

- ♦ Neuropsychologist
- ♦ Andalusian Institute of Pediatric Neurology. Seville
- ♦ La Fe University Hospital Valencia

### Dr. Ignacio Málaga.

- ♦ Pediatric Neurologist at the Central Hospital of Asturias.

### Dr. Pedro Barbero Aguirre.

- ♦ Head of the Neurodevelopment and Pediatric Neurology Unit of the La Fe Hospital Valencia

### Dr. Patricia Smeyers

- ♦ Attending Physician. Neuropediatrics Service Epilepsy Unit La Fe University Hospital Valencia

### Dr. Inmaculada Pitarch Castellano

- ♦ Attending Physician. Neuropediatrics Service La Fe University Hospital Valencia

# 04

# Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of training in daily medical practice, aware of the current relevance of training to be able to act before the pediatric patient with neurological pathology and committed to quality teaching through new educational technologies.

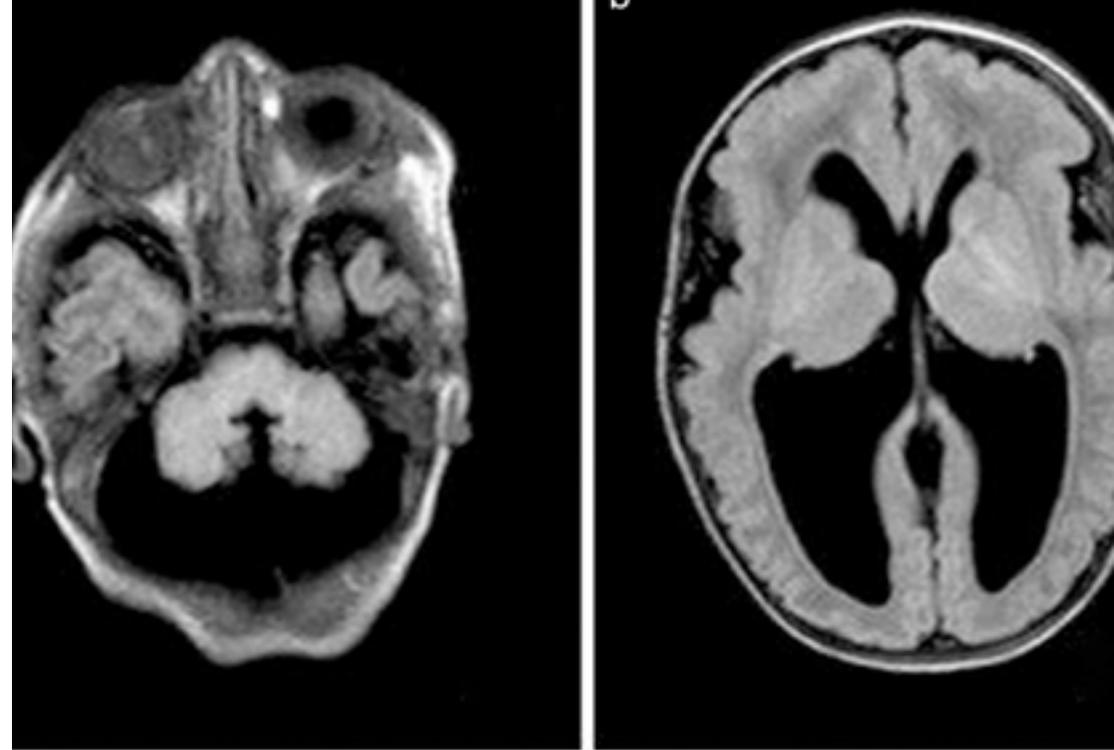


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## Module 1. Update in Neurology Consultations

- 1.1. Medical History in Pediatric Neurology
  - 1.1.1. Clinician's Personal Skills
  - 1.1.2. Advantages and Disadvantages of Good Communication and Information
  - 1.1.3. Orientation of the Medical History according to Disorders
    - 1.1.3.1. Headaches
    - 1.1.3.2. Epilepsy
  - 1.1.4. Orientation of the Medical History according to Age
    - 1.1.4.1. Prenatal Medical History
    - 1.1.4.2. Neonatal Medical History
    - 1.1.4.3. Medical History in Young Children
    - 1.1.4.4. Medical History in Older Children
  - 1.1.5. Medical History of Psychomotor Development
  - 1.1.6. Medical History of Language Development
  - 1.1.7. History of the Mother/Father-Child Bond
  - 1.1.8. Personal and Family History
- 1.2. Neurological Examination of Newborns and Infants
  - 1.2.1. Basic Neurological Examination
  - 1.2.2. General Data
  - 1.2.3. External Aspect
  - 1.2.4. Functional Behaviors
  - 1.2.5. Sensory Functions
  - 1.2.6. Motility
  - 1.2.7. Primary Reflexes and Postural Attitudes
  - 1.2.8. Tone, Hand Pressure, and Manipulation
  - 1.2.9. Cranial Nerves
  - 1.2.10. Sensitivity
  - 1.2.11. Neurological Assessment Scales



- 1.3 Neurological Examination of Older Children
- 1.4 Neuropsychological Examination of Preschool Children
  - 1.4.1. The 3 First Years of Life
  - 1.4.2. Development
  - 1.4.3. First Trimester
  - 1.4.4. 3-6 Month Period
  - 1.4.5. 6-9 Month Period
  - 1.4.6. 9-12 Month Period
  - 1.4.7. 12-18 Month Period
  - 1.4.8. 18-24 Month Period
  - 1.4.9. 24-36 Month Period
- 1.5. Neuropsychological Examination of School Children
  - 1.5.1. Evolution from Age 3 to 6
  - 1.5.2. Development
  - 1.5.3. Cognitive Assessment
  - 1.5.4. Language Evaluation
  - 1.5.5. Attention Evaluation
  - 1.5.6. Memory Evaluation
  - 1.5.7. Evaluation of Psychomotor Skills and Rhythm
- 1.6. Psychomotor Development
  - 1.6.1. The Concept of Psychomotor Development
  - 1.6.2. Psychomotor Development Evaluation
  - 1.6.3. Warning Signs in Psychomotor Development Evaluation
  - 1.6.4. Psychomotor Development Evaluation Scales
- 1.7. Complementary Evaluations
  - 1.7.1. Prenatal Diagnosis
  - 1.7.2. Genetic Studies
  - 1.7.3. Biochemical Studies
    - 1.7.3.1. Blood
    - 1.7.3.2. Urine
  - 1.7.4. Cerebrospinal Fluid
  - 1.7.5. Diagnostic Imaging
    - 1.7.5.1. Ultrasound
    - 1.7.5.2. CT:
    - 1.7.5.3. Magnetic Resonance
    - 1.7.5.4. Positron Emission Tomography (PET)
    - 1.7.5.5. Single Photon Emission Computed Tomography (SPECT)
    - 1.7.5.6. Magnetoencephalography
  - 1.7.6. Neurophysiological Studies
    - 1.7.6.1. Electroencephalogram
    - 1.7.6.2. Visual Evoked Potential of the Torso and Somatosensation
    - 1.7.6.3. Electroneurogram (ENG)
    - 1.7.6.4. Electromyogram (EMG)
    - 1.7.6.5. Nerve Conduction Velocity (NCV)
    - 1.7.6.6. Single Fiber Study

## Module 2. Advances in Central and Peripheral Motor Disorders

- 2.1. Cerebral Palsy
  - 2.1.1. Concept
  - 2.1.2. Etiology and Risk Factors
    - 2.1.2.1. Prenatal Factors:
      - 2.1.2.1.1. Perinatal Factors
      - 2.1.2.1.2. Postnatal Factors
  - 2.1.2. Clinical Forms
    - 2.1.2.1. Spastic ICP
    - 2.1.2.2. Spastic Diplegia
    - 2.1.2.3. Spastic Hemiplegia
    - 2.1.2.4. Spastic Triplegia
    - 2.1.2.5. Dyskinetic or Athetoid ICP
    - 2.1.2.6. Ataxic CP
  - 2.1.3. Comorbid Disorders
  - 2.1.4. Diagnosis
  - 2.1.5. Treatment
- 2.2. Motor Neuron Diseases in Childhood
  - 2.2.1. Generalized Forms of Motor Neuron Diseases
    - 2.2.1.1. Spinal Muscular Atrophy
    - 2.2.1.2. Other Variations of Spinal Muscular Atrophy
  - 2.2.2. Focal Forms of Motor Neuron Diseases in Childhood
- 2.3. Juvenile Myasthenia Gravis and Other Neuromuscular Junction Disorders
  - 2.3.1. Juvenile Myasthenia Gravis in Childhood
  - 2.3.2. Transient Neonatal Myasthenia Gravis
  - 2.3.3. Congenital Myasthenic Syndromes
  - 2.3.4. Childhood Botulism

- 2.4. Childhood Muscular Dystrophy
  - 2.4.1. Childhood Muscular Dystrophy: Dystrophinopathies
  - 2.4.2. Childhood Muscular Dystrophies Other than Dystrophinopathies
- 2.5. Childhood Myotonic Disorders
  - 2.5.1. Childhood Congenital Myopathies
  - 2.5.2. Childhood Inflammatory and Metabolic Myopathies
- 2.6. Childhood Neuropathies
  - 2.6.1. Motor Neuropathies
  - 2.6.2. Sensorimotor Neuropathies
  - 2.6.3. Sensory Neuropathies

## Module 3. Advances in Paroxysmal Disorders

- 3.1. Febrile Crises
  - 3.1.1. Introduction
  - 3.1.2. Etiology and Genetics
  - 3.1.3. Epidemiology and Classification
  - 3.1.4. Symptoms
  - 3.1.5. Diagnosis
  - 3.1.6. Treatment
- 3.2. Infant Epilepsies
  - 3.2.1. West Syndrome
  - 3.2.2. Malignant Partial Migratory Crises in Breastfeeding Infants
  - 3.2.3. Benign Myoclonic Epilepsy in Children
  - 3.2.4. Myoclonic Astatic Epilepsy
  - 3.2.5. Lennox-Gastaut Syndrome
  - 3.2.6. Benign Idiopathic Partial Epilepsies in Infants and Young Children
- 3.3. School-Age Epilepsies
  - 3.3.1. Epilepsy with Central Temporal Spikes and Related Syndromes
  - 3.3.2. Idiopathic Occipital Epilepsies
  - 3.3.3. Childhood Non-Idiopathic Partial Epilepsies
  - 3.3.4. Childhood Absence Epilepsy

- 3.4. Epilepsy in Older Children and Adolescents
  - 3.4.1. Juvenile Absence Epilepsy
  - 3.4.2. Juvenile Myoclonic Epilepsy
  - 3.4.3. Grand Mal after Waking Up
- 3.5. Treatment of Epilepsy in Childhood
  - 3.5.1. Introduction
  - 3.5.2. Antiepileptic Drugs
  - 3.5.3. Selecting Treatment
  - 3.5.4. The Process of Starting Treatment
  - 3.5.5. Monitoring and Control
  - 3.5.6. Suspending Treatment
  - 3.5.7. Drug Resistance
  - 3.5.8. Alternative Treatments
- 3.6. Headache
  - 3.6.1. Etiology
  - 3.6.2. Epidemiology
  - 3.6.2. Classification
  - 3.6.3. Diagnosis
  - 3.6.4. Complementary Tests
  - 3.6.5. Treatment
- 3.7. Movement Disorders
  - 3.7.1. Introduction
  - 3.7.2. Classification
  - 3.7.3. Disorders with Increased Movement
  - 3.7.4. Dyskinetics: Tics, Chorea, and Ballismus
  - 3.7.5. Disorders with Decreased Movement
  - 3.7.6. Hypokinetic-Rigid Syndromes: Parkinsonism



*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.



“

*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 abundant 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 highly 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

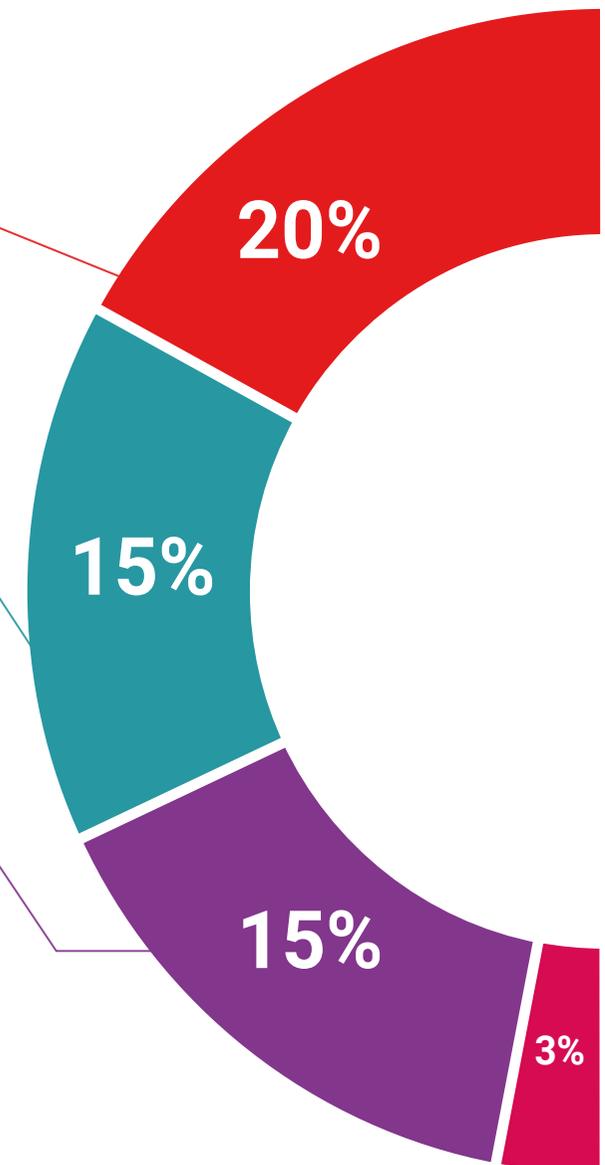
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 future difficult 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 Diploma in Advances in Motor and Paroxysmal Disorders in Pediatric Neurology** guarantees you, in addition to the most accurate and up-to-date training, access to a Postgraduate Diploma issued by **TECH Technological University**.



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*Successfully complete this training and receive your university degree without travel or laborious paperwork”*

The **Postgraduate Diploma in Advances in Motor and Paroxysmal Disorders in Pediatric Neurology** contains the most complete and updated scientific program on the market.

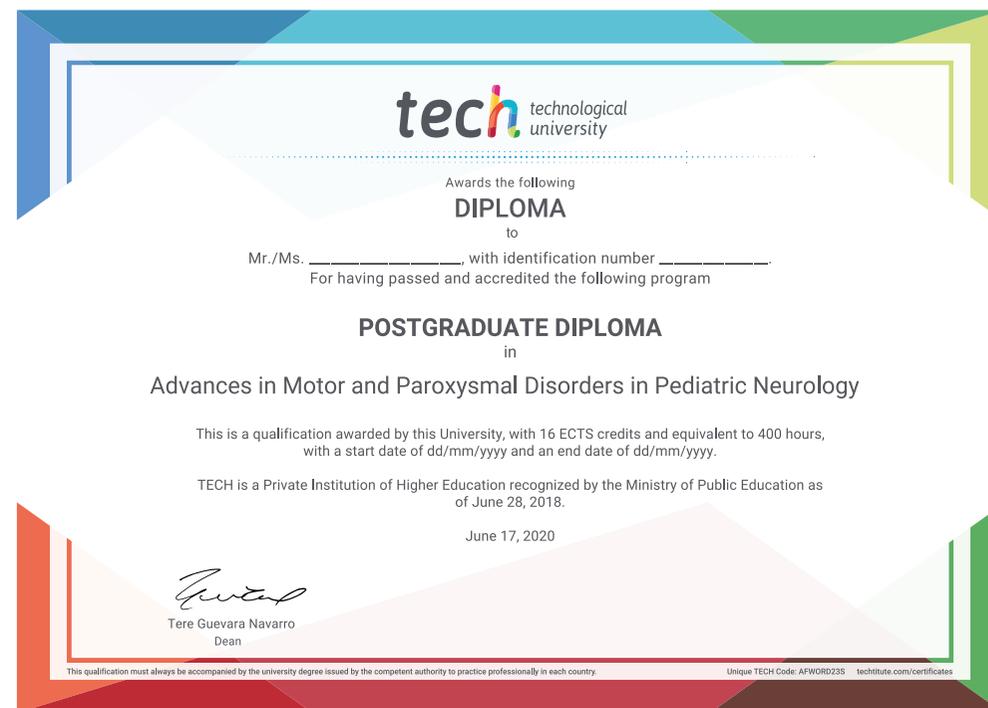
After the student has passed the evaluations, they will receive their corresponding Postgraduate Diploma issued by **TECH Technological University** via tracked delivery.

The diploma issued by **TECH Technological University** will express the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Diploma in Advances in Motor and Paroxysmal Disorders in Pediatric Neurology**

ECTS: **16**

Official Number of Hours: **400 hours**.



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION 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 languages  
virtual classroom



## Postgraduate Diploma

Advances in  
Motor and Paroxysmal  
Disorders in  
Pediatric Neurology

Course Modality: Online

Duration: 6 months.

Certificate: TECH Technological University

16 ECTS Credits

Teaching Hours: 400 hours.

# Postgraduate Diploma

Advances in Motor and Paroxysmal Disorders in Pediatric Neurology

