

Postgraduate Diploma
Pediatric Neuro-Ophthalmology



Postgraduate Diploma Pediatric Neuro-Ophthalmology

- » Modality: Online
- » Duration: 6 months.
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your pace
- » Exams: online

Website: www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-pediatric-neuro-ophthalmology

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01

Introduction

Pediatric Neuroophthalmology has a direct impact on the quality of life of patients at an early age. Therefore, this discipline, which stands out for treating the implications of visual illnesses in the brain, can help detect possible pathologies such as strabismus and/or encourage normal visual development in children. Programs like the one that TECH presents help doctors to fully specialize in this exciting field, ultimately improving the health of their patients, while also helping them grow their professional career.





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It works with children, girls and adolescents with visual pathologies and is faced with a factor of change to achieve a better quality of life among his patients studying this TECH Postgraduate Diploma”

Pediatric Neuro-Ophthalmology is responsible for studying structural functions at a visual level and the implications that these have with the brain of patients at an early age. In other words, analyze ocular movement, cranial nerves and structures that coordinate ocular movements, regularizing integration with other sensory systems.

This Postgraduate Diploma will seek to deepen Pediatric Neuro-Ophthalmology by studying, mainly, the main pathologies that can occur in children. This way, you will be guided by your diagnostic and treatment approach.

On the other hand, the contents of this Professional Postgraduate Diploma have been elaborated by ophthalmologists, neurologists and neurosurgeons, with the aim of enriching to the maximum the experience of the student. In this way, the professional will acquire diagnostic and therapeutic skills of the various Neuro-Ophthalmological pathologies known. In this way, you will be able to make a correct diagnostic approach children to by knowing the proper use of the most innovative technologies.

Finally, during the Postgraduate Diploma, primary changes in ocular motility (strabismus) will be discussed. All this with the objective of offering professionals the necessary knowledge about primary alterations in ocular motility and their therapeutic options in children, children and adolescents.

These knowledge the student can acquire online, without needing to go to any physical center to receive classes. In this way, you can continue with your academic process without giving up the rest of your daily activities.

This **Postgraduate Diploma in Neuro-Ophthalmology** contains the most complete and

up-to-date educational program on the market. The most important features of the program include:

- ♦ Practical cases presented by experts in 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 the self-assessment process can be carried out 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



If you want to acquire deep knowledge on the different pathologies that compromise ocular motility, then this Postgraduate Diploma is for you”

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This program is designed so that the student learns to carry out a superior therapeutic approach to their patients with Neuro-Ophthalmological pathologies”

The program’s teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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 education programmed to learn 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 during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

Increase your in this field skills by studying at TECH and start seeing your job opportunities multiply.

Study comfortably at TECH using the most reputable teaching methodology in the online academic panorama.



02 Objectives

This Postgraduate Diploma has been designed with the objective of expanding the knowledge of the doctor in all respects to Neuro-Ophthalmological pathologies in patients at an early age. Therefore, based on high-quality content and the best teaching staff in the market, the student will be able to begin exercising his profession in this area with total success, contributing positively to the normal development of the visual functions of his pediatric patients.





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If your goal is to become a better Neuro-Ophthalmologist, and improve the quality of life of patients in their early ages, then this program is for you”



General Objectives

- Delve into the anatomical and physiological knowledge necessary to understand the pathologies that will be developed in the following modules
- Provide the necessary knowledge for the Neuro-Ophthalmologist on the primary alterations of ocular motility and its therapeutic options
- Make known the Neuro-Ophthalmological pathologies that may occur in pediatric patients, their diagnostic approach and treatment



A unique program in its style that will help you achieve all your professional and personal goals”





Specific Objectives

Module 1. Embryology, Anatomy and Physiology

- ♦ Delve into the bone, vascular and muscular anatomy that may be involved in the various Neuro-Ophthalmological pathologies
- ♦ Describe the anatomical particularities of the visual pathway and its involvement in image perception

Module 2. Strabismus

- ♦ Define specific concepts of visual development with impact on ocular motility
- ♦ Develop the clinic and treatment of alterations of ocular statics and mobility, both horizontal and vertical or compound
- ♦ Raise awareness of both surgical and non-surgical treatment options

Module 3. Pediatric Neuro-Ophthalmology

- ♦ Delve into normal and abnormal visual development
- ♦ Delve into specific Neuro-Ophthalmological examination techniques for pediatric patients
- ♦ Train to identify the possible anatomical or functional developmental alterations that may be found in pediatric patients
- ♦ Develop the optic nerve pathologies that can occur in childhood

03

Course Management

In order to make the learning process easier for the students, TECH has relied on a group of professionals with years of experience and high prestige in the profession for this program. In this way, attending this Postgraduate Diploma becomes a unique opportunity for doctors to be able to learn from the knowledge of a high-level cloister. A unique occasion that only this University can offer.





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On your academic path you will be accompanied by a group of highly prestigious professionals in the profession”

International Guest Director

Doctor Dean Cestari is widely recognized for his dedication to the treatment of **Neuro-Ophthalmological Disorders, Strabismus and Diplopia**, which has made a significant difference in the lives of numerous patients. Therefore, I am one of only a few ophthalmologists around the world certified by the council in **Neurology and Ophthalmology**, which underlines his deep knowledge in both disciplines.

With extensive experience as a **Neuro-Ophthalmologist and Strabismus Surgeon**, Cestaria has excelled in leading healthcare settings such as **Mass Eye & Ear**. Within this same institution, he also serves as Codirector of the **Center for Thyroid Eye Disease and Orbital Surgery** where he leads a team of experts committed to medical excellence.

In addition to his outstanding clinical department, he is a pioneer in the investigation of Optical Nerve Diseases and has dedicated a large part of his work to **Ischemic Optical Neuropathy**. In this sense, his tireless search for solutions has led to the evaluation of innovative **neuroprotective agents** to preserve and restore vision affected by **Vascular Occlusion**. Today, Doctor Cestari has developed as an outstanding Principal Investigator (PI) and Co-PI in multiple research projects and clinical trials. To this must be added the authorship of the first Case Book of Cases Teaching Strabismus Surgery Using the Adjustable Suture Technique.

Moreover, Dean Cestari has played crucial roles in committees of renowned ophthalmological organizations. In addition, he combines his work as a clinician and researcher supervising and guiding future medical professionals, as Chairman of the **Clinical Fellowship Committee** and Director of the **Neuro-Ophthalmology Fellowship Program** at Mass Eye & Ear. In 2012, he was honored with an **Achievement Award**, given by the **American Academy of Ophthalmology**, a recognition of his outstanding contribution to Ophthalmology and scientific education.



Dr. Cestari, Dean

- Adult Neuro-Ophthalmologist and Strabismus Surgeon at Mass Eye & Ear
- Co-Director of the *Center for Thyroid Eye Disease and Orbital Surgery* at Mass Eye & Ear
- Associate Professor of Ophthalmology at Mass Eye & Ear.
- Co-Founder of *Total Direct Care* (Atención Directa Total)
- President of the Mass Eye & Ear Clinical Care Committee
- Director of the Mass Eye & Ear in Neuro-Ophthalmology Care Programming
- Harvard Medical School *Catalyst* Grant
- *Achievement Award* (2012) from the *American Academy of Ophthalmology*
- Miembro de la *Digital Media Committee of the American Academy of Ophthalmology* y el *Curriculum Development Committee of the North American*

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Thanks to TECH you will be able to learn with the best professionals in the world"

Management



Dr. Luque Valentin-Fernández, María Luisa

- ◆ Head of the Ophthalmology Department at Hospital de La Luz.
- ◆ Professor of Ophthalmology, Francisco de Vitoria University.
- ◆ PhD in Medicine and Surgery from the Complutense University of Madrid
- ◆ Specialist via Qualified Nurse in Ophthalmology, Gregorio Marañón General University Hospital
- ◆ Master's Degree in Health Care Quality from the Rey Juan Carlos University.
- ◆ Postgraduate Diploma in Design and Statistics in Health Sciences, Autonomous University of Barcelona.
- ◆ President of the Continuing Education Commission of the El Escorial Hospital hospital.
- ◆ President of the Continuing Education Commission of the El Escorial Hospital hospital.
- ◆ Quality Coordinator of of the El Escorial Hospital hospital Hospital



Professors

Dr. González Manrique, María del Mar

- ♦ Head of the Ophthalmology Department of the University Hospital of Móstoles
- ♦ Researcher at the University of Alcalá
- ♦ Assistant Physician of Ophthalmology at from La Princesa University Hospital
- ♦ Medical specialist at Ramón y Cajal University Hospital
- ♦ Master's Degree in Medical Administration and Clinical Management from the National Distance Education University
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid.

Dr. Domingo Gordo, Blanca

- ♦ Ophthalmologist in charge of Strabology and Neuro-Ophthalmology at the Ophthalmology Clinic AVER.
- ♦ Doctor in Ophthalmology from the Complutense University of Madrid.
- ♦ Degree in Medicine and General Surgery at the Complutense University of Madrid.
- ♦ Member of: Spanish Society of Ophthalmology (SEO), Spanish Society of Strabology and Pediatric Ophthalmology (SEEOP) American Academy of Ophthalmology (AAO), Spanish Society of Ophthalmology (SEO). Neuro-Ophthalmology Unit at the San Carlos Clinical Hospital

Dr. Noval Martin, Susana

- ♦ Head of the Pediatric Ophthalmology Section at La Paz University Hospital
- ♦ Pediatric Ophthalmology Neuro-Ophthalmology at La Paz University Hospital
- ♦ Author of several articles published in specialized magazines. Author of Scientific Article published in Specialised journals
- ♦ Professor in postgraduate studies related to ICTs

04

Structure and Content

The contents of this program are divided into three modules that bring together intensive and eminently practical training on neuro-ophthalmological disorders and pathologies in pediatric patients. All this, in multimedia format, with videos, theoretical lessons and work tools of the highest level to facilitate the learning process of the doctors and help them reach the top of their profession.





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Quality content designed based on the best teaching methodology will help you reach greater heights in your work”

Module 1. Embryology, Anatomy and Physiology

- 1.1. Embryology of the Visual System
 - 1.1.1 Columnar Model of the Embryology of the Visual System and CNS
 - 1.1.2 Prosomeric Model of the Embryology of the Visual System and CNS
 - 1.1.3 Ocular Teratology
- 1.2. Bone Anatomy: the Skull
- 1.3. Vascular Anatomy
- 1.4. Muscular Anatomy
- 1.5. Afferent Visual Pathway
 - 1.5.1 Prechiasmatic Optic Pathways
 - 1.5.2 Postchiasmatic Optic Pathways
- 1.6. Efferent pathway
 - 1.6.1 Anatomy of the Cranial Nerve Pairs
 - 1.6.2 Brainstem Motor Nuclei
- 1.7. Sensory Innervation
- 1.8. Motor Innervation
- 1.9. Ocular Autonomic Nervous System
 - 1.9.1 Sympathetic System
 - 1.9.2 Parasympathetic System
- 1.10. Topographic Diagnosis of Visual Field Disturbances

Module 2. Strabismus

- 2.1. Applied Anatomy of the Extraocular Musculature
- 2.2. Development of the Visual System
- 2.3. Exploration
 - 2.3.1 Assessment of Fusion, Suppression and Diplopia
 - 2.3.2 Parks Test. Lancaster Screen
 - 2.3.3 Differential Diagnosis between Strabismus and Neurological Disorder
- 2.4. Amblyopia
 - 2.4.1 Strabismic Amblyopia
 - 2.4.2 Amblyopia due to Anisometropia
 - 2.4.3 Amblyopia due to Media Opacity
- 2.5. Esotropias
 - 2.5.1 Acute endotropia
 - 2.5.2 Endotropia associated with age
- 2.6. Exotropias
 - 2.6.1 Acute exotropias
- 2.7. Vertical strabismus
 - 2.7.1 Differential Diagnosis
 - 2.7.2 *Sagging eye*
- 2.8. Combined and restrictive syndromes
 - 2.8.1 Duane Syndrome. Brown Syndrome
 - 2.8.2 Myopic myopathy
 - 2.8.3 Thyroid Orbitopathy
 - 2.8.4 Iatrogenic myopathy
- 2.9. Refractive and orthoptic treatment
 - 2.9.1 Optical correction
 - 2.9.2 Correction with prisms
- 2.10. Surgical Management
 - 2.10.1 Botulinum toxin
 - 2.10.2 Musculoskeletal Surgery

Module 3. Pediatric Neuro-Ophthalmology

- 3.1. Neuro-Ophthalmological Examination in Children
 - 3.1.1 Examination Techniques in the Pediatric Patient
 - 3.1.2 Electrophysiology
- 3.2. The Child with Low Vision. Delayed Visual Maturation
- 3.3. Cerebral Visual Impairment
- 3.4. Congenital Anomalies of the Anterior Optic Pathway
 - 3.4.1 Hypoplasia
 - 3.4.2 Colobomas and phlegms
 - 3.4.3 Optic Nerve Drusen
- 3.5. Papillary blurring
 - 3.5.1 Intracranial Hypertension (IH) in Children
- 3.6. Childhood Neuropathies in Childhood I
 - 3.6.1 Inflammatory
 - 3.6.2 Pathology
- 3.7. Childhood Neuropathies in Childhood II Hereditary
 - 3.7.1 Dominant Optic Atrophy
 - 3.7.2 Leber Optic Neuropathy
- 3.8. Dominant Optic Atrophy
- 3.9. Emergencies Tumor Pathology
 - 3.9.1 Primary Optic Nerve Tumors
 - 3.9.2 Tumors of the Middle Line
 - 3.9.3 Posterior Fossa Tumors
- 3.10. Oculomotor Apraxia



Study at TECH and become part of the long list of success stories of this Institution"

05 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 assess 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

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

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 prepared with unprecedented success in all clinical specialties regardless of surgical load. Our educational 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 adapted in 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 assess and re-assess 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 Pediatric Neuro-Ophthalmology guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by La 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 program will allow you to obtain your **Postgraduate Diploma in Pediatric Neuro-Ophthalmology** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

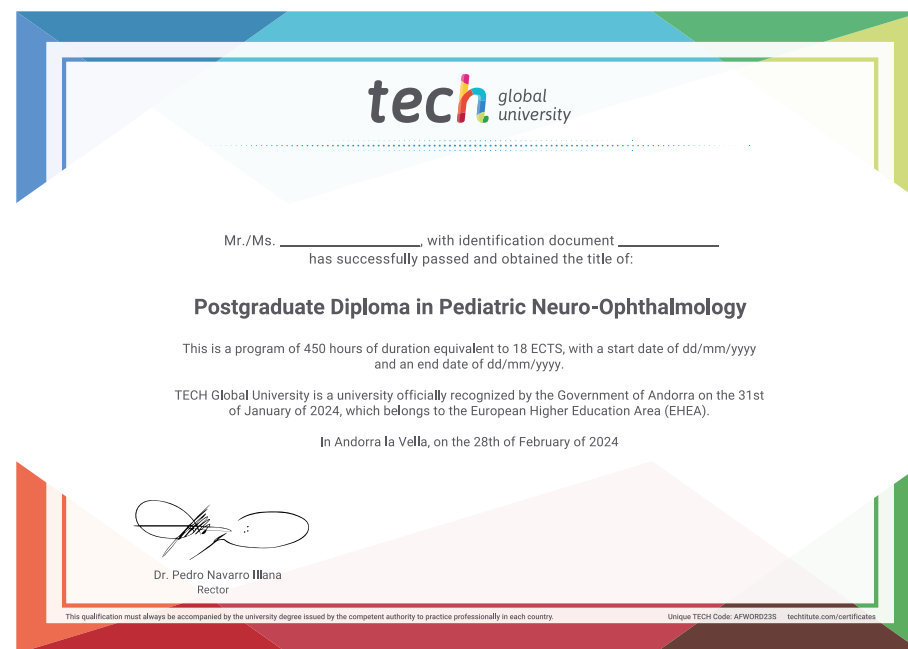
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Pediatric Neuro-Ophthalmology**

Modality: **online**

Duration: **6 months**

Accreditation: **18 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.



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Postgraduate Diploma

Pediatric Neuro-Ophthalmology

