

# Hybrid Master's Degree Neuro-Ophthalmology



## Hybrid Master's Degree Neuro-Ophthalmology

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

60 + 5 créditos ECTS

Website: [www.techtute.com/us/medicine/hybrid-master-degree/hybrid-master-degree-neuro-ophthalmology](http://www.techtute.com/us/medicine/hybrid-master-degree/hybrid-master-degree-neuro-ophthalmology)

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# 01

# Introduction

Ophthalmic sciences have undergone a dramatic advance in recent decades. As a result, state-of-the-art clinical procedures have emerged and assistive technologies have been modernized. Keeping up-to-date with these advances can be difficult for physicians, as most academic programs cover these innovations only from a theoretical point of view. However, this program provides a new academic modality that makes a significant difference. This program is comprised of two distinct teaching moments. The first one dedicates 1,500 hours of study to online learning of the latest advances in Neuro-ophthalmology. Then, for 3 weeks, the specialist will have access to a practical, on-site and intensive internship in a renowned hospital center, to consolidate this knowledge in a practical way.





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*Master the latest trends in Neuro-Ophthalmology through this Hybrid Master's Degree program that offers you the latest advances in this specialty in a theoretical and practical way”*

Neuro-Ophthalmology has undergone a considerable evolution in a very short period of time. Proof of this is the development of modern devices for the diagnosis of ocular pathologies caused by a brain anomaly. Among the most outstanding tools of the moment, Optical Coherence Tomography and Electronystagmography devices stand out. In addition, there is continuous innovation in the search for more significant treatments for the treatment of vascular and tumor pathologies of the ocular anatomy. Although all these advances are beneficial to the medical sciences, many of them are still underutilized due to the lack of training of many specialists on how to implement them.

TECH, aware of this need, now offers this Hybrid Master's Degree that provides a complete update on Neuro-Ophthalmology. It also stands out from other competitors in the educational market, offering a pioneering pedagogical model of its kind. The program integrates two well-defined academic moments. On the one hand, it dedicates 1,500 hours to the theoretical learning of these topics. This process takes place from an attractive 100% online and interactive learning platform that is supported by innovative teaching methods such as *Relearning*. In addition, to support the content assimilation process, it has integrated multimedia resources such as videos and infographics.

At the same time, in a second stage, the specialist will have the opportunity to expand everything learned in a practical way with an on-site and intensive stay. This process, totally immersive and exhaustive, will take place in highly prestigious hospital facilities, which are also equipped with the latest medical technology of the moment. From this facility, the specialist will have the opportunity to deal with real cases together with experts with extensive professional experience. In addition, an attending tutor will be in charge of supervising their progress at all times. At the end of both stages of study, the graduate will be able to incorporate the main innovations of this health discipline into their daily practice, obtaining the best possible results.

This **Hybrid Master's Degree in Neuro-Ophthalmology** contains the most complete and up-to-date scientific program on the market. Its most outstanding features are:

- ♦ Development of more than 100 clinical cases presented by professionals in Neuro-Ophthalmology with extensive experience in this specialty
- ♦ 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
- ♦ Comprehensive systematized action plans for the main neuro-ophthalmological pathologies
- ♦ Presentation of practical workshops on procedures diagnosis, and treatment techniques
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ Practical clinical guides on approaching different pathologies
- ♦ All 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
- ♦ Furthermore, you will be able to carry out a clinical internship in one of the best hospitals.

This Hybrid Master's Degree program, which has a professionalizing nature and a



*This Hybrid Master's Degree will provide you with a quality study, where you will not have to worry about fixed schedules and continuous evaluations"*

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*The practical stage of this 3-week program will be the ideal time for you to expand your clinical and surgical skills in the field of Neuro-Ophthalmology”*

hybrid learning modality, is aimed at updating neuro-ophthalmologists, who require a high level of qualification. The contents are based on the latest scientific evidence, and oriented in a educational way to integrate theoretical knowledge into professional practice, facilitating the development of knowledge and allow decision-making in the management of the patient.

Thanks to the multimedia content, developed with the latest educational technology, will allow the Neuro-Ophthalmology professional a situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to train in real situations. This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*This qualification provides a theoretical overview of the main clinical criteria for the diagnosis and intervention of supranuclear motility disorders of the human eye.*

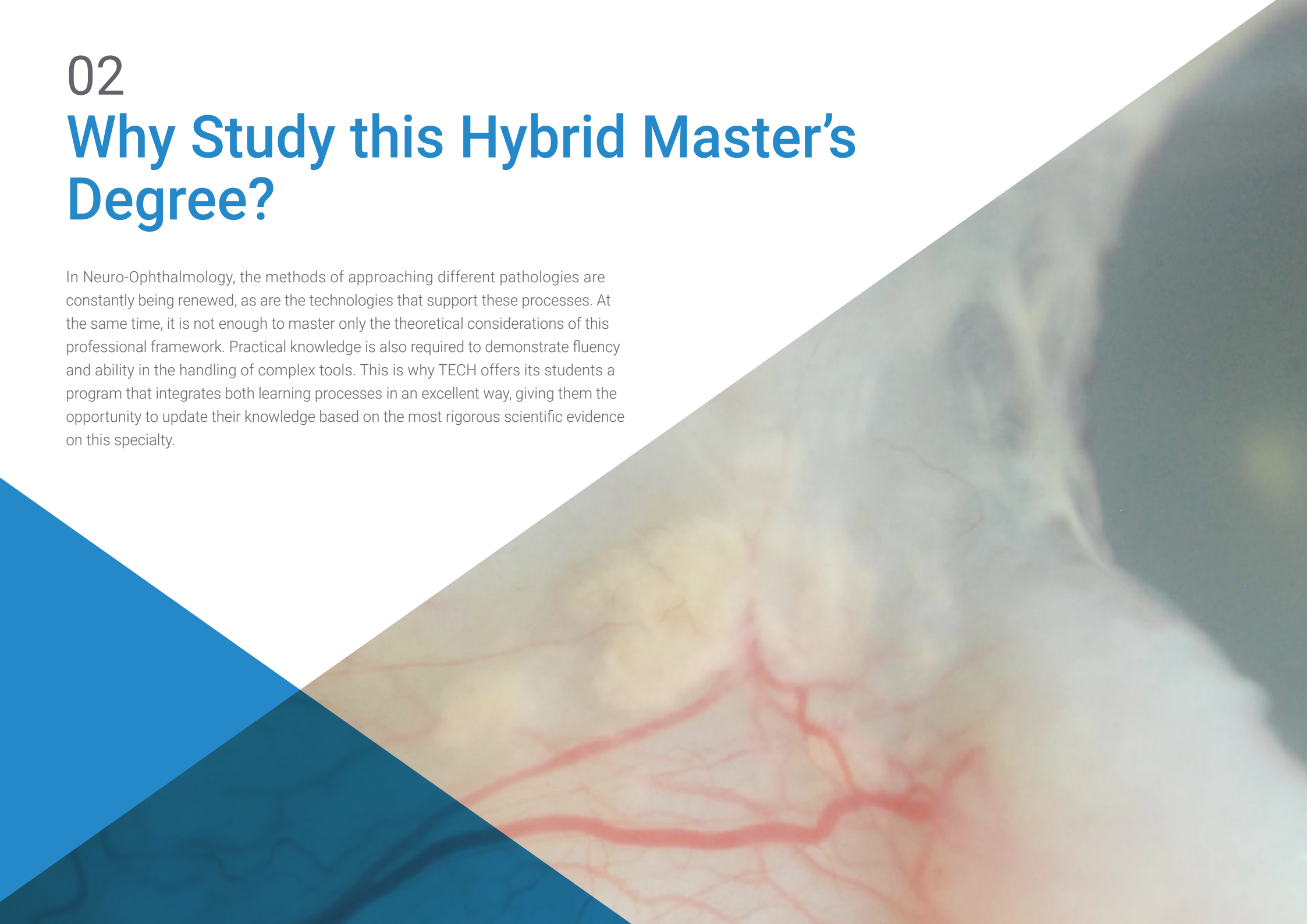
*A first-class clinical internship is integrated to this Hybrid Master's Degree, offering you the opportunity to enhance your skills in an on-site, immersive and intensive way.*



# 02

## Why Study this Hybrid Master's Degree?

In Neuro-Ophthalmology, the methods of approaching different pathologies are constantly being renewed, as are the technologies that support these processes. At the same time, it is not enough to master only the theoretical considerations of this professional framework. Practical knowledge is also required to demonstrate fluency and ability in the handling of complex tools. This is why TECH offers its students a program that integrates both learning processes in an excellent way, giving them the opportunity to update their knowledge based on the most rigorous scientific evidence on this specialty.





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*This learning opportunity, pioneer in its kind, is possible thanks to TECH's commitment to help you achieve your best professional version”*

### 1. Updating from the latest technology available

With the help of this academic program, students will master rigorous surgical techniques for the removal of eye tumors and other vascular pathologies. They will also specialize in the use of complex technologies, such as those designed to achieve more advanced diagnostics and therapeutics.

### 2. Gaining In-Depth Knowledge from the Experience of Top Specialists

This program offers students personalized support in two distinct phases. In the first one, a teaching staff, composed of experienced teachers, will interact with them to clarify doubts and concepts of interest. The second stage, dedicated to the clinical internship, will be supported by a designated tutor who will integrate the student in different care dynamics.

### 3. Entering First-Class Clinical Environments

The careful selection of the centers where the clinical internships of this program are carried out has been a priority for TECH. Thanks to this, medical professionals will be able to be involved in cutting-edge institutions in the use of technological resources, considered to be the most up-to-date in the market. At the same time, they will be able to test the demands of a professional area considered rigorous and exhaustive in the health sector.





#### 4. Combining the Best Theory with State-of-the-Art Practice

This program has 1,500 educational hours dedicated to the theoretical domain of Neuro-Ophthalmology. At the same time, students will be able to apply everything they have learned in a 3-week clinical internship. In this way, they will be able to develop their skills quickly and flexibly, achieving maximum professional excellence.

#### 5. Expanding the Boundaries of Knowledge

This Hybrid Master's Degree is unique in its kind in the educational market, as it provides students access to selected centers, dedicated to the health sector and dialogue with its best professionals. This is possible thanks to the network of partnerships and contacts available to TECH as the largest digital university.



*You will have full practical immersion at the center of your choice"*

# 03 Objectives

TECH designs each of its programs under the premise that its graduates can achieve, through them, their most ambitious academic goals. This is evidenced by this Hybrid Master's Degree in Neuro-Ophthalmology, created so that each specialist can easily get up-to-date on the latest trends in the treatment, diagnosis and surgery of different pathologies and comorbidities that affect the human visual system.



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*Acquire the latest skills for the approach of Strabismus, through this very complete TECH program”*



## General Objective

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- The general objective of this program is to delve into the latest anatomical and physiological knowledge that has helped to understand how neuro-ophthalmologic pathologies develop. In this way, the student will incorporate new knowledge on how to establish the diagnostic and therapeutic method that best suits each visual condition. Therefore, they will be able to elevate their career and become one of the most up-to-date specialists in this field of medical sciences

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*Do not miss the opportunity, enroll in this program and become an expert in the new surgical protocols to intervene Retinoblastomas”*





## Specific Objectives

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### Module 1. Medical History and Examination

- ♦ Delve into its current situation and the future lines of knowledge that open in this field from now on
- ♦ Delve into the Neuro-Ophthalmological anamnesis
- ♦ Promote the acquisition of the necessary skills for the examination of the neuro-ophthalmologic patient
- ♦ Develop the possibilities offered by diagnostic tests currently available

### Module 2. Embryology, Anatomy and Physiology

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

### Module 3. Nuclear and Infranuclear Motility Disorders

- ♦ Delve into the etiology, diagnosis and treatment of paralysis of oculomotor cranial pairs
- ♦ Delve into the characteristics of the affectations of pairs V and VII
- ♦ Perform a diagnostic and therapeutic approach to the different hyperkinetic facial disorders that may occur
- ♦ Facilitate in-depth knowledge of myopathies with ophthalmological repercussions

#### **Module 4. Supranuclear Disorders of Motility Nystagmus**

- ♦ Learn oculomotor alterations originating in the brain stem from an anatomical and pathophysiological point of view
- ♦ Make known the cerebellar and vestibular origin alterations that produce Neuro-Ophthalmological alterations
- ♦ Develop the ophthalmological repercussions of certain complex neurological diseases such as facomatosis, Parkinson's disease, etc
- ♦ Train the student to diagnose and classify the different types of nystagmus and other oscillatory eye movements

#### **Module 5. Pupils. Optic Nerve**

- ♦ Define concepts of pupillary anisocoria and reactivity and associated neurological pathologies
- ♦ Develop pathologies of vascular, inflammatory, infiltrative and metabolic origin of the optic nerve
- ♦ Approach the visual impact of traumatic optic nerve damage

#### **Module 6. Neuro-Ophthalmological manifestations of COVID-19. Headaches and Cranial Neuralgia**

- ♦ List the Neuro-Ophthalmological alterations described so far in COVID patients
- ♦ Train the student for a correct diagnostic and therapeutic approach to headaches with ocular origin or symptomatology







### **Module 7. Vascular and Tumor Pathology**

- ♦ Develop different vascular alterations with visual impairment
- ♦ Delve into the etiology, clinical and treatment of intracranial hypertension
- ♦ Approach the visual repercussion of different neoplasms of the visual pathway

### **Module 8. 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 9. 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

### **Module 10. Diagnostic Strategies and Decision Trees**

- ♦ Delve into the knowledge acquired so far in the professional master's degree program
- ♦ Identify Neuro-Ophthalmological pathologies from symptomatology and semiology

# 04 Skills

After completing all the stages of this Hybrid Master's Degree, the healthcare professional will have the professional skills necessary for quality medical care, and up-to-date on the basis of the latest scientific evidence. Therefore, through 1,620 hours of practical and theoretical education, they will be ready to develop a professional praxis of excellence and rigor.





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*Offer your patients the most innovative treatments, based on the latest scientific evidence that brings together this Hybrid Master's Degree”*



## General Skills

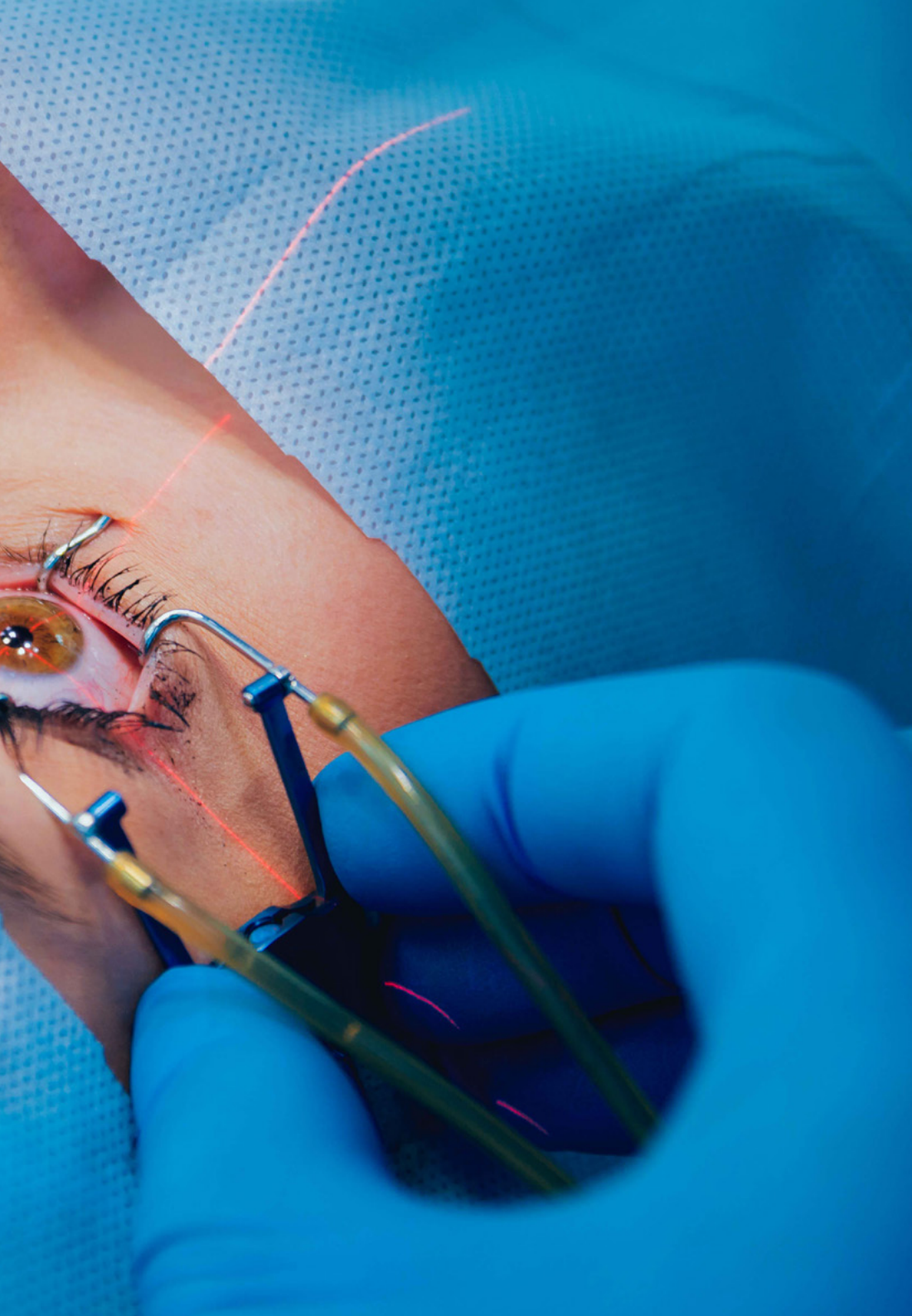
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- Correctly approach complex Neuro-Ophthalmological problems, which in many cases are potentially dangerous for the vision or even the life of patients
- Acquire diagnostic and therapeutic skills for the various known neuro-ophthalmological pathologies
- Delve into the correct performance of a neuro-ophthalmological test and the most advanced diagnostic techniques available today

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*Unlike other programs in the education market, this program gives you the opportunity to incorporate knowledge in a practical and theoretical way, with speed and flexibility”*





## Specific Skills

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- ♦ Possess in-depth knowledge of Neuro-Ophthalmological pathologies in childhood
- ♦ Be aware of the implications of COVID-19 in Neuro-Ophthalmological pathologies
- ♦ Perform a correct diagnostic approach through knowledge of the proper use of the most innovative technologies
- ♦ Acquire the necessary knowledge to use the latest medical therapeutic options
- ♦ Develop a coherent genetic counseling or referral to a surgical specialist to facilitate the resolution or improvement of the patient's disease
- ♦ Assess the different pathologies and the diagnostic and therapeutic techniques currently available
- ♦ Identify the different existing pupillary alterations
- ♦ Diagnose the different pathologies associated with the optic nerve

# 05

# Course Management

TECH has carefully selected all the teachers for this program. For this purpose, it has taken into account their teaching skills and their professional links with prestigious institutions in the healthcare practice. The teaching staff has also selected the contents that make up the educational syllabus. Therefore, the syllabus stands out for its up-to-date subjects and the analysis of the most competitive technologies. In addition to this group of experts, students will have access to the most prestigious specialists from a renowned institution, during a 3-week on-site internship.



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*All members of this teaching staff have extensive professional skills and an excellent command of the most recent applications of Neuro-Ophthalmology”*

## International Guest Director

Dr. Dean Cestari is widely recognized for his dedication to the treatment of **Neuro-ophthalmological Disorders, Strabismus and Diplopia**, where he has made a significant difference in the lives of numerous patients. Therefore, he is one of the few ophthalmologists worldwide certified by the board 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 first-class healthcare centers, such as **Mass Eye & Ear**. Within the same institution, he also serves as Co-Director 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 career, he is a pioneer in the research of Optic Nerve diseases and has devoted much of his work to **Ischemic Optic Neuropathy**. In this sense, his tireless search for solutions has led him to the assessment of innovative **neuroprotective agents** to preserve and restore vision affected by **Vascular Occlusion**. In fact, Dr. Cestari has developed as an outstanding Principal Investigator (PI) and Co-PI in multiple research projects and clinical trials. In addition, he is the author of the first Casebook for Teaching Strabismus Surgery using the Adjustable Suture Technique.

Furthermore, Dean Cestari has played crucial roles on committees of renowned ophthalmological organizations. In addition, he combines his clinical and research work supervising and guiding future medical professionals, as President 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

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- Neuro-ophthalmologist and Adult 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
- President of the Clinical Fellowship Committee at Mass Eye & Ear
- Director of the Neuro-Ophthalmology Fellowship Program at Mass Eye & Ear
- Catalyst Grant from the Harvard Medical School
- Achievement Award (2012) from the American Academy of Ophthalmology
- Member of: Digital Media Committee of the American Academy of Ophthalmology and Curriculum Development Committee of the North American Neuro-Ophthalmology Society



*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 El Escorial Hospital
- ♦ Professor of Ophthalmology in the Degree of Medicine at the Francisco de Vitoria University
- ♦ PhD in Medicine and Surgery from the Complutense University of Madrid
- ♦ Specialist via MIR in Ophthalmology at the 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 Hospital Continuing Education Commission of the El Escorial Hospital
- ♦ Responsible of the Hospital Continuing Education at El Escorial Hospital
- ♦ Quality Coordinator of El Escorial Hospital

## Professors

### ♦ Dr. González Martin-Moro, Julio

- ♦ Ophthalmologist at the University Hospital of Alcalá de Henares
- ♦ Research Advisor of the Francisco de Vitoria University and CTO Medicine
- ♦ Reviewer for the journals Ophthalmology, European Journal of Ophthalmology, Clinical and experimental Ophthalmology and Archives of the Spanish Society of Ophthalmology
- ♦ Medical Specialist at Ramón y Cajal University Hospital
- ♦ Doctor of Medicine and Surgery from the University of Alcalá.
- ♦ Master's Degree in Clinical Research Methodology from the Autonomous University of Barcelona

### Dr. Celdrán Vivancos, Diego

- ♦ Specialist in Ophthalmology and Expert in Neuro-ophthalmology
- ♦ Expert Ophthalmologist in Neuro-ophthalmology, Strabismus and Pediatric Ophthalmology at the Institute of Ocular Microsurgery (IMO)
- ♦ Attending Physician in Ophthalmology at the La Princesa University Hospital
- ♦ Ophthalmologist in the Neuro-Ophthalmology and Strabismus Unit at the Hospital Clinic of Barcelona
- ♦ Ophthalmologist in the Neuro-Ophthalmology Unit at the University Hospital of Bellvitge
- ♦ Professor-collaborator in university postgraduate studies

**Dr. Santos Bueso, Enrique**

- ◆ Specialist in the Ophthalmology Department of the San Carlos Clinical Hospital
- ◆ Tutor of residents of the Ophthalmology Service at the San Carlos Clinical Hospital
- ◆ Associate Professor of Ophthalmology at the Complutense University of Madrid
- ◆ PhD in Medicine from the University of Extremadura
- ◆ Degree in Medicine and Surgery from the University of Extremadura
- ◆ Specialist in Family and Community Medicine at the Infanta Cristina de Badajoz Hospital
- ◆ Specialist in Ophthalmology at the San Carlos Clinical Hospital
- ◆ More than 200 articles in scientific journals
- ◆ Member of: SEO, SMO and SEGv

**Dr. Cabrejas Martínez, Laura**

- ◆ Attending Ophthalmology Physician in the Section of Childhood Ophthalmology, Strabismus and Neuro-Ophthalmology at the Jiménez Díaz Foundation University Hospital
- ◆ Attending Physician of Ophthalmology in the Section of Child Ophthalmology, Strabismus and Neuro-ophthalmology at the Ruber Juan Bravo Hospital
- ◆ Doctorate in Medicine, University of Alcala
- ◆ Degree in Medicine and Surgery from the University of Salamanca
- ◆ Master's Degree in Clinical Ophthalmology from CEU Cardenal Herrera University
- ◆ Postgraduate Diploma in Ocular Pathologies and Treatment, Glaucoma and Pediatric Ocular Pathology, Ophthalmological Surgery, Uveitis and Retina from the CEU Cardenal Herrera University
- ◆ Member: Spanish Society of Strabology and Pediatric Ophthalmology

**Dr. García Basterra, Ignacio**

- ◆ Specialist in the Ophthalmology Department at the Virgen de la Victoria University Hospital Malaga
- ◆ Head of the Adult Neuro-Ophthalmology and Strabismus Unit at the Virgen de la Victoria University Hospital
- ◆ Doctor of Medicine and Surgery from the University of Málaga
- ◆ Specialist via MIR in Neurology at the Virgen de las Nieves University Hospital
- ◆ Degree in Medicine and Surgery from the University of Granada
- ◆ Specialist via MIR in Ophthalmology at the Virgen de la Victoria University Hospital
- ◆ Member: Neuro-Ophthalmology Group of the Andalusian Society of Ophthalmology

**Dr. Fernández Jiménez-Ortiz, Héctor**

- ◆ Ophthalmologist Surgeon in the Section of Strabismus and Neuro-Ophthalmology in the University Hospital of Fuenlabrada
- ◆ Ophthalmologist Surgeon in Refractive Cataract and Strabismus Surgery at HM Sanchinarro University Hospital
- ◆ Professor-collaborator at the Rey Juan Carlos University
- ◆ Ophthalmologist Surgeon at the Institute of Ocular Microsurgery (IMO)
- ◆ Reviewer of the journal Archives of the Spanish Society of Ophthalmology
- ◆ Doctor of Medicine, Cum Laude, Complutense University of Madrid
- ◆ Degree in Medicine from the Autonomous University Madrid.
- ◆ Master's Degree in Clinical Management and Medical and Healthcare Management from Cardenal Herrera University
- ◆ Postgraduate Diploma in Health Informatics and Telemedicine from the National University of Distance Education (UNED)

**Dr. González Manrique, María del Mar**

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

**Dr. Noval Martin, Susana**

- ♦ Head of the Department of Pediatric Ophthalmology at La Paz University Hospital
- ♦ Pediatric Ophthalmologist and Neuro-Ophthalmologist at the La Paz University Hospital
- ♦ Author of scientific articles published in specialized journals
- ♦ Professor in postgraduate studies related to Ophthalmology

**Dr. De las Rivas Ramírez, Nieves**

- ♦ Medical Specialist in Ophthalmology at the Regional Hospital of Málaga
- ♦ Attending Physician at the Hospital de la Serranía de Ronda
- ♦ Ophthalmologist at Dr. Nebro Ophthalmology Clinic
- ♦ Graduated in Medicine and Surgery at the University of Zaragoza

**Dr. Díaz Otero, Fernando**

- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Specialist in Neurology at the Gregorio Marañón University Hospital
- ♦ Master's Degree in Cerebrovascular Pathology from the Complutense University of Madrid





#### **Dr. Domingo Gordo, Blanca**

- ◆ Ophthalmologist in charge of Strabology and Neuro-Ophthalmology at the AVER Ophthalmology Clinic
- ◆ Doctor in Ophthalmology from the Complutense University of Madrid
- ◆ Degree in Medicine and General Surgery from 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) and Neuro-Ophthalmology Unit at the San Carlos Clinical Hospital

#### **Dr. Porta-Etessam, Jesús**

- ◆ Head of the Neurology Section at the San Carlos Clinical Hospital in Madrid
- ◆ Associate Researcher at the Complutense University of Madrid
- ◆ Editor-in-Chief of the Journal of Neurology and Neuroscience
- ◆ Neuro-Ophthalmologist at the Sloan Kettering Neuro-Oncology Center in New York
- ◆ Medical Specialist at the 12 de Octubre University Hospital
- ◆ Doctor of Medicine and Surgery, from the Complutense University of Madrid.
- ◆ Master's Degree in Statistics and Epidemiology from the National University of Distance Education
- ◆ Member of the Spanish Society of Neurology

# 06

## Educational Plan

This program consists of several academic modules where the most up-to-date knowledge in the field of Neuro-Ophthalmology is available. Its very complete syllabus includes the most innovative intervention techniques for visual pathologies of diverse complexity such as Strabismus, some vascular and tumor diseases, among others. In addition, students will analyze the latest tools for the diagnosis and surgical treatment of these conditions. The subjects will be supported at all times by multimedia resources with great didactic value, including infographics, videos and interactive summaries.





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*Learn about the latest advances in Neuro-Ophthalmology in this complete syllabus designed by TECH to meet your educational needs”*

### Module 1. Medical History and Examination

- 1.1. Current and Future Situation of Neuro-Ophthalmology
  - 1.1.1. New Diagnostic and Therapeutic Methods
  - 1.1.2. Utility of Information Technologies: Telemedicine, Artificial Intelligence
  - 1.1.3. Neuro-Ophthalmology in Space Travel
- 1.2. Anamnesis and Examination
  - 1.2.1. Medical History
  - 1.2.2. Eye Function Examination
- 1.3. Anamnesis and Examination II
  - 1.3.1. Contrast Sensitivity
  - 1.3.2. Chromatic Vision
  - 1.3.3. Stereopsis
  - 1.3.4. Fundus Examination
- 1.4. Ocular Motility
  - 1.4.1. Accommodation
  - 1.4.2. Convergence
  - 1.4.3. Pupil Examination
  - 1.4.4. Fundus Examination
- 1.5. Campimetry
  - 1.5.1. Utility of Campimetry
  - 1.5.2. Types of Campimetry
- 1.6. Optical Coherence Tomography (OCT)
  - 1.6.1. Function and Types of the OCT
  - 1.6.2. Utility of OCT in the Detection of Neurological and Neuro-Ophthalmological Pathology
- 1.7. Electrophysiology
  - 1.7.1. Visual Evoked Potentials
  - 1.7.2. Electroretinogram
  - 1.7.3. Electrooculogram
- 1.8. Neuroimaging 1: CAT
- 1.9. Neuroimaging 2: Nuclear Magnetic Resonance (NMR)
- 1.10. Neuroimaging 3: Ultrasound

### Module 2. Embryology, Anatomy and Physiology

- 2.1. Embryology of the Visual System
  - 2.1.1. Columnar Model of the Embryology of the Visual System and CNS
  - 2.1.2. Prosomeric Model of the Embryology of the Visual System and CNS
  - 2.1.3. Ocular Teratology
- 2.2. Bone Anatomy: the Skull
- 2.3. Vascular Anatomy
- 2.4. Muscular Anatomy
- 2.5. Afferent Visual Pathway
  - 2.5.1. Prechiasmatic Optic Pathways
  - 2.5.2. Postchiasmatic Optic Pathways
- 2.6. Efferent pathway
  - 2.6.1. Anatomy of the Cranial Nerve Pairs
  - 2.6.2. Brainstem Motor Nuclei
- 2.7. Sensory Innervation
- 2.8. Motor Innervation
- 2.9. Ocular Autonomic Nervous System
  - 2.9.1. Sympathetic System
  - 2.9.2. Parasympathetic System
- 2.10. Topographic Diagnosis of Visual Field Disturbances

### Module 3. Nuclear and Infranuclear Motility Disorders

- 3.1. Horner Syndrome
  - 3.1.1. Anatomical Bases and Pathophysiology of the Oculosympathetic Pathway
  - 3.1.2. Causes of Horner's Syndrome
  - 3.1.3. Clinical Findings
  - 3.1.4. Diagnosis
  - 3.1.5. Treatment



- 3.2. Paralysis of the III Pair
  - 3.2.1. Anatomical and Pathophysiology Bases
  - 3.2.2. Etiology
  - 3.2.3. Clinical Findings
  - 3.2.4. Aberrant Regeneration of the III Cranial Nerve
  - 3.2.5. Diagnosis
  - 3.2.6. Treatment
- 3.3. Paralysis of the IV Pair
  - 3.3.1. Anatomical and Pathophysiology Bases
  - 3.3.2. Etiology
  - 3.3.3. Clinical Findings
- 3.4. Paralysis of the VI Pair
  - 3.4.1. Anatomical and Pathophysiology Bases
  - 3.4.2. Etiology
  - 3.4.3. Clinical Findings
- 3.5. Paralysis of the VII Pair
  - 3.5.1. Anatomical and Pathophysiology Bases
  - 3.5.2. Etiology
  - 3.5.3. Clinical Findings
- 3.6. Treatment of Facial Paralysis
  - 3.6.1. Management of Facial Paralysis
  - 3.6.2. Prognosis
  - 3.6.3. New Treatments
- 3.7. Combined Paralysis of the cranial Nerves
  - 3.7.1. Keys in the Diagnosis of Multiple Cranial Paralysis
  - 3.7.2. Most Common Causes of Multiple Cranial Pair Involvement
  - 3.7.3. Useful Complementary Tests and Diagnostic Algorithm
- 3.8. Other Neuropathies
  - 3.8.1. Hyperkinetic Facial Disorders
  - 3.8.2. Infectious and Immune-Mediated Neuropathies
  - 3.8.3. Trauma and Tumors
- 3.9. Myopathies I
  - 3.9.1. Myasthenia Gravis
  - 3.9.2. Pseudomyasthenic Syndromes

- 3.10. Myopathies II
  - 3.10.1. Chronic Progressive External Ophthalmoplegia
  - 3.10.2. Myotonic Dystrophy

#### Module 4. Supranuclear Disorders of Motility Nystagmus


- 4.1. Anatomical Relationships. Paramedian Pontine Reticular Formation (PPRF) and Medial Longitudinal Fasciculus (MLF)
  - 4.1.1. Anatomical Constituents of the Supranuclear Eye Movement
  - 4.1.2. Functional Anatomy of Saccadic and Tracking Movements
  - 4.1.3. Functional Anatomy of Horizontal Versions
  - 4.1.4. Functional Anatomy of Vertical Versions
  - 4.1.5. Functional Anatomy of Convergence/Divergence
  - 4.1.6. Non-Optic or Vestibular Reflexes
- 4.2. Ophthalmological Manifestations in Pathology of the Trunk
  - 4.2.1. Horizontal Gaze Pathology
  - 4.2.2. Vertical Gaze Pathology
  - 4.2.3. Pathology of Convergence and Divergence
- 4.3. Ophthalmological Manifestations in Pathology of the Cerebellum
  - 4.3.1. Localization of Lesions in the Cerebellum According to Ophthalmological Manifestations
  - 4.3.2. Ophthalmologic Manifestations in Cerebellar Vascular Pathology
  - 4.3.3. Ophthalmological Manifestations in Cerebellar Developmental Pathology
- 4.4. Ophthalmological Manifestations in Pathology of the Vestibular System
  - 4.4.1. Ophthalmological Manifestations of Central Oculo-Vestibular Dysfunction
  - 4.4.2. Ophthalmological Manifestations of Peripheral Oculo-Vestibular Dysfunction
  - 4.4.3. Oblique Deflection (Skew)
- 4.5. Ophthalmological Manifestations in Degenerative Neurological and Other Diseases
  - 4.5.1. Parkinson's Disease
  - 4.5.2. Huntington's Disease
  - 4.5.3. Epilepsy
  - 4.5.4. Coma
- 4.6. Phacomatosis
  - 4.6.1. Neurofibromatosis
  - 4.6.2. Tuberous Sclerosis
  - 4.6.3. Von-Hippel-Lindau Disease

- 4.7. Nystagmus
  - 4.7.1. Definition and Pathophysiology
  - 4.7.2. Classification
  - 4.7.3. Examination and Recording Methods
  - 4.7.4. Physiological Nystagmus
- 4.8. Nystagmus in Adults
  - 4.8.1. Vestibular Nystagmus
  - 4.8.2. Eccentric Gaze Nystagmus
  - 4.8.3. Acquired Pendular Nystagmus
  - 4.8.4. Treatment
- 4.9. Nystagmus in Childhood
  - 4.9.1. Sensory Nystagmus
  - 4.9.2. Idiopathic Motor Nystagmus
  - 4.9.3. Nystagmus due to Fusional Maldevelopment
  - 4.9.4. Other Childhood Nystagmus
  - 4.9.5. Diagnostic Protocol
  - 4.9.6. Treatment
- 4.10. Saccadic Intrusions and Oscillations
  - 4.10.1. Saccadic Intrusions
  - 4.10.2. Saccadic Oscillations
  - 4.10.3. Other Ocular Oscillations

## Module 5. Pupils. Optic Nerve

- 5.1. Pupillary Assessment
  - 5.1.1. Importance of Proper Pupillary Assessment
  - 5.1.2. Pupillary Reflexes
  - 5.1.3. Accommodation and Convergence
- 5.2. Anisocoria
  - 5.2.1. Physiological Anisocoria
  - 5.2.2. Major Anisocoria in Darkness: Mechanical Anisocoria, Pharmacological Anisocoria, Horner's Syndrome



- 
- A hand holding a black pen is pointing towards a grid of brain MRI scans. The scans are displayed in various orientations (axial, sagittal, coronal) and are rendered in a blue color scheme. The hand is in the foreground, and the pen is positioned as if about to write or highlight on the scans.
- 5.3. Greater Anisocoria in Light
    - 5.3.1. Introduction
    - 5.3.2. Iris Lesion
    - 5.3.3. Pharmacological Mydriasis
    - 5.3.4. Tonic Pupil
    - 5.3.5. III Cranial Nerve Paralysis
  - 5.4. Alterations of Pupillary Reactivity
    - 5.4.1. Light-Near Dissociation
    - 5.4.2. Relative Afferent Pupillary Defect
    - 5.4.3. Argyll-Robertson Pupil
    - 5.4.4. Aberrant Regeneration
    - 5.4.5. Other Pupillary Alterations: Benign Episodic Mydriasis
  - 5.5. Anatomy and Physiology of the Optic Nerve
    - 5.5.1. Anatomy and Physiology
    - 5.5.2. Intraocular and Intraorbital Optic Nerve
    - 5.5.3. Intracanalicular and Intracranial Optic Nerve
    - 5.5.4. Physiology
  - 5.6. Vascular Pathology of the Optic Nerve
    - 5.6.1. Non-Arteritic Ischemic Optic Neuropathy
    - 5.6.2. Arteritic Ischemic Optic Neuropathy
    - 5.6.3. Other Ischemic Optic Neuropathies: Hypovolemia and Diabetic Papillopathy
  - 5.7. Inflammatory Pathology of the Optic Nerve
    - 5.7.1. Inflammatory Pathology of the Optic Nerve
    - 5.7.2. Demyelinating Optic Nerve Pathology
    - 5.7.3. Infectious Pathology of the Optic Nerve
    - 5.7.4. Other Inflammatory Neuropathies: Perineuritis, Sarcoidosis and Autoimmune
  - 5.8. Infiltrative and Compressive Pathology
    - 5.8.1. Tumor Pathology of the Optic Nerve
    - 5.8.2. Optic Nerve Metastases, Lymphoma and Leukemia
    - 5.8.3. Aneurysms and Compressive Bone Pathology of the Optic Canal

- 5.9. Metabolic and Nutritional Pathology
  - 5.9.1. Metabolic Neuropathies
  - 5.9.2. Nutritional Neuropathies
  - 5.9.3. Toxic Neuropathies
- 5.10. Traumatic Pathology
  - 5.10.1. Direct Trauma
  - 5.10.2. Indirect Trauma
  - 5.10.3. Clinical Management

## Module 6. Neuro-Ophthalmological manifestations of COVID-19. Headaches and Cranial Neuralgia

- 6.1. Neuro-Ophthalmological manifestations of COVID-19 I: Pathogenesis
  - 6.1.1. Characteristics of SARS-CoV-2
  - 6.1.2. Pathogenic Mechanisms
  - 6.1.3. Neurotropism and Autoimmunity
- 6.2. Neuro-Ophthalmological Manifestations of COVID-19 II: Neuropathies
- 6.3. Neuro-Ophthalmological Manifestations of COVID-19 III: Headache. Papillitis
- 6.4. Clinical Approach to Headache
- 6.5. Migraine with Aura
  - 6.5.1. Characteristics of Migraine
  - 6.5.2. Neuro-Ophthalmologic Phenomena Associated to Migraine
- 6.6. Other Primary Headaches with Orbital Pain
- 6.7. Cranial Neuralgia and Neuropathies
- 6.8. Neuro-Ophthalmologic Manifestations and Ocular Pain in Secondary Headaches
- 6.9. Diagnosis of Headaches
  - 6.9.1. Diagnostic Techniques
  - 6.9.2. Indications
  - 6.9.3. Referral Criteria
- 6.10. Treatment of Headaches
  - 6.10.1. Anesthetic Blocks
  - 6.10.2. Botulinum Toxin
  - 6.10.3. Neurostimulation

## Module 7. Vascular and Tumor Pathology

- 7.1. Vascular Pathology I
  - 7.1.1. Aneurysms
  - 7.1.2. Arteriovenous Malformations
  - 7.1.3. Carotid-Cavernous Fistulas
- 7.2. Vascular Pathology II
  - 7.2.1. Temporal Arteritis
  - 7.2.2. Vasculitis
  - 7.2.3. Carotid Dissection
- 7.3. Visual Disturbances in Stroke
  - 7.3.1. Parietal Lobe Involvement
  - 7.3.2. Temporal Lobe Involvement
  - 7.3.3. Occipital Lobe Involvement
  - 7.3.4. Bihemispheric Syndromes
- 7.4. Optic Nerve Tumors I
  - 7.4.1. Meningioma
- 7.5. Optic Nerve Tumors II
  - 7.5.1. Glioma
- 7.6. Chiasm Pathology I
  - 7.6.1. Pituitary Tumors
- 7.7. Chiasm Pathology II
  - 7.7.1. Cysts
  - 7.7.2. Metastatic Diseases
  - 7.7.3. Sphenoidal Mucocele
  - 7.7.4. Trauma
  - 7.7.5. Empty Sella Syndrome
  - 7.7.6. Other Alterations
- 7.8. Suprasellar Neoplasms
  - 7.8.1. Craneofaringioma
  - 7.8.2. Other Tumors of the Sellar and Suprasellar Region

- 7.9. Intracranial Hypertension
  - 7.9.1. Etiology
  - 7.9.2. Symptoms
  - 7.9.3. Signs
  - 7.9.4. Diagnosis
  - 7.9.5. Differential Diagnosis
- 7.10. Treatment of Intracranial Hypertension
  - 7.10.1. Weight Loss
  - 7.10.2. Medical Treatment
  - 7.10.3. Surgical Management
  - 7.10.4. Prognosis

## Module 8. Strabismus

- 8.1. Applied Anatomy of the Extraocular Musculature
- 8.2. Development of the Visual System
- 8.3. Exploration
  - 8.3.1. Assessment of Fusion, Suppression and Diplopia
  - 8.3.2. Parks Test. Lancaster Screen
  - 8.3.3. Differential Diagnosis between Strabismus and Neurological Disorder
- 8.4. Amblyopia
  - 8.4.1. Strabismic Amblyopia
  - 8.4.2. Amblyopia due to Anisometropia
  - 8.4.3. Amblyopia due to Media Opacity
- 8.5. Esotropias
  - 8.5.1. Acute Esotropia
  - 8.5.2. Age-Related Esotropia
- 8.6. Exotropia
  - 8.6.1. Acute Exotropia
- 8.7. Vertical Strabismus
  - 8.7.1. Differential Diagnosis
  - 8.7.2. Sagging Eye

- 8.8. Combined and Restrictive Syndromes
  - 8.8.1. Duane Syndrome. Brown Syndrome
  - 8.8.2. Myopic Myopathy
  - 8.8.3. Thyroid Orbitopathy
  - 8.8.4. Iatrogenic Myopathy
- 8.9. Refractive and Orthoptic Treatment
  - 8.9.1. Optical Correction
  - 8.9.2. Correction with Prisms
- 8.10. Surgical Management
  - 8.10.1. Botulinum toxin
  - 8.10.2. Extraocular Muscles Surgery

## Module 9. Pediatric Neuro-Ophthalmology

- 9.1. Neuro-Ophthalmologic Examination in Children
  - 9.1.1. Examination Techniques in the Pediatric Patient
  - 9.1.2. Electrophysiology
- 9.2. The Child with Low Vision. Delayed Visual Maturation
- 9.3. Cerebral Visual Impairment
- 9.4. Congenital Anomalies of the Anterior Optic Pathway
  - 9.4.1. Hypoplasia
  - 9.4.2. Colobomas and Optic Pits
  - 9.4.3. Optic Nerve Drusen
- 9.5. Papillary Effacement
  - 9.5.1. Intracranial Hypertension (IH) in Children
- 9.6. Optic Neuropathies in Childhood I
  - 9.6.1. Inflammatory
  - 9.6.2. Pathology
- 9.7. Optic Neuropathies in Childhood II. Hereditary
  - 9.7.1. Dominant Optic Atrophy
  - 9.7.2. Leber Optic Neuropathy
- 9.8. Optical Atrophy and Papillary Excavation in the Child

- 9.9. Pediatric Tumor Pathology
  - 9.9.1. Primary Tumors of the Optic Nerve
  - 9.9.2. Midline Tumors
  - 9.9.3. Posterior Fossa Tumors
- 9.10. Oculomotor Apraxia

## Module 10. Diagnostic Strategies and Decision Trees

- 10.1. Blurred Vision, Transient Loss of Vision
  - 10.1.1. Introduction
  - 10.1.2. Etiology
  - 10.1.3. Differential Diagnosis
  - 10.1.4. Decision Tree
- 10.2. Campimetric Alteration
  - 10.2.1. Introduction
  - 10.2.2. Etiology
  - 10.2.3. Differential Diagnosis
  - 10.2.4. Decision Tree
- 10.3. Swollen Optic Nerve (Papilledema)
  - 10.3.1. Introduction
  - 10.3.2. Etiology
  - 10.3.3. Differential Diagnosis
  - 10.3.4. Decision Tree
- 10.4. Double Vision (Diplopia)
  - 10.4.1. Introduction
  - 10.4.2. Etiology
  - 10.4.3. Differential Diagnosis
  - 10.4.4. Decision Tree
- 10.5. Movement of Images
  - 10.5.1. Introduction
  - 10.5.2. Etiology
  - 10.5.3. Differential Diagnosis
  - 10.5.4. Decision Tree





- 10.6. Abnormal Eye Movement
  - 10.6.1. Introduction
  - 10.6.2. Etiology
  - 10.6.3. Differential Diagnosis
  - 10.6.4. Decision Tree
- 10.7. Ptosis
  - 10.7.1. Introduction
  - 10.7.2. Etiology
  - 10.7.3. Differential Diagnosis
  - 10.7.4. Decision Tree
- 10.8. Anisocoria
  - 10.8.1. Introduction
  - 10.8.2. Etiology
  - 10.8.3. Differential Diagnosis
  - 10.8.4. Decision Tree
- 10.9. Alteration of Facial Mobility
  - 10.9.1. Introduction
  - 10.9.2. Etiology
  - 10.9.3. Differential Diagnosis
  - 10.9.4. Decision Tree
- 10.10. Pain
  - 10.10.1. Introduction
  - 10.10.2. Etiology
  - 10.10.3. Differential Diagnosis
  - 10.10.4. Decision Tree

07

# Clinical Internship

After completing the online syllabus of this program, TECH will introduce the specialist to an immersive and on-site clinical internship. This internship, which lasts 3 weeks, will give the physician the opportunity to apply everything they have learned in a state-of-the-art hospital environment, equipped with the latest generation of Neuro-Ophthalmology care resources.





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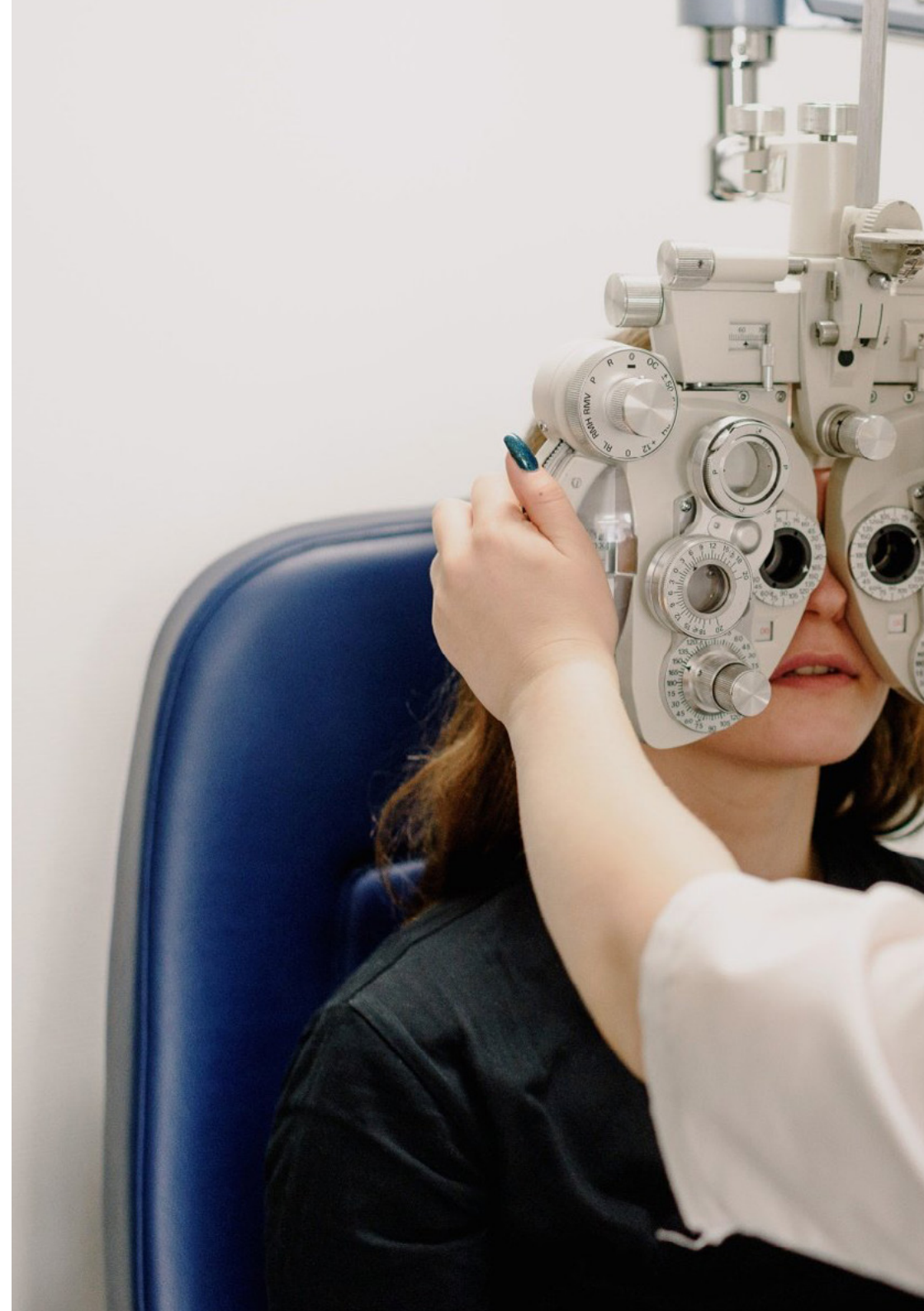
*In just 3 weeks, you will become an expert in the approach to Strabismus and other ocular pathologies in early childhood”*

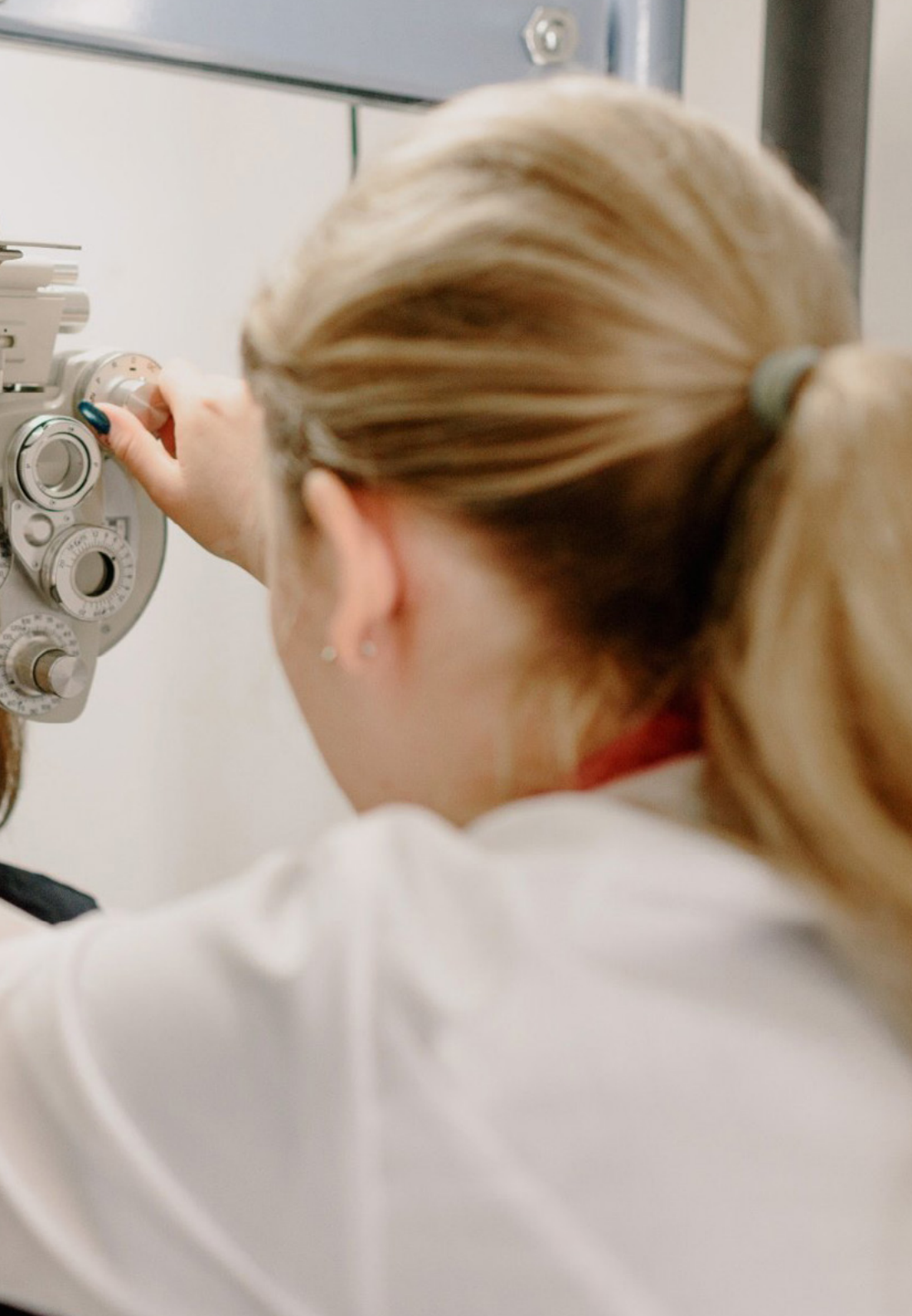
TECH, unlike other educational programs, gives equal relevance to the practical and theoretical mastery of the complex discipline that comprises Neuro-Ophthalmology. Therefore, in the educational design of this program, it has integrated a clinical internship that will complete the physician's update in the most efficient way.

This didactic process lasts 3 weeks, consisting of 8 consecutive hours shifts, from Monday to Friday. The on-site and intensive internship will take place in a hospital center, equipped with the latest technological devices for the diagnosis and treatment of visual disorders. In addition, the experience will be fully immersive and the specialist will have the opportunity to acquire skills in a direct way by putting their knowledge to the benefit of real patients.

Throughout the program, they will also have the support and advice of leading experts. Likewise, an attending tutor will closely supervise their progress and will facilitate their insertion in work dynamics of greater complexity with respect to the usual ones within their daily professional practice.

The practical teaching will be carried out with the active participation of the student performing the activities and procedures of each area of knowledge (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of Neuro-Ophthalmology (learning to be and learning to relate).





The procedures described below will form the basis of the practical part of the training, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:

Module	Practical Activity
<b>Latest Diagnostic Tools in Neuro-Ophthalmology</b>	Implement Optical Coherence Tomography to assess the state of the macula and the ocular retina
	Diagnose ocular tumors using Cranial Magnetic Resonance Imaging
	Assess the state of the ocular nerves through Electronystagmography tools
	Study strabismus through specific ocular motility tests
	Identify pathologies such as Nystagmus with videoculography
<b>Treatment of Vascular and Tumor Pathologies of the Ocular Anatomy</b>	Use of transpupillary thermotherapy or laser therapy against Retinoblastoma
	Perform Enucleation in eyes severely damaged by Melanomas in the ocular choroids
	Apply external beam radiation therapy and localized radiation therapy to shrink malignant tumors in the eye
	Administer chemotherapeutics directly into the tumor formation from a catheter-facilitated injection
	Remove hemangiomas located in eyelids, retina and orbit by microsurgery
<b>Pediatric Neuro-Ophthalmology</b>	Perform complete eye examinations to the pediatric patient
	Know and implement the latest medical procedures in Ophthalmopediatrics to ensure the best care for children with ocular pathology
	Identify the differential diagnosis of optic neuropathies in childhood
<b>Approach to Strabismus in Early Childhood</b>	Develop the differential diagnosis between strabismus and neurological disorder
	Implement the Bangerter Filter in the lens of the stronger eye of the child with strabismic amblyopia
	Correct Accommodative Endotropia through the use of glasses or contact lenses
	Improve the asymmetry of the palpebral aperture, generated by the Duane Syndrome, by means of ophthalmologic surgery
	Implement refractive and orthoptic against strabismic pathologies

## Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



## General Conditions for Practical Training

The general terms and conditions of the internship program agreement shall be as follows:

**1. TUTOR:** During the Hybrid Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

**2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE:** If the students does not show up on the start date of the Hybrid Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** Professionals who pass the Hybrid Master's Degree will receive a certificate accrediting their stay at the center.

**5. EMPLOYMENT RELATIONSHIP:** the Hybrid Master's Degree shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Hybrid Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. DOS NOT INCLUDE:** The Hybrid Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

# 08

## Where Can I Do the Clinical Internship?

In order to guarantee the best possible update, TECH proposes the realization of this on-site internship in a prestigious hospital center that can provide the physician with the latest advances in Neuro-Ophthalmology. Therefore, the specialist will get an update of the highest level and rigor that will enable them, in a practical and face-to-face way, to deal with complex cases based on the latest scientific evidence and the most innovative health technologies.





“

*Get up-to-date in the field of Neuro-Ophthalmology by the hand of great experts and the technological resources with the greatest impact on the current clinical practice of this specialty”*



The student will be able to complete the internship of this Hybrid Master's Degree at the following centers:



Medicine

### Hospital HM Modelo

Country	City
Spain	La Coruña

Address: Rúa Virrey Osorio, 30, 15011, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care



Medicine

### Hospital HM Rosaleda

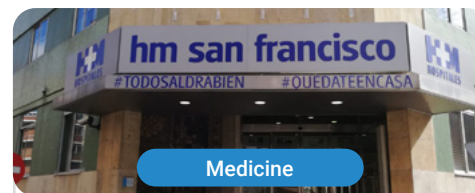
Country	City
Spain	La Coruña

Address: Rúa de Santiago León de Caracas, 1, 15701, Santiago de Compostela, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Hair Transplantation
- Orthodontics and Dentofacial Orthopedics



Medicine

### Hospital HM San Francisco

Country	City
Spain	León

Address: C. Marqueses de San Isidro, 11, 24004, León

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Update in Anesthesiology and Resuscitation
- Trauma Nursing



Medicine

### Hospital HM Regla

Country	City
Spain	León

Address: Calle Cardenal Landázuri, 2, 24003, León

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Update on Psychiatric Treatment in Minor Patients



Medicine

### Hospital HM Madrid

Country	City
Spain	Madrid

Address: Pl. del Conde del Valle de Súchil, 16, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Palliative Care
- Anaesthesiology and Resuscitation



Medicine

### Hospital HM Montepíncipe

Country	City
Spain	Madrid

Address: Av. de Montepíncipe, 25, 28660, Boadilla del Monte, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Palliative Care
- Aesthetic Medicine



Medicine

### Hospital HM Torrelodones

Country	City
Spain	Madrid

Address: Av. Castillo Olivares, s/n, 28250, Torrelodones, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care



Medicine

### Hospital HM Nuevo Belén

Country	City
Spain	Madrid

Address: Calle José Silva, 7, 28043, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- General and Digestive System Surgery
- Clinical Nutrition in Medicine





Medicine

### Hospital HM Puerta del Sur

Country: Spain City: Madrid

Address: Av. Carlos V, 70, 28938, Móstoles, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

- Related internship programs:**
- Palliative Care
  - Clinical Ophthalmology



Medicine

### Hospital HM Vallés

Country: Spain City: Madrid

Address: Calle Santiago, 14, 28801, Alcalá de Henares, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

- Related internship programs:**
- Gynecologic Oncology
  - Clinical Ophthalmology



Medicine

### HM CINAC - Centro Integral de Neurociencias

Country: Spain City: Madrid

Address: Avenida Carlos V, 70, 28938, Móstoles, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

- Related internship programs:**
- Neurological Physiotherapy



Medicine

### HM CINAC Barcelona

Country: Spain City: Barcelona

Address: Avenida de Vallcarca, 151, 08023, Barcelona

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

- Related internship programs:**
- Neurodegenerative Diseases
  - Neurology Nursing



Medicine

### Policlínico HM Arapiles

Country: Spain City: Madrid

Address: C. de Arapiles, 8, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

- Related internship programs:**
- Anaesthesiology and Resuscitation
  - Pediatric Dentistry



Medicine

### Policlínico HM Cruz Verde

Country: Spain City: Madrid

Address: Plaza de la Cruz Verde, 1-3, 28807, Alcalá de Henares, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

- Related internship programs:**
- Advanced Clinical Podiatry
  - Optical Technologies and Clinical Optometry



Medicine

### Policlínico HM Distrito Telefónica

Country: Spain City: Madrid

Address: Ronda de la Comunicación, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

- Related internship programs:**
- Optical Technologies and Clinical Optometry
  - General and Digestive System Surgery



Medicine

### Policlínico HM Matogrande

Country: Spain City: La Coruña

Address: R. Enrique Mariñas Romero, 32G, 2º, 15009, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

- Related internship programs:**
- Sports Physiotherapy
  - Neurodegenerative Diseases



### Policlínico HM Rosaleda Lalín

Country	City
Spain	Pontevedra


Address: Av. Buenos Aires, 102, 36500,  
Lalín, Pontevedra

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

**Related internship programs:**

- Advances in Hematology and Hemotherapy
- Neurological Physiotherapy





**Policlínico HM Imi Toledo**

Country	City
Spain	Toledo

Address: Av. de Irlanda, 21, 45005, Toledo

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

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**Related internship programs:**

- Electrotherapy in Rehabilitation Medicine
- Hair Transplantation

“ You will combine theory and professional practice through a demanding and rewarding educational approach ”

09

# Methodology

This program offers students a different way of learning. Our methodology follows a cyclical learning process: **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. 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. 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 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.

“

*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

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

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*





At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

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

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



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



#### Study Material

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

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



#### Surgical Techniques and Procedures on Video

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



#### Interactive Summaries

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

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



#### Additional Reading

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





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

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



#### Testing & Retesting

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



#### Classes

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



#### Quick Action Guides

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



# 10 Certificate

The Hybrid Master's Degree in Neuro-Ophthalmology guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Master's Degree diploma issued by TECH Global University.



“

*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 **Hybrid Master's Degree diploma in 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.

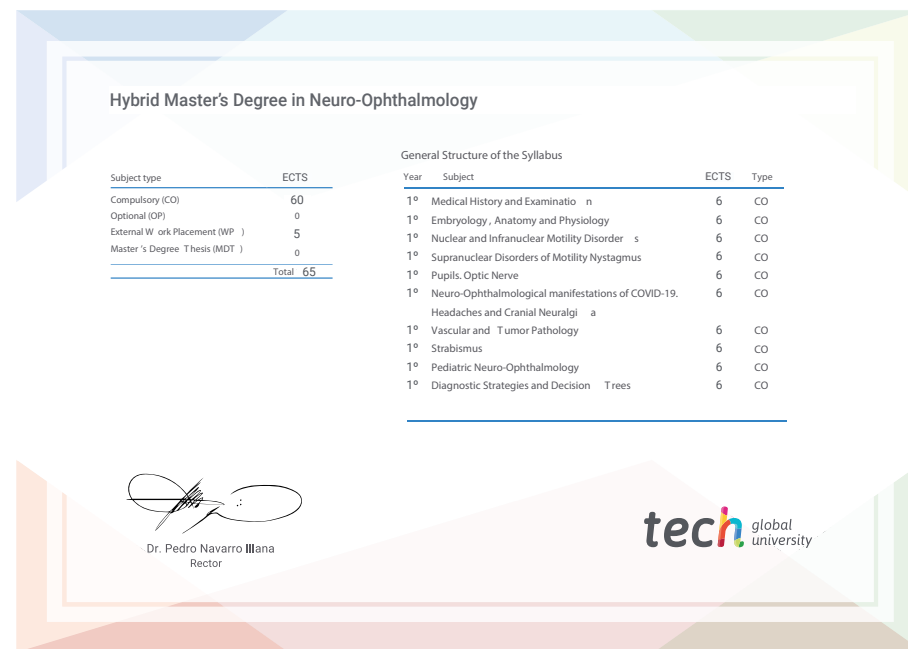
Title: **Hybrid Master's Degree in Neuro-Ophthalmology**

Course Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Global University**

Recognition: **60 + 5 ECTS Credits**



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

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



## Hybrid Master's Degree Neuro-Ophthalmology

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

60 + 5 créditos ECTS

# Hybrid Master's Degree Neuro-Ophthalmology