Hybrid Professional Master's Degree

Macula, Retina and Vitreous Pathology and Surgery

tech global university

tech global university

Hybrid Professional Master's Degree

Macula, Retina and Vitreous Pathology and Surgery

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

Duration: **12 months**

Certificate: **TECH Global University**

60 + 5 créditos ECTS

Website: **www.techtitute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-macula-retina-vitreous-pathology-surgery**

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01

Introduction

Constant advances in the management of pathologies of the structures of the posterior part of the eye require immediate updating on the part of the specialist. Thus, diagnostic methods such as Optical Coherence Tomography, Photocoagulation or Vitreous Biopsy have revolutionized the discipline, and TECH offers the physician the opportunity to get up to date in this area thanks to this program. Thus, this program integrates, in two distinct learning stages, all the latest developments in the field. In this way, you will first complete 1,500 hours of online study and then you will be able to complete a first-rate, on-site clinical internship at a renowned hospital center.

Don't miss the opportunity to update your knowledge on Macula, Retina and Vitreous pathology with an innovative academic modality that will reinforce your theoretical and practical training in line with the latest scientific evidence"

Nowadays, Ophthalmology has achieved important advances in relation to the management of pathologies of the macula, retina and vitreous. Proof of this are the sophisticated diagnostic instruments now used in this discipline. Optical Coherence Tomography, auto-fluorescence imaging and Vitreous Biopsy are a clear example in this regard. Innovations to achieve earlier discovery of diseases in the structures at the back of the human eye have also influenced the scientific search for solutions. Thus, Ocular Surgery has also evolved and modern protocols have been incorporated, including the surgical use of lasers to repair holes or retinal tears, the implementation of cryopexy and photocoagulation techniques, among many other resources.

Staying abreast of all these innovations can be challenging for specialists, especially in an educational context that provides programs with an excessive theoretical load. For this reason, TECH wants to set itself apart from other pedagogical models on the market by offering a pioneering program of its kind, in which academic rigor and rigorousness are paramount.

The Hybrid Professional Master's Degree in Pathology and Surgery of the Macula, Retina and Vitreous has two distinct stages. In the first one, the physician will study the latest concepts and theoretical criteria about this area of Ophthalmology. For this purpose, it will have a 100% online learning platform where the didactic process is accompanied by innovative methods such as Relearning. In addition, you will not have to worry about pre-established schedules and timelines, achieving a greater degree of ease in self-managing your progress.

After completing this phase, the health professional will be able to carry out a clinical practice at the highest level, in an internationally renowned hospital. This stay, which is face-to-face, immersive and intensive, will provide you with access to the most modern technology for the treatment of these types of conditions and will place you in a multidisciplinary team of leading experts. In this way, you will expand your competencies and will be able to develop a medical practice with better results and excellence.

This **Hybrid Professional Master's Degree in Macula, Retina and Vitreous Pathology and Surgery** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of more than 100 clinical cases presented by experts in Pathology and Surgery of the Macula, Retina and Vitreous
- 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 major 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 of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection
- In addition, you will be able to carry out a clinical internship in one of the best hospitals in the world

Add to your medical skills, first level competences for the approach of pathologies in Macula, Retina and Vitreous in the pediatric patient"

After the face-to-face and intensive clinical practice of this Hybrid Professional Master's Degree, you will be able to implement in your daily medical practice the most advanced and demanding work methodologies in Ophthalmology"

In this Professional Master's Degree proposal, of a professionalizing nature and blended learning modality, the program is aimed at updating professionals who require a high level of qualification in relation to the Pathology and Surgery of the Macula, Retina and Vitreous. The content is based on the latest scientific evidence and is organized in a didactic way to integrate theoretical knowledge into nursing practice. The theoretical-practical elements allow professionals to update their knowledge and help them to make the right decisions in patient care.

Thanks to their multimedia content developed with the latest educational technology, they will allow the MEDICINA professional to obtain situated and contextual learning, that is to say, 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.

Access the theoretical contents of this Hybrid Professional Master's Degree from any device connected to the Internet thanks to the multiple facilities offered by TECH's 100% online platform.

Incorporate to your professional skills the use of modern ophthalmologic surgical techniques such as laser surgery, cryopexy and photocoagulation.

02

Why Study this Hybrid Professional Master's Degree?

Ophthalmology demands more and more specialists with a global mastery of the latest trends in the approach to pathologies of the macula, retina and vitreous. In particular, these physicians are expected to be able to implement the latest surgical techniques in their daily practice. For this reason, TECH provides the health professional with this rigorous program. In it you will find a comprehensive update, through a phase of online learning, followed by a practical and face-to-face stay in a prestigious hospital center.

TECH will put in your hands a unique learning experience in which you will have access to technological advances and the most prestigious teams of experts in relation to the treatment and diagnosis of pathology in Macula, Retina and Vitreous"

1. Updating from the latest technology available

Early diagnosis of complex pathologies in the structures of the back of the eye is a priority for ophthalmologists. To do so, it is imperative to have the most sophisticated technology and, in turn, to manage it comprehensively. Therefore, the clinical practice of this Hybrid Professional Master's Degree strives to show physicians how to implement these devices in their daily practice as successfully as possible.

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

During this Hybrid Professional Master's Degree, the physician will have access to the best experts in the pathologies of the Macula, Retina and Vitreous. In the first phase, you will have at your disposal a faculty of excellence that will instruct you theoretically on these aspects. Then, during the clinical internship included in this program, you will join a multidisciplinary team that will facilitate the assimilation of new work experiences.

3. Entering First-Class Clinical Environments

TECH has chosen in detail all the hospital institutions to which the physician will have access during the clinical practice of this Hybrid Professional Master's Degree. In these centers, the specialist will find the resources and technological devices to implement the most complex procedures, based on the most recent scientific evidence. At the same time, you will have the opportunity to be linked to experts with a distinguished trajectory in the area of Ophthalmology.

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

Current educational programs often neglect the practical applications and skills needed to successfully implement care strategies in ophthalmology. For this reason, TECH has developed this program where the physician will be able to broaden their theoretical knowledge and, subsequently, put into practice everything they have learned through a 100% face-to-face and intensive stay.

5. Expanding the Boundaries of Knowledge

TECH offers specialists the opportunity to catch up in centers located in different cities around the world. This is possible thanks to its wide network of agreements and collaborations, carried out with the aim of providing a more updated academic improvement and in accordance with international references. Undoubtedly, a unique experience that is only within reach of the world's largest digital university.

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

03

Objectives

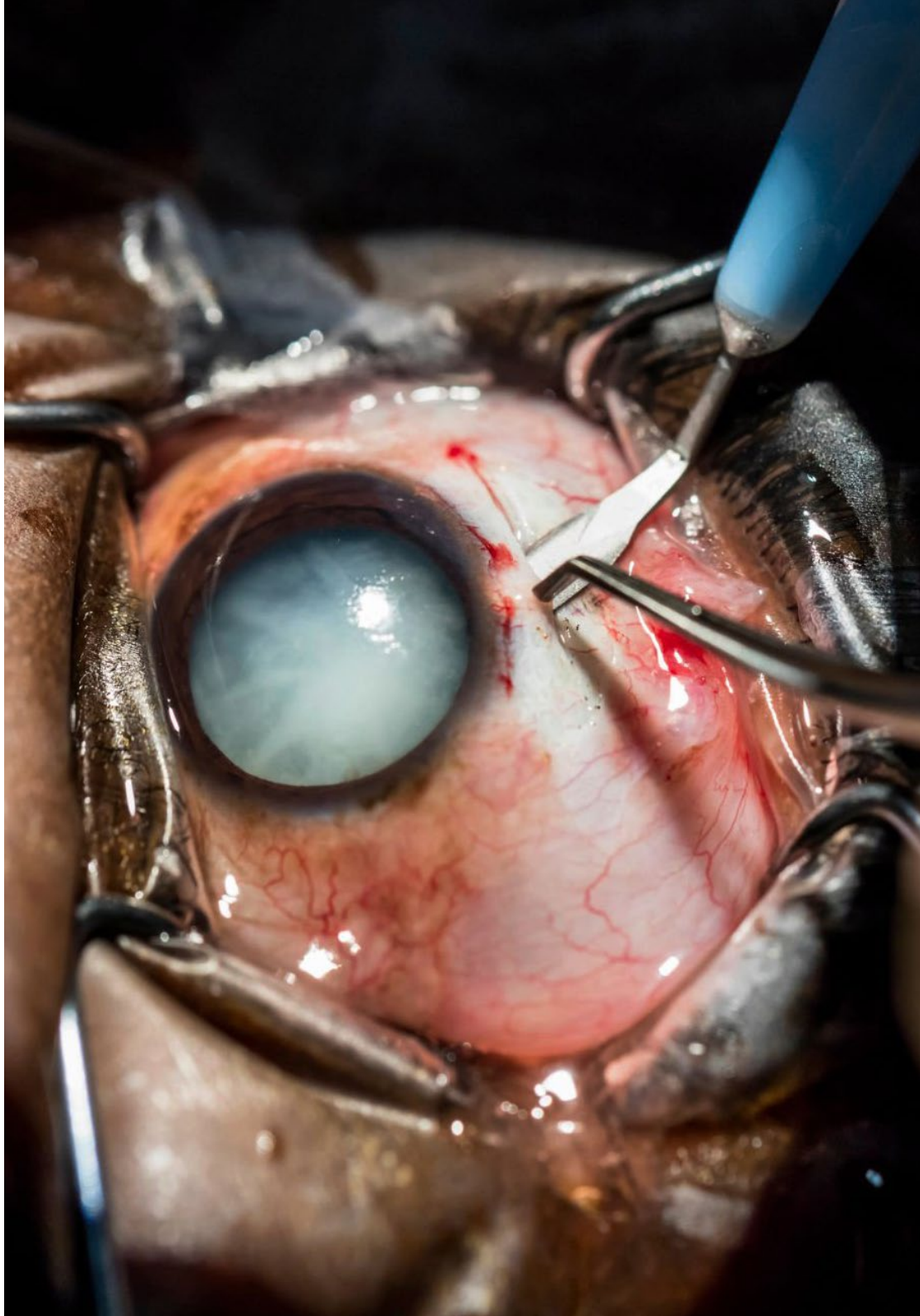
This Hybrid Professional Master's Degree in Pathology and Surgery of the Macula, Retina and Vitreous has been designed to provide specialists with the most up-to-date knowledge in this field of Ophthalmology. The guarantees of updating through this program are unequivocal thanks to its academic modality, composed of two well-differentiated stages. In the first one, the physician will assimilate the most recently implemented concepts and theoretical criteria for this field of health. Then, in the second phase, you will update your practical skills through a practical and face-to-face stay of the utmost rigor.

Get up to date, through TECH, on oral pharmacological prescriptions that facilitate the treatment of infectious pathologies of varying severity in the Macula, Retina and Vitreous"

General Objective

- The main goal of this program is that the physician gets to deepen in the latest exploratory and diagnostic techniques about pathologies in the macula, retina and vitreous. You will also have the opportunity to review the latest scientific evidence on treatments for these conditions. In particular, it will delve into updated surgical criteria and methodologies for reconstructing, removing or modifying structures of the back of the eye. However, they will also review the advances in pharmacological therapeutics against infections in these areas of the eyeball

This program provides you with the most up-to-date theoretical and practical knowledge for the diagnosis of mycotic microorganisms in the eye by vitreous biopsy"



Specific Objectives

Module 1. Anatomy, Physiology and Exploratory and Functional Tests

- Learn about the ophthalmoscope and its examination lenses
- Understand the slit lamp and its exploratory alternatives
- Delve into the knowledge of the anatomy of the retina, macula and vitreous in all its possibilities
- Enhance knowledge of the ageing of the vitreous and the pathology it can cause
- Delve into the study of the physiology of vision and color vision
- Knowledge of the optical pathway and its associated pathology
- Further explore the visual cortex
- Delve into the knowledge of electrophysiological tests that explore visual function
- To know retinography in all its modalities, fluorescein angiography and indocyanine green angiography
- Deepen understanding of OCT and angioOCT
- Further in the study of autofluorescence
- Go deeper into the study of ocular ultrasound

Module 2. Vascular Pathology of the Macula and Retina

- Learn about the ocular physiology of diabetic retinopathy
- Understand the exploratory tests for diabetic retinopathy
- Have a deeper understanding of diabetic macular oedema and its possible treatments
- Understand proliferative diabetic retinopathy and the treatments to be performed
- Be aware of the complications that can occur in diabetic retinopathy
- Know how to identify branch vein and central retinal vein obstruction and know the tests for its diagnosis
- Know about the possible treatments to apply
- Know how to treat branch or central retinal arterial embolism
- Know the functional tests and possible treatments to be applied
- Learn about retinal arterial macroaneurysm
- Gain an understanding of idiopathic macular telangiectasias, their classification and differential diagnosis, as well as their treatment
- Learn about ocular ischaemia syndrome
- Understand the ocular impact of high blood pressure
- Know how to identify Eales disease and the pathology associated with blood dyscrasias
- Know the differential diagnosis of macular and premacular haemorrhages and their possible treatments

Module 3. Diseases of the Pigmentary Epithelium, Bruch's Membrane, Choroid and Pachychoroid

- Know about radiation maculopathy
- Learn about retinal diseases such as siderosis, calcinosis and other retinal storage diseases
- Understand light toxicity diseases of the macula
- Understand macular drug toxicity
- Know about subretinal neovascularisation associated with scarring and other processes
- Gain knowledge about pigment epithelium detachment
- Gain a comprehensive understanding of angioid grooves and their possible complications
- Acquire a comprehensive knowledge of pachychoroid diseases

Module 4. Inflammatory Eye Diseases with Affectation of Macula, Retina and Vitreous

- Know the basic and exploratory principles of uveitis
- Learn about cystoid macular oedema
- Understand evanescent whitehead disease and associated diseases
- Know about acute multifocal posterior placoid disease
- Develop a thorough understanding of serpiginous choroiditis, Vogt-Koyanagi-Harada syndrome, multifocal choroiditis, sympathetic ophthalmia, autoimmune retinopathies, intermediate uveitis and masquerade syndromes

Module 5. Infectious Diseases of the Retina and Vitreous

- Acquire a general management of endophthalmitis
- Know the ocular involvement of human immunodeficiency virus, mycobacteria, spirochetal retinal infection, ocular toxoplasmosis, toxocariasis, ocular ascaris, ocular onchocerciasis, ocular loiasis, ocular cysticercosis, retinal involvement by Borrelia, retinal involvement by Bartonella, Leptospira retinal involvement, brucellosis retinal infection, Whipple's disease of the eye, ocular Rickettsiosis, ocular leprosy, ocular herpes virus infections and retinal involvement, presumptive histoplasmosis syndrome, ocular candidiasis and ocular amebiasis

Module 6. Hereditary Retinal Dystrophies and Pediatric Retinal Pathology

- Obtain a high level of training in all aspects of hereditary retinal dystrophies in detail
- Learn about retinopathy of prematurity and its possible treatments
- Gain knowledge of albinism, X-linked congenital retinoschisis, Best's disease, Stargardt's disease, familial exudative vitreoretinopathy, persistent fetal vasculature syndrome, Coats' disease, Norrie's disease, incontinentia pigmenti, retinal detachment in the paediatric age, detachment associated with retinal coloboma, Stickler's syndrome and Marfan's disease and how it affects the retina

Module 7. Muscular Degeneration Related to Aging (AMD)

- Learn about the epidemiology and genetics of AMD
- Gain a thorough understanding of the histopathology of AMD
- Understand all aspects of clinical examination and consultation findings in AMD
- Learn about everything related to OCT and OCT and AMD
- Deepen your understanding of old and current classifications of AMD
- Learn about each and every one of the treatments that have been applied and are currently being applied in AMD
- Know how to apply the new treatments used in AMD
- Understand the unique situations related to AMD

Module 8. Tumour Pathology of the Retina, Choroid and Vitreous

- Develop an in-depth understanding of retinal tumours, such as retinoblastoma
- Learn about cavernous and racemose haemangioma
- Further study on capillary hemangioblastoma and Von Hippel– Lindau disease
- Study tuberous sclerosis and retinal phacomatoses
- Understand retinal metastases, retinal involvement in paraneoplastic syndromes, melanocytoma, benign congenital hypertrophy of the pigment epithelium, pigment epithelium and retinal hamartoma, choroidal tumours, nevus, melanoma and choroidal metastases, choroidal osteoma, choroidal circumscribed haemangioma, and haematological tumours

Module 9. Introduction to retinal surgery, vitrectomy arising from complications of anterior pole surgery, surgery on diabetic patients, endophthalmitis and viral retinitis

- Know the instruments and different therapeutic alternatives for retinal surgery
- Study basic vitrectomy techniques
- Know how to identify surgical techniques to resolve complications arising from cataract surgery
- Further develop knowledge of the surgical techniques necessary to resolve complications arising from glaucoma surgery
- Learn how to do a diagnostic biopsy
- Have knowledge of surgery for the treatment of diabetes mellitus, surgical management of endophthalmitis, surgical treatment of virus retinitis, and intravitreal drugs and their concentrations

Module 10. Comprehensive Treatment for Retinal Detachment

- Know the basic and exploratory principles of retinal detachment
- Learn the principles of surgery for the treatment of retinal detachment
- Know how to perform scleral surgery applicable to retinal detachment
- Learn the principles of surgery for the treatment of retinal detachment
- Know the alternative methods for the treatment of retinal detachment
- Learn about retinal detachment vitrectomy
- Know the complex techniques for the treatment of retinal detachment
- Understand the complications of retinal detachment treatment

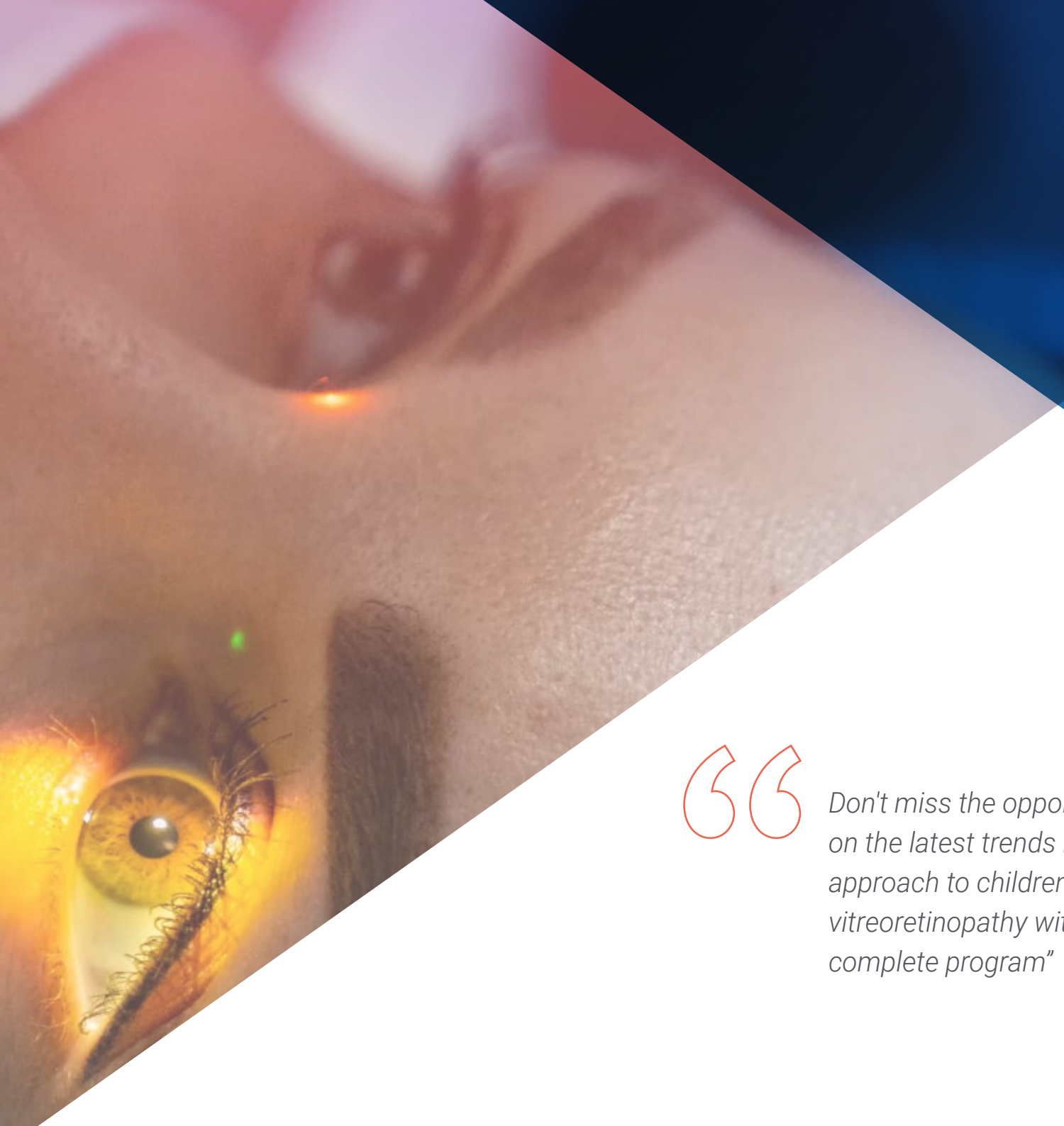
Module 11. Surgery for High Myopia. Surgery in Diseases of the Macula. Surgical Techniques in Ocular Trauma. Latest Surgical Techniques

- Know about restorative surgery associated with high myopia
- Acquire the surgical techniques applicable to the main diseases of the macula, such as macular hole, epiretinal membranes or vitreomacular traction syndromes
- Study surgical techniques for the repair of ocular trauma
- Learn about other surgical techniques for the treatment of specific retinal pathologies, such as Terson's syndrome, macular translocation, artificial vision, or surgical techniques for the repair of choroidal detachments

04

Skills

Through its two well differentiated phases, this Hybrid Professional Master's Degree provides the specialist, with the most demanded skills in the ophthalmological field that studies the Macula, Retina and Vitreous. Through them, physicians will enrich their practice with the latest scientific evidence and expand their capacity to offer more lasting solutions to the patients in their care during their daily activity.

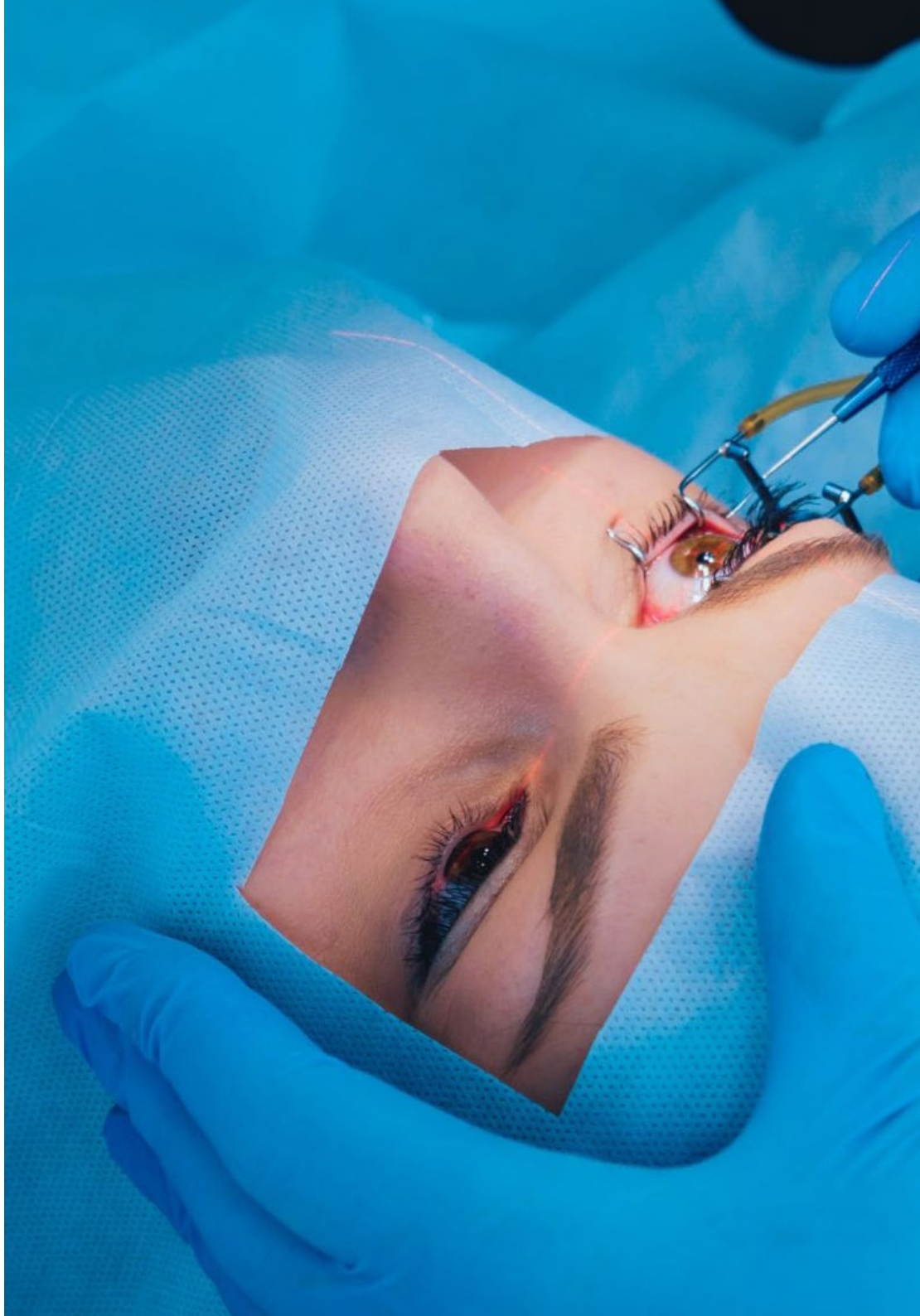


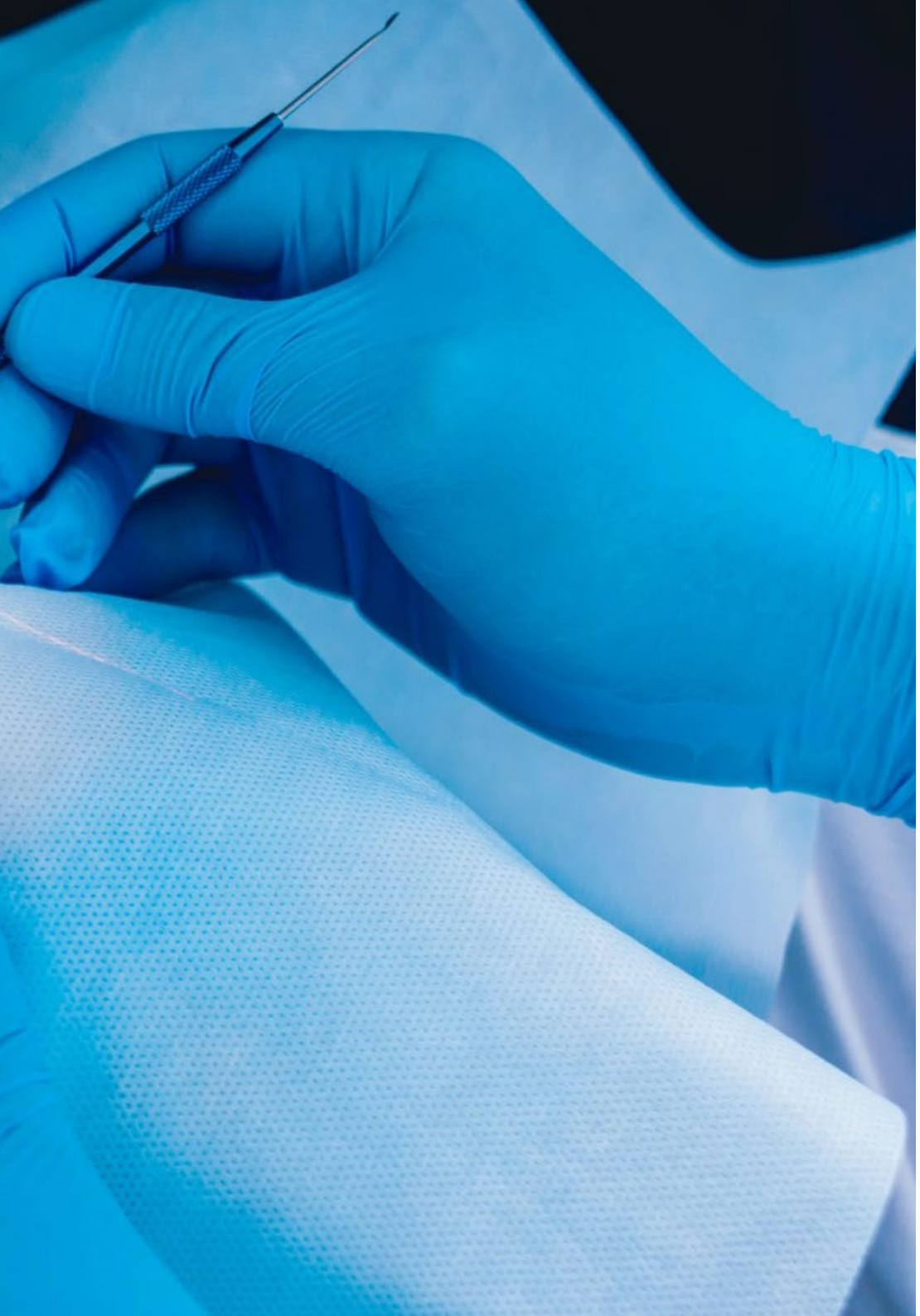
Don't miss the opportunity to get up to date on the latest trends in the ophthalmologic approach to children with familial exudative vitreoretinopathy with the help of this very complete program"

General Skills

- Perform a complete intervention on patients who have some kind of ocular pathology, including those cases where surgical intervention is required
- Manage all the tools that the new digital devices provide for ophthalmologists

With this Hybrid Professional Master's Degree, you will have 3 weeks of intensive classroom learning to master the most modern diagnostic equipment such as Optical Coherence Tomography"





Specific Skills

- Identify all the possible vascular alterations that can affect the macula and retina, allowing the student to make a perfect differential diagnosis
- Find out about a set of diseases that are not normally shown in the usual texts and programs
- Become an expert in inflammatory eye diseases affecting the retina and vitreous
- Improve day-to-day practice in dealing with all types of eye infections
- Achieve excellency in the treatment of retinal diseases
- Diagnose age-related macular degeneration, analyze the exploratory tests, classification, treatment and monitoring of the disease
- Recognize different eye tumors and better understand how to explore them
- Apply appropriate treatments for retinal detachments
- Master possible complications during eye surgery and in the postoperative period

05

Course Management

TECH has formed a faculty of excellence for this program, under the premise of offering the ophthalmologist the best update in the educational market. All of the selected teachers are prestigious thanks to their clinical work, their research contributions, participation in scientific communications and congresses, as well as the publication of articles in specialized journals. Thanks to them, the physician will receive a complete update on the multidisciplinary protocols that are currently implemented in ophthalmology units and will learn the most demanded skills in the use of state-of-the-art devices.

The faculty of this program has developed the most advanced syllabus on the market in terms of pathologies and surgical criteria related to Macula, Retina and Vitreous"

International Guest Director

Dr. Gennady Landa is a leading vitreoretinal specialist, recognized for his skill in the surgical and medical treatment of a wide range of diseases affecting the back of the eye. In fact, his expertise encompasses conditions such as Macular Degeneration, Diabetic Retinopathy, Retinal Detachment and various Hereditary and Inflammatory Retinal Diseases. With a particular focus on macular, retinal and vitreous surgery, he has contributed to the advancement of treatments such as laser surgery, intraocular injections and vitrectomy techniques.

Throughout his career, he has played key roles in some of the most prestigious ophthalmological institutions in the United States. In this way, he has been Vice Chair of the Ophthalmology Clinic at Mount Sinai Hospital, as well as Director of the Retina Department at the New York Eye and Ear Hospital (NYEEI), one of the oldest and most renowned ophthalmology hospitals in the country. At the same center, he has also held the positions of Associate Director of the Vitreoretinal Fellowship and Medical Director of the Tribeca Office.

He has also been dedicated to exploring new ways of treatment and prevention of Age-Related Macular Degeneration and other Ocular Diseases. He has published more than 35 scientific articles in peer-reviewed journals and chapters in specialized books, contributing to the development of new retinal imaging techniques.

Internationally, he has been recognized for his contributions to Ophthalmology, receiving a prestigious Honor Award from the American Society of Retina Specialists. This recognition has underscored his leadership in the field of retina, both in clinical practice and research. Likewise, his participation in international congresses and scientific meetings has consolidated his reputation as a globally renowned expert.

Dr. Landa, Gennady

- Vice Chair of the Ophthalmology Clinic at Mount Sinai Hospital, New York, United States
- Director of the Retina Service at the New York Eye and Ear Hospital (NYEEI)
- Associate Director of the Vitreoretinal Fellowship at the New York Eye and Ear Hospital (NYEEI)
- Medical Director of the Tribeca Office at New York Eye and Ear Hospital (NYEEI)
- Retina Specialist at the New York Eye and Ear Hospital (NYEEI)
- Doctor of Medicine from the Israel Technion Institute of Technology
- Honorary Award from the American Society of Retinal Specialists

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

Management

Dr. Félix Armadá Maresca

- Head, Ophthalmology Department, Hospital Universitario La Paz, Madrid
- Director of the Department of Ophthalmology at the San Francisco de Asís University Hospital in Madrid
- Ophthalmologist of the Presidency of the Government, Vice-Presidency and High Foreign Officials
- External Collaborator of Several Companies in the Medical Sector
- Director of the Research Group: Ophthalmology integrated in the Area of Pathology of Large Systems
- Lecturer in the Bachelor's Degree in Medicine at the University Alfonso X el sabio
- Professor in the Professional Master's Degree: Expert in Health Management in Ophthalmology, of the Ministry of Health of the Community of Madrid
- Doctorate in Medicine from the Autonomous University Madrid
- DoctorCum Laude in Medicine from the Alcalá University of Henares
- Degree in Medicine from the University of Alcalá de Henares
- Specialist in Ophthalmology Via MIR
- Certified Ophthalmic Photographer, University of Wisconsin, U. S
- Course in the Chalfont Project, Chalfont St Giles, United Kingdom
- Program in Strategic Management of Clinical Services Esade - Ramon Llull University
- VISIONA Program, Clinical Management in Ophthalmology IESE - Business School
- Award to the Best Surgeon in recognition of his trajectory
- Member of: the Spanish Society of Ophthalmology, Spanish Society of Retina Vitreous, Madrid Society of Ophthalmology, American Society and Refractive Surgery "ASCRS", American Academy of Ophthalmology, European Retina Society, "EURETINA"

Professors

Dr. Luis Arias Barquet

- Director of the Ophthalmology Clinic in Vilanova Vilanova i la Geltrú, Barcelona
- Head of the retina and vitreous section of the Ophthalmology Service at the University Hospital of Bellvitge. (Barcelona
- Certified by the Digital Angiography Reading Center, New York, EE.. A
- Collaborating Professor at the University of Madrid
- PhD with Extraordinary Award, Autonomous University of Barcelona
- Degree in Medicine and Surgery
- Member of: American Academy of Ophthalmology, EURETINA,Spanish Society of Ophthalmology,Spanish Society of Retina and Vitreous, Catalan Society of Ophthalmology

Dr. María Isabel López Gálvez

- Ophthalmologist and Researcher Specialized in Retinopathy
- Ophthalmology of the Retina La Unit at the Valladolids Clinical University Hospital
- Head of the Diabetic Retinopathy and Teleophthalmology Research Unit of the University Institute of Applied Ophthalmobiology
- Senior Researcher at the University Institute of Applied Ophthalmobiology
- Author of numerous scientific publications
- Teacher in postgraduate studies related to Vision Sciences
- PhD in Medicine and Surgery from the University of Valladolid

Mr. Francisco Antonio Cabrera López

- Head of the Ophthalmology Service of the University Hospital Complex Insular-Materno Infantil of Gran Canaria
- Medical Director of the Canary Islands Retina Institute (ICARE)
- Ex President of the Spanish Society of Ophthalmology
- Associate Professor and Member of the Department of Medical and Surgical Sciences of Las Palmas de Gran Canaria (ULPGC)
- Degree in Medicine from the Autonomous University of Gran Canaria (ULPGC)
- Degree in Medicine and Surgery, La Laguna University Individuals in Tenerife
- Member of: AAO, EURETINA, SEO, SERV y SCO

Dr. Álvaro Fernández Vega Sanz

- Deputy Head of the Retina and Vitreous Department at the Ophthalmological Institute Fernández-Vega
- Named Full Member of the Spanish Medical-Surgical Academy
- President of the Spanish Society of Ophthalmology
- Full Academician by the Royal Academy of Medicine of Asturias
- Chairman of the National Commission of Ophthalmology
- Partner and Owner of Fernández-Vega Ophthalmological Institute
- Degree in Medicine and Surgery from the Autonomous University of Madrid
- Degree in Medicine and Surgery from the Autonomous University of Madrid
- Retina and Vitreous Super Specialty by the Medical Center of San Juan de Puerto Rico and the Eye Foundation, USA, San Juan, Puerto Rico. A
- Doctor Specialist Degree in Ophthalmology in Neurophysiology, San Carlos Clinical Hospital, Madrid
- Member of: Sociedad Española de Retina y Vítreo (SERV), Sociedad Española de Oftalmología (SEO) y Sociedad Internacional de Schepens

Dr. Alex Fonollosa Calduch

- Associate Ophthalmologist Postgraduate Certificate at Cruces Hospital, Vizcaya
- Ophthalmologist at the Retina and Uveitis Section of the Ophthalmologic Institute of Bilbao
- Assistant in the Ophthalmology Service of the Vall d'Hebron Barcelona Hospital
- Researcher of the BioCruces Ophthalmology Research Group
- President of the Spanish Society of Ocular Inflammation
- Doctor of Medicine, Autonomous University of Barcelona
- Degree in Medicine from the University of Barcelona

Dr. Mónica Asencio Durán

- Ophthalmologist at Miranza IOA, Madrid
- Member of the Multidisciplinary Committee of Intraocular Tumors, La Paz University Hospital
- Coordinator of the Retina Department, La Paz University Hospital, Madrid
- Specialty at the 12 de Octubre University Hospital of Madrid
- Specialist in the Viamed Virgen de la Paloma Hospital, Madrid
- Urology Specialist at the San Carlos Quirón Hospital, Madrid
- Member of the Tumor and Mortality and Continuing Education Commissions at La Paz University Hospital, Madrid
- Reviewer of AES Accredited Research Projects and several international and national journals
- Doctorate, Autonomous University of Madrid
- Degree in Medicine and Surgery from the University of Alcalá de Henares
- Ocular Oncology Observership with Dr. Carol L. Shields and Dr. Jerry A. Shields at Wills Eye Hospital, USA. A

Dr. Jeroni Nadal

- Medical Director of the Oftalvist Ophthalmology Clinic in Barcelona
- Deputy Medical Director of the Barraquer Ophthalmology Center in Barcelona
- Head of the Retina and Vitreous Department of the Barraquer Ophthalmology Center in Barcelona
- Coordinator of the Macula Unit of the Barraquer Ophthalmology Center
- Academician Number XV of the European Academy of Ophthalmology
- President of the Catalan Ophthalmology Society
- Doctor Cum Laude in Medicine and Surgery from the Autonomous University of Barcelona
- Degree in Medicine and Surgery from the Autonomous University of Barcelona
- Ophthalmology Specialist at Mayo Clinic Rochester, Minnesota, USA. A
- Retina and Vitreous Surgeon at Mayo Clinic Rochester, Minnesota, USA. A
- Research Excellence Award from the Barcelona Central University

Dr. Juan Donate López

- Ophthalmologist Responsible for the Retina and Macular Pathology Unit at San Carlos Clinical Hospital, Madrid
- Head of the Ophthalmology Department at Hospital de La Luz Quironsalud Group. Madrid
- Managing Director of Ophthalmologic Study in Madrid
- Doctor in Ophthalmology from the Complutense University of Madrid
- Degree in Medicine and General Surgery from the University of Salamanca
- Member of: Spanish Macula Club, Spanish Society of Ophthalmology (SEO), Spanish Society of Vitreous and Retina (SERV) and Oftared-Retics

Dr. Francisco Javier Gómez-Ulla de Irazazába

- Medical Director and Founder of the Ophthalmological Institute Gómez-Ulla in Santiago de Compostela
- Head of the Medical Retina and Ocular Diabetes Unit at the Ophthalmology Service of the University Hospital Complex of Santiago.,
- Degree in Medicine from the University of Santiago de Compostela
- Doctor of Medicine
- Professor of Ophthalmology at the University of Santiago in Compostela
- Arruga Award of the Spanish Society of Ophthalmology
- Castroviejo Award of the Spanish Society of Ophthalmology
- Researcher/Advisor in international companies: Alcon, Allergan, Boehringer Ingelheim, Ophthotech, Hoffmann-La Roche, Santem, Carl Zeiss, Bayer Hispania S.L. y Novartis Farmacéutica S.A
- Member of: American Academy of Ophthalmology, Societé Française d'Ophtalmologie, Pan-American Association of Ophthalmology, Spanish Society of Ophthalmology, Spanish Society of Retina and Vitreous, Galician Society of Ophthalmology, Limnopharma Advisory Committee

Mr. Jaume Catalá Mora

- Coordinator of the Retinal Dystrophies Unit at the University Hospital of Bellvitge, Barcelona
- Creator of the ADHD Unit at Sant Joan de Déu Hospital, Déu Barcelona
- Attending Physician of the Orthopedic Surgery and Traumatology Department at Sant Joan de Déu Hospital, Barcelona
- Graduate in Medicine and Surgery from the Universidad de Navarra
- Diploma in Research Methodology from Sufficiency Autonomous University of Barcelona
- Degree in the Health Sciences and Surgery from the Autonomous University of Barcelona

06

Educational Plan

The curriculum of this program is based on the latest scientific evidence regarding the most frequent pathologies of the macula, retina and vitreous. Through its academic modules, the physician will get up to date on the most advanced pharmacological strategies with fungal diseases of the eye or those surgical interventions most recommended to address disorders such as tears of these posterior structures of the eye or wet macular degeneration. Likewise, the student will have access to innovative methodologies such as Relearning to achieve a much faster and more flexible mastery of these contents.

This academic syllabus supports the didactics of its modules with numerous theoretical materials and multimedia resources such as infographics, videos and interactive summaries"

Module 1. Anatomy, Physiology and Exploratory and Functional Tests

1.1. Historical Notes and Classical Exploration in Consultation
- 1.1.1. History to Understand the Present
- 1.1.2. The Ophthalmoscope and its Examination Lenses
- 1.1.3. The Slit Lamp and its Examination Lenses
- 1.1.4. Historical Notes of Current Exploration Techniques

1.2. Macula and Retina Atanomy
- 1.2.1. Compared Anatomy
- 1.2.2. Macula and Retinal Histology
- 1.2.3. Vascularisation of the Retina and Macula
- 1.2.4. Innervation of the Retina and Macula

1.3. Vitreous anatomy and Physiology
- 1.3.1. Vitreous Embryology
- 1.3.2. Composition of the Vitreous Gel
- 1.3.3. Hyaloid Insertions and Adhesions
- 1.3.4. Ageing and Alterations of the Vitreous Gel
- 1.3.5. The Vitreous in Myopic Patients
- 1.3.6. The Vitreous in Certain Systemic Diseases
- 1.3.7. Vitreous as a Trigger for Various Retinal and Macular Pathologies

1.4. Physiology of Vision and Color Vision
- 1.4.1. Functional Layers of the Retina
- 1.4.2. Photoreceptor Physiology
- 1.4.3. Functional Circuits of the Retina
- 1.4.4. Optical Route
- 1.4.5. Physiology of the Visual Cortex
- 1.4.6. Binocularity
- 1.4.7. Color vision

1.5. Macular Functional Testing
- 1.5.1. Basis of Macular Functional Testing
- 1.5.2. Electroretinogram, Electrooculogram and Evoked Potentials
- 1.5.3. Multifocal Electroretinogram
- 1.5.4. Microperimetry

1.6. Fundus Photography, Intravenous Fluorescein Angiography and Indocyanine Green Angiography
- 1.6.1. Analogue and Digital Retinography
- 1.6.2. Widefield Retinography, Most Important Current Platforms
- 1.6.3. Properties of Sodium Fluorescein and its Adverse Effects
- 1.6.4. Normal AFG Pattern (Angiofluoresceingraphy)
- 1.6.5. Pathological angiographic patterns, hyperfluorescence, hypofluorescence and window effect
- 1.6.6. Current Role and Clinical Indications of AFG
- 1.6.7. Properties of Indocyanine Green and its Pharmacokinetics
- 1.6.8. Pathological Angiographic Patterns of Indocyanine Green

1.7. Fundus Autofluorescence
- 1.7.1. Autofluorescence Detection and Recording
- 1.7.2. Autofluorescence Detection and Recording
- 1.7.3. Normal Autofluorescence Patterns
- 1.7.4. Pathological Autofluorescence Patterns
- 1.7.5. Autofluorescence in Retinal Diseases

1.8. Ultrasonic Retinal Evaluation
- 1.8.1. Physical Bases of Ultrasound
- 1.8.2. Current Platforms and Probes For Ocular Ultrasound Scans
- 1.8.3. Current Ultrasound Methods and Modes
- 1.8.4. Ocular Ultrasound Patterns

1.9. Optical Coherence Tomography
- 1.9.1. Physical Principles of OCT (Optical Coherence Tomography)
- 1.9.2. Historical Evolution of OCT
- 1.9.3. Main OCT Platforms and Their Differential Characteristics
- 1.9.4. Normal OCT Patterns
- 1.9.5. Comparative Patterns of OCT Monitoring
- 1.9.6. OCT in Major Macular and Interface Pathologies

1.10. Angiography Using Optical Coherence Tomography
- 1.10.1. Basis of Angio-OCT
- 1.10.2. Main Platforms For Performing Angio-OCT
- 1.10.3. Normal Angio-OCT Patterns
- 1.10.4. Angio-OCT Analysis and Artefacts
- 1.10.5. Angio-OCT in the Main Macular Pathologies
- 1.10.6. Clinical Angio-OCT in Face
- 1.10.7. The Present and Future of Angio-OCT

Module 2. Vascular Pathology of the Macula and Retina

2.1. Diabetic Retinopathy
- 2.1.1. Pathophysiology of Diabetic Retinopathy and Metabolic Control
- 2.1.2. Exploratory Tests in Diabetic Retinopathy
- 2.1.3. Biomarkers
- 2.1.4. Diabetic Retinopathy Classification
- 2.1.5. Non-proliferative Diabetic Retinopathy
- 2.1.6. Diabetic Macular Edema
- 2.1.7. Medical Treatment of Diabetic Macular Edema, Treatment Plans, Main Pharmaceuticals and Supporting Clinical Trials
- 2.1.8. Pathophysiological Basis for Laser Treatment of DRNP and Diabetic Macular Edema
- 2.1.9. Current Laser Types and Their Application in RDNP
- 2.1.10. Laser Treatment Techniques and Patterns
- 2.1.11. Proliferative Diabetic Retinopathy PDR
- 2.1.12. Laser Treatment of PDR and its Combination With Intravitreal Pharmaceuticals
- 2.1.13. Side Effects of Retinal Panphotocoagulation
- 2.1.14. Management of Iris Rubeosis

2.2. Branch Retinal Vein and Central Retinal Vein Occlusion
- 2.2.1. Systemic and Local Risk Factors
- 2.2.2. Physiopathogenesis
- 2.2.3. ORVR and CRVO Clinic
- 2.2.4. Functional Tests for the Diagnosis of Venous Obstructions

2.2.5. Medical Treatment of Venous Obstructions. Treatment Guidelines and Current Pharmaceuticals
2.2.6. Current Status of Laser Treatment for Venous Obstructions
2.2.7. Treatment of Neovascularisations Secondary to Venous Obstructions

2.3. Arterial Embolism and Central Retinal Artery Embolism
2.3.1. Pathophysiology
2.3.2. Arterial Branch Occlusion
2.3.3. Central Retinal Artery Occlusion
2.3.4. Ciliary Retinal Artery Occlusion
2.3.5. Arterial Occlusion Associated With Venous Occlusions
2.3.6. Examination of the Patient With Retinal Arterial Obstruction
2.3.7. Medical Treatment of Retinal Artery Blockage

2.4. Retinal Arterial Macroaneurysm
2.4.1. Definition, Pathophysiology and Anatomy
2.4.2. Retinal Macroaneurysm Clinic
2.4.3. Diagnostic Tests for Retinal Macroaneurysm
2.4.4. Differential Diagnosis of Retinal Macroaneurysm
2.4.5. Retinal Macroaneurysm Treatment

2.5. Idiopathic Macular Telangiectasias
2.5.1. Pathophysiology and Classification of Retinal Telangiectasia
2.5.2. Examination of retinal Telangiectasias
2.5.3. Type 1 Juxtafoveal Telangiectasias
2.5.4. Type 2 Perifoveolar Telangiectasias
2.5.5. Type 3 Occlusive Telangiectasias
2.5.6. Differential Diagnosis of Macular Telangiectases
2.5.7. Idiopathic Macular Telangiectases Treatment

2.6. Ocular Ischaemia Syndrome
2.6.1. Definition and Pathophysiology of Ocular Ischaemia Syndrome
2.6.2. IOS Clinic
2.6.3. IOS Screening and Diagnosis
2.6.4. Differential Diagnosis
2.6.5. IOS Treatment

2.7. Arterial Hypertension and its Retinal Pathology
2.7.1. Pathophysiology of AHT
2.7.2. Malignant Arterial Hypertension
2.7.3. Classification of Hypertensive Retinopathy by Fundoscopic Severity and its Clinical Signs
2.7.4. Semiology of Hypertensive Retinopathy
2.7.5. AHT Clinic
2.7.6. AHT Treatment and its Retinal Repercussions

2.8. Retinal Pathology Associated With Blood Byscrasias
2.8.1. Definition and Classification of Retinopathy Associated With Blood Dyscrasias
2.8.2. Screening for Retinopathies Associated With Dyscrasia
2.8.3. Retinal Pathology Associated With Anemic Syndromes, Classification and Ophthalmologic Manifestations
2.8.4. Retinal Pathology Associated with Leukemias, Classification, Ophthalmologic Manifestations, Ocular Involvement
2.8.5. Retinal Pathology Associated With Blood Hyperviscosity Syndromes Classification and Ocular Manifestations
2.8.6. Retinal Pathology Associated With Bone Marrow Transplantation and Graft-Versus-Host Disease

2.9. Eales' Disease
2.9.1. Definition and Etiopathogenesis of Eales´ Disease
2.9.2. Clinical Symptoms
2.9.3. Exploratory Tests in Eales' Disease
2.9.4. Differential Diagnosis
2.9.5. Medical Treatment, Laser Treatment and Surgical Treatment of Eales' Disease

2.10. Macular and Premacular Hemorrhages
2.10.1. Definition and Etiopathogenesis of Macular and Premacular Hemorrhages
2.10.2. Clinical and Etiological Diagnosis
2.10.3. Exploratory Functional Tests
2.10.4. Treatment of Macular and Premacular Hemorrhages Laser Treatment, Surgical Treatment
2.10.5. Complications of macular and Premacular Hemorrhages

Module 3. Diseases of the Pigmentary Epithelium, Bruch's Membrane, Choroid and Pachychoroid

3.1. Radiation Maculopathy
- 3.1.1. Pathophysiology of Radiation Maculopathy
- 3.1.2. Histology of Radiation Maculopathy
- 3.1.3. Examination and Diagnosis of Radiation Maculopathies, Definite Patterns
- 3.1.4. Clinical Signs of Radiation Maculopathy
- 3.1.5. Incidence of Radiation Maculopathy
- 3.1.6. Risk Factors
- 3.1.7. Treatment of Radiation Maculopathy

3.2. Siderosis and Other Depot Maculopathies
- 3.2.1. Etiology of Depot Maculopathies
- 3.2.2. Natural, Clinical History of Depot Maculopathies
- 3.2.3. Scanning, Angiographic Patterns, Structural OCT and - OCT Changes
- 3.2.4. Siderosis
- 3.2.5. Calcosis
- 3.2.6. Alterations in the ERG of Depot Diseases
- 3.2.7. Medical Treatment for Depository Diseases
- 3.2.8. Surgical Treatment of Deposit Diseases

3.3. Light Toxicity
- 3.3.1. Mechanisms of Photomechanical, Thermal and Photochemical Retinal Damage
- 3.3.2. Mechanisms of Retinal Damage Due To Chronic Sun Exposure
- 3.3.3. Mechanisms of Retinal Damage Due To Chronic Sun-Exposure
- 3.3.4. Electric Arc Welding Injuries
- 3.3.5. Electric shock injuries
- 3.3.6. Lightning Retinopathy
- 3.3.7. Latrogenic Lesions Associated with Therapeutic Lasers
- 3.3.8. Macular Lesions Associated with Exposure to Non-Therapeutic Lasers
- 3.3.9. Treatment of Retinal Diseases Due To Light Exposure

3.4. Drug Toxicity
- 3.4.1. Pathophysiology of Drug Induced Maculopathy
- 3.4.2. Examination of the Macula in Drug Toxicity
- 3.4.3. Functional Diagnostic Tests
- 3.4.4. Maculopathy Due To Chloroquine and its Derivatives
- 3.4.5. Talc, Tamoxifen and Canthaxanthin Maculopathy
- 3.4.6. Maculopathy Associated with Latanoprost and Other Glaucoma Treatment Drugs, Epinephrine and Nicotinic Acid
- 3.4.7. Aminoglycoside Maculopathy
- 3.4.8. Phenothiazine Maculopathy
- 3.4.9. Deferoxamine Maculopathies
- 3.4.10. Treatment of Drug Retinopathy

3.5. Subretinal Neovascularisation Associated with Scarring and Other Processes
- 3.5.1. Etiology of Choroidal Neovascularisation Associated with Scarring
- 3.5.2. Clinical and Natural History
- 3.5.3. Scanning, Structural OCT and Angio-OCT, Angiographic Patterns
- 3.5.4. Idiopathic Causes
- 3.5.5. Spectrum Inflammatory Diseases, Presumed Ocular Histoplasmosis Syndrome (POHS)
- 3.5.6. Inflammatory Diseases, Multifocal Choroiditis Syndrome with Panuveitis (MCP)
- 3.5.7. Inflammatory Diseases, Punctate Inner Choroidopathy(PIC)
- 3.5.8. Infectious Diseases, Toxoplasmosis
- 3.5.9. Infectious Diseases, Toxocariasis
- 3.5.10. Spectrum of Secondary Diseases Due To the Rupture of Bruch's Membrane. Choroidal rupture, Angioid Striae, Iatrogenesis Secondary to Photocoagulation
- 3.5.11. Spectrum of Diseases Secondary to Alterations in the Pigment Epithelium and Bruch's Membrane. Best's Disease, AMD-like Syndromes
- 3.5.12. Current Status of the Treatment of Neovascularisation Associated with Inflammatory, Infectious and Other Processes

3.6. Pigment Epithelium Detachment
- 3.6.1. Definition of Pigment Epithelium Detachment (PED)
- 3.6.2. Etiology of PED
- 3.6.3. Types of PED
- 3.6.4. PED Scanning. Angiographic Patterns, Structural OCT and Angio-OCT
- 3.6.5. Clinical and Natural History of PED
- 3.6.6. Intravitreal Treatment for PED-Associated Neovascularisation
- 3.6.7. Other Treatments for Pigmented Epithelium Detachment

3.7. Angioid Streaks
- 3.7.1. Definition of Angioid Streaks
- 3.7.2. Aetiopathogenesis and Pathophysiology
- 3.7.3. Natural history and Evolution of Angioid Streaks
- 3.7.4. Diagnosis of Angioid Streaks, Angiographic Patterns, Indocyanine Green Angiography, Autofluorescence, Structural OCT, and AngioOCT
- 3.7.5. Exploration of Associated Neovascular Complexes
- 3.7.6. Current Treatments for Angioid Streak Marks and their Associated Neovascular Complexes

3.8. Pachychoroid Diseases
- 3.8.1. Definition of Pachychoroid Spectrum Disorders
- 3.8.2. Diagnosis of Pachychoroid Diseases, Common Features
- 3.8.3. OCT and AngioOCT Patterns
- 3.8.4. Pachychoroid Spectrum Diseases, Acute and Chronic Central Serous Choroidopathy. Diagnosis, Characteristics and Up-To-Date Treatment
- 3.8.5. Pachychoroid Spectrum Diseases, Pachychoroid Pigment Epitheliopathy. Diagnosis, Characteristics and Up-To-Date Treatment
- 3.8.6. Pachychoroid Neovasculopathy. Diagnosis, Characteristics and Up-To-Date Treatment
- 3.8.7. Polypoid Choroidal Vasculopathy. Diagnosis, Characteristics and Up-To-Date Treatment
- 3.8.8. Focal Choroidal Excavation. Diagnosis, Characteristics and Up-To-Date Treatment
- 3.8.9. Peripapillary Pachychoroid Syndrome. Diagnosis, Characteristics and Up-To-Date Treatment

Module 4. Inflammatory Eye Diseases Involving the Macula, Retina and Vitreous

4.1. Diagnosis and Treatment of Uveitis
- 4.1.1. Diagnosis of Uveitis
  - 4.1.1.1. Systematic Approach to the Diagnosis of Uveitis
  - 4.1.1.2. Classification of Uveitis
  - 4.1.1.3. Localisation of Uveitis
  - 4.1.1.4. Approach to Patients, The clinical History as a Diagnostic Asset
  - 4.1.1.5. Detailed Eye Examination. Diagnostic Guidance
  - 4.1.1.6. Most Common Tests Used for the Study of Uveitis
  - 4.1.1.7. Differential Diagnosis Tables
- 4.1.2. Imaging Tests Used for the Study of Uveitis. Systemic Imaging Tests
- 4.1.3. Ophthalmological Imaging Tests. Fundus photograph, AFG, ICG, OCT, angio-OCT, BMU, Ultrasound, etc
- 4.1.4. General Treatment for Uveitis
  - 4.1.4.1. Corticosteroids
  - 4.1.4.2. Mydriatic and Cycloplegic Agents
  - 4.1.4.3. Nonsteroidal Anti-Inflammatory Drugs
  - 4.1.4.4. Immunosuppressive Treatments
  - 4.1.4.5. New Biological Therapies To Treat Uveitis
- 4.1.5. Diagnostic Surgery for Uveitis. Retinal Biopsies
- 4.1.6. Therapeutic Surgery: Cornea, Iris, Cataracts, Glaucoma, Vitreous and Retina. Comprehensive Treatment for Uveitis

4.2. Cystoid Macular Edema
- 4.2.1. Pathophysiology, Blood-Retinal Barrier Function
- 4.2.2. Histology of Cystoid, Macular Edema
- 4.2.3. Rupture Mechanisms of the Blood-Retinal Barrier
- 4.2.4. Exploration of Cystoid Macular Edema. Fluorescein Angiographic Patterns, OCT, Angio-OCT and Clinical in Face
- 4.2.5. Vitreous Fluorophotometry
- 4.2.6. Treatment of Post-Surgical Macular Edema

4.3. White Spot Syndromes and Associated Diseases
- 4.3.1. Birdshot: Chorioretinopathy in Buckshots
- 4.3.2. Placoid Diseases
- 4.3.3. Multifocal Choroiditis and Panuveitis, Internal Punctate Choroidopathy Syndrome, and Progressive Subretinal Fibrosis and Uveitis
- 4.3.4. Multiple Evanescent White Plaques Syndrome. Main Characteristics, Evolution and Differential Diagnosis
- 4.3.5. Acute Zonal External Retinopathy
- 4.3.6. Acute Macular Neuroretinopathy

4.4. Acute Multifocal Posterior Placoid Epitheliopathy
- 4.4.1. Etiopathogenesis
- 4.4.2. Clinical Symptoms
- 4.4.3. Angiographic Scanning Patterns
- 4.4.4. OCT, Angio-OCT Scanning
- 4.4.5. Natural History of the Disease
- 4.4.6. Differential Diagnosis
- 4.4.7. Treatment

4.5. Serpiginous Choroiditis
- 4.5.1. Etiopathogenesis of Serpiginous Choroiditis
- 4.5.2. Clinical and Natural history of the Disease
- 4.5.3. Techniques for Examining Serpiginous Choroiditis
- 4.5.4. Angiographic Patterns and Structural OCT
- 4.5.5. Differential Diagnosis
- 4.5.6. Treatment

4.6. Vogt-Koyanagi-Harada Syndrome
- 4.6.1. Introduction and Classification of Vogt-Koyanagi-Harada syndrome
- 4.6.2. Macular Damage
- 4.6.3. Natural History of the Disease
- 4.6.4. Scanning, Angiographic Patterns, OCT Imaging. Angio - OCT
- 4.6.5. Differential Diagnosis
- 4.6.6. Treatment of Associated and Recurrent Neovascular Membranes

4.7. Multifocal Choroiditis
- 4.7.1. Epidemiology of Multifocal Choroiditis
- 4.7.2. Etiopathogenesis of Multifocal Choroiditis
- 4.7.3. Clinical Symptoms
- 4.7.4. Exploration of Multifocal Choroiditis. Angiographic Patterns, ICG, OCT and angio-OCT
- 4.7.5. Differential Diagnosis
- 4.7.6. Natural History of Multifocal Choroiditis
- 4.7.7. Current Treatment

4.8. Sympathetic Ophthalmia
- 4.8.1. Epidemiology of Sympathetic Ophthalmia
- 4.8.2. Pathophysiology of Sympathetic Ophthalmia
- 4.8.3. Immunopathology of Sympathetic Ophthalmia
- 4.8.4. Clinical Findings
- 4.8.5. Scanning, Angiographic Pattern, Structural OCT and Angio-OCT
- 4.8.6. Differential Diagnosis
- 4.8.7. Natural History of the Disease, Course and Possible Complications
- 4.8.8. Treatment, Prevention and Prognosis

4.9. Autoimmune Retinopathies
- 4.9.1. Epidemiology and Mechanisms of Action
- 4.9.2. Clinical Manifestations of Autoimmune Retinopathies
- 4.9.3. Diagnosis, Angiographic Patterns, OCT and Angio-OCT
- 4.9.4. Differential Diagnosis
- 4.9.5. Natural History, Evolution and Possible Complications
- 4.9.6. Local and Systemic Treatments
- 4.9.7. Prognosis

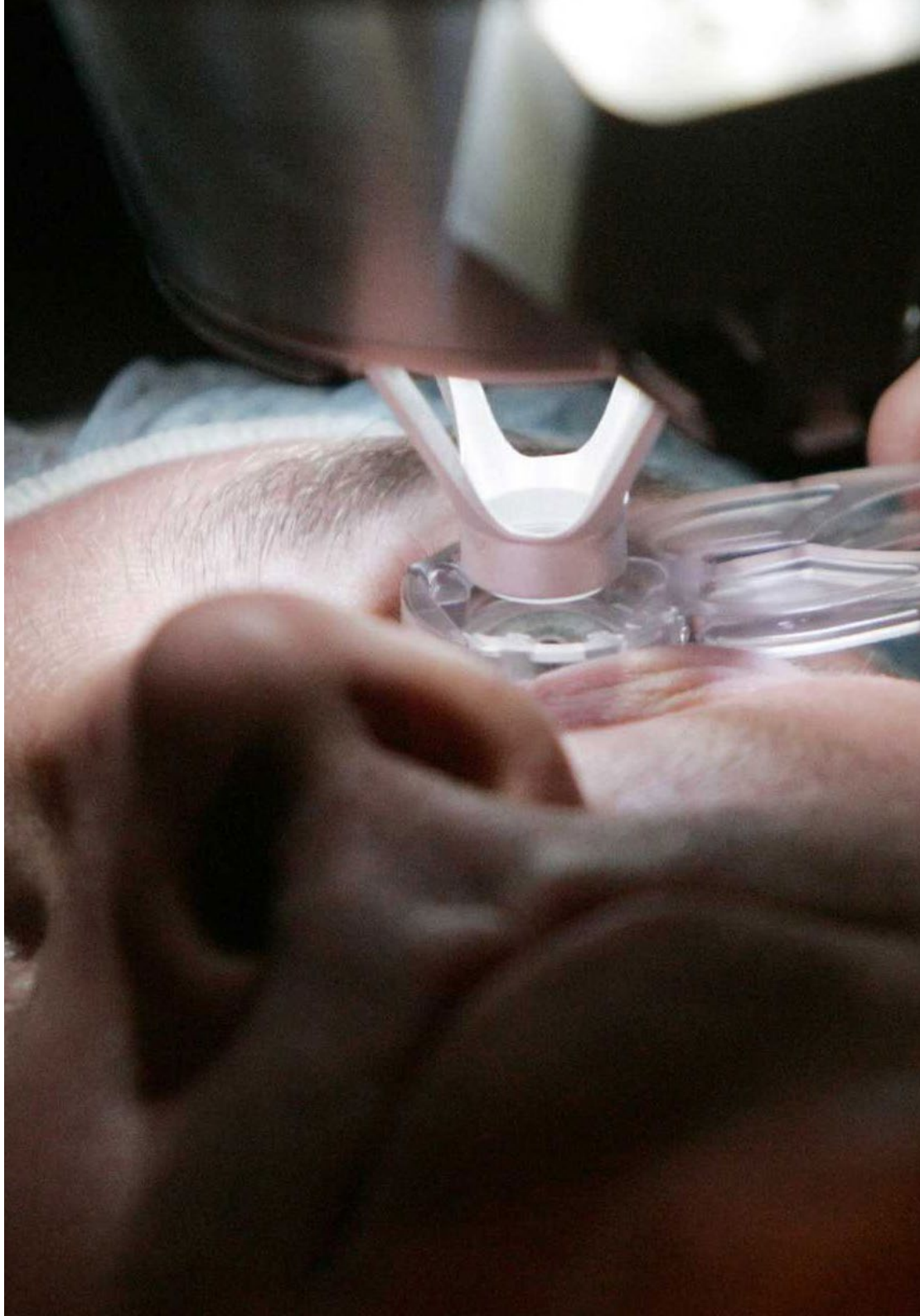
4.10. Ocular Sarcoidosis
- 4.10.1. General Considerations in Ocular Sarcoidosis
- 4.10.2. Natural History and Prognosis of Ocular Sarcoidosis
- 4.10.3. Ocular Manifestations of Sarcoidosis
- 4.10.4. Posterior Segment Eye Disease
- 4.10.5. Ocular Scanning, AFG Patterns, Structural OCT and Angio-OCT
- 4.10.6. Treatment for Retinal Sarcoidosis

4.11. Intermediate Uveitis
- 4.11.1. Introduction
- 4.11.2. Epidemiology and Demography
- 4.11.3. Clinical Findings, Examination of Intermediate Uveitis
- 4.11.4. Histopathology of Intermediate Uveitis
- 4.11.5. Clinical Course and Complications
- 4.11.6. Treatment for Intermediate Uveitis

4.12. Uveitis Masquerade Syndromes
- 4.12.1. Malignant Uveitis Masquerade Syndromes
  - 4.12.1.1. Intraocular Central Nervous System Lymphoma
  - 4.12.1.2. Leukaemias
  - 4.12.1.3. Malignant Melanoma
  - 4.12.1.4. Retinoblastoma
  - 4.12.1.5. Metastasis
  - 4.12.1.6. Paraneoplastic Syndromes
- 4.12.2. Uveitis Masquerade Syndromes, Endophthalmitis
  - 4.12.2.1. Chronic Postoperative Endophthalmitis
  - 4.12.2.2. Endogenous Endophthalmitis
- 4.12.3. Non-malignant and Non-infectious Masquerade Syndromes
  - 4.12.3.1. Regmatogenic Retinal Detachment
  - 4.12.3.2. Retinitis Pigmentosa
  - 4.12.3.3. Intraocular Foreign Bodies
  - 4.12.3.4. Pigmentary dispersion
  - 4.12.3.5. Ocular Ischaemia Syndrome
  - 4.12.3.6. Juvenile Xanthogranuloma

Module 5. Infectious Diseases of the Retina and Vitreous

5.1. General Management of Endophthalmitis
- 5.1.1. Medical History of the Infection Process
- 5.1.2. Eye Examination According to the Endophthalmitis Process
- 5.1.3. Sampling for Cultivation
- 5.1.4. Gateway and Systemic Treatment
- 5.1.5. Intravitreal Injection Treatment of The Endophthalmitis Process
- 5.1.6. Surgical Treatment for Ocular Endophthalmitis



5.2. Eye Infection Due To Human Immunodeficiency Virus (HIV)
- 5.2.1. Uveitis Due To HIV
- 5.2.2. Eye Examination in HIV Patients
- 5.2.3. HIV In Eyes, Chorioretinal Involvement, HIV Retinitis
- 5.2.4. HIV-associated opportunistic infections. Cytomegalovirus Retinitis, Varicella Zoster Virus, Ocular Toxoplasmosis, Pneumocystosis, Tuberculosis, Cryptococcosis, Candidiasis, Other Opportunistic Infections
- 5.2.5. Uveitis Linked to HIV Drug Treatments
- 5.2.6. Medical Treatment for Ocular HIV, Systemic Intravitreal and Depot Treatments
- 5.2.7. Surgical Treatment of HIV Retinitis or Opportunistic Infections

5.3. Mycobacterial Infections
- 5.3.1. Definition of Mycobacterium Tuberculosis Eye Infection
- 5.3.2. History and Epidemiology
- 5.3.3. Clinical Presentation
- 5.3.4. Pathophysiology of Ocular Tuberculosis
- 5.3.5. Pathophysiology of Ocular Tuberculosis
- 5.3.6. Tuberculosis Diagnostic Tests, The Tuberculin Skin Test and Other Diagnostic Tests
- 5.3.7. Ocular Examination, Angiographic Patterns, OCT and Angio-OCT
- 5.3.8. Treatment of Tuberculosis and Ocular Tuberculosis
- 5.3.9. Possible Complications and Prognosis of Mycobacterial Infections

5.4. Spirochetal Infections
- 5.4.1. Definition of Treponema Pallidum Syphilis Infection
- 5.4.2. History and Epidemiology of Syphilis
- 5.4.3. Clinical Systemic Presentation
- 5.4.4. Ocular Clinical Presentation, Treponema Pallidum Uveitis Anterior and Posterior Uveitis. Clinical Manifestations
- 5.4.5. Pathophysiology and Pathogenesis
- 5.4.6. Diagnostic Tests for Treponema Pallidum
- 5.4.7. Systemic and Ocular Treatment for Syphilis Associated Uveitis
- 5.4.8. Complications and Prognosis

5.5. Ocular Toxoplasmosis
- 5.5.1. Definition and Natural History of Toxoplasma Gondii Infection
- 5.5.2. Pathogenesis, The Toxoplasma Gondii Parasite
- 5.5.3. Parasite Life Cycle, Transmission
- 5.5.4. Immunobiology and Epidemiology
- 5.5.5. Congenital and Acquired Toxoplasmosis. Clinical Manifestations
- 5.5.6. Toxoplasmosis in Immunocompromised Patients
- 5.5.7. Diagnosis and Examination of Ocular Toxoplasmosis. Fundus photograph, AFG and ICG. OCT y angio-OCT
- 5.5.8. Atypical Forms of Ocular Toxoplasmosis. Angiographic and Retinographic Examination
- 5.5.9. Differential Diagnosis
- 5.5.10. Diagnostic Tests for Toxoplasma Gondii
- 5.5.11. Surgical Treatment for Ocular Endophthalmitis
- 5.5.12. Surgical Treatment of Ocular Toxoplasmosis
- 5.5.13. Prevention, Prognosis and Conclusions

5.6. Toxocariasis Eye Infection
- 5.6.1. Definition of Infection Caused by Toxocara Canis or Toxocara Cati
- 5.6.2. Etiology, The Micro-Organism, Its Life Cycle and Human Infection
- 5.6.3. Systemic and Ocular Clinical Manifestations
- 5.6.4. Natural History of Toxocariasis
- 5.6.5. Immunopathology
- 5.6.6. Diagnostics, Diagnostic and Serological tests
- 5.6.7. Ocular Complications of Toxocariasis
- 5.6.8. Differential Diagnosis of Toxocariasis
- 5.6.9. Medical and Surgical Treatment of Toxocariasis
- 5.6.10. Prognosis and Conclusions on Ocular Toxocariasis

5.7. Eye ascaris
- 5.7.1. Definition of Ascaris Lumbricoides Nematode Infection
- 5.7.2. Natural History and Epidemiology
- 5.7.3. Systemic Clinical Features
- 5.7.4. Ocular Symptoms of ascaris
- 5.7.5. Immunology, Pathology and Pathogenesis, The Life Cycle
- 5.7.6. Systemic Diagnosis and Ocular Diagnosis. Basic Functional and Imaging Tests
- 5.7.7. Systemic Treatment and Eye Treatment
- 5.7.8. Possible Complications and Conclusions

5.8. Ocular Onchocerciasis
- 5.8.1. Definition of Onchocerca Volvulus Infection
- 5.8.2. Natural History, Epidemiology, Geographical Distribution
- 5.8.3. Demographic Factors, Ecology and Biology of Onchocerciasis
- 5.8.4. Systemic Clinical Manifestations of Onchocerciasis
- 5.8.5. Ophthalmological Symptoms of Onchocerciasis, Anterior Pole and Posterior Segment Involvement
- 5.8.6. Etiology, Transmission, Life Cycle of Onchocerca Volvulus
- 5.8.7. Pathogenesis and Pathology
- 5.8.8. Clinical and Laboratory Diagnostics
- 5.8.9. Differential Diagnosis
- 5.8.10. Systemic and Ocular Treatment of Onchocerciasis
- 5.8.11. Natural History and Prognosis

5.9. Ocular Loiasis
- 5.9.1. Definition of Loa Loa Filaria Infection
- 5.9.2. History, Epidemiology, Morphology
- 5.9.3. Systemic Clinical and Ocular Manifestations Anterior Pole and Posterior Pole
- 5.9.4. Systemic and Ocular Diagnosis
- 5.9.5. Systemic and Ocular Treatment
- 5.9.6. Prevention and Chemoprophylaxis

5.10. Ocular Cysticercosis
- 5.10.1. Definition of Cysticercus Cellulose Infection
- 5.10.2. History and Epidemiology
- 5.10.3. Systemic and Ocular Clinical Features
- 5.10.4. Pathogenesis and Pathology
- 5.10.5. Systemic and Ocular Diagnosis, Imaging Tests. Ultrasound
- 5.10.6. Differential Diagnosis
- 5.10.7. Treatment According to the Location of the Larvae
- 5.10.8. Complications and Prognosis

5.11. Ocular Borreliosis
- 5.11.1. Definition of Lyme Disease Due To Borrelia Burgdorferi Infection
- 5.11.2. History and Epidemiology
- 5.11.3. Systemic Clinical Symptoms According To Staging
- 5.11.4. Ocular Clinical Manifestations, Early Disease, Disseminated and Persistent Disease
- 5.11.5. Pathogenesis
- 5.11.6. Systemic Diagnosis and Ocular Diagnosis
- 5.11.7. Systemic and Ocular Treatment
- 5.11.8. Prognosis, Possible Complications

5.12. Bartonella Eye Infection
- 5.12.1. Definition of Bartonella Infections
- 5.12.2. History and Epidemiology
- 5.12.3. Systemic and Ocular Clinical Features, Retinal and Vitreous Damage
- 5.12.4. Pathogenesis and Immunology
- 5.12.5. Systemic Diagnosis and Ocular Diagnosis
- 5.12.6. Systemic and Ocular Treatment for Bartonellosis
- 5.12.7. Differential Diagnosis
- 5.12.8. Prognosis and Conclusions

5.13. Leptospirosis and Eye Infection
- 5.13.1. Definition of Leptospira Interorgan Infection
- 5.13.2. Epidemiology
- 5.13.3. Clinical Features of Non-ocular Disease
- 5.13.4. Clinical Signs of Leptospira Eye Disease
- 5.13.5. Pathogenesis
- 5.13.6. Laboratory Diagnostics and Ocular Diagnostics
- 5.13.7. Differential Diagnosis
- 5.13.8. Systemic and Ocular Treatment of Leptospira Infection
- 5.13.9. Prognosis and Conclusions

5.14. Ocular Brucellosis
- 5.14.1. Definition of Brucella spp Infection
- 5.14.2. History, Etiology, Epidemiology
- 5.14.3. Molecular Genetics, Pathology and Immunology
- 5.14.4. Systemic Clinical features, Subclinical, Acute, Subacute and Chronic Disease
- 5.14.5. Ocular Manifestations
- 5.14.6. Systemic and Ocular Diagnosis
- 5.14.7. Systemic and Ocular Treatment for Bartonellosis
- 5.14.8. Prognosis, Prevention and Conclusions

5.15. Ocular Whipple's Disease
- 5.15.1. Definition Signs of Leptospira Eye Disease
- 5.15.2. History, Epidemiology, Etiology, Pathology and Immunology
- 5.15.3. Extraocular Clinical Features
- 5.15.4. Ocular Clinical Features, Uveitis, Neurophthalmology
- 5.15.5. Systemic and Ocular Diagnosis
- 5.15.6. Differential Diagnosis
- 5.15.7. Systemic and Ocular Medical Treatment. Surgical Management
- 5.15.8. Prognosis and Conclusions

5.16. Rickettsiosis Eye Disease
- 5.16.1. Definition, Microbiological Characteristics and Classification of Rickettsioses
- 5.16.2. History Epidemiology. Pathophysiology. Immunology Pathology and Pathogenesis
- 5.16.3. Clinical Characteristics. Systemic and Ocular Involvement
- 5.16.4. Systemic, laboratory and ocular diagnosis
- 5.16.5. Systemic and Ocular Treatment
- 5.16.6. Prognosis, Complications and Conclusions on Ocular Rickettsiosis

5.17. Eye Leprosy
- 5.17.1. Definition of Ocular Hansen's Disease Caused by Mycobacterium Leprae
- 5.17.2. History and Epidemiology
- 5.17.3. Systemic and Ocular Clinical Features
- 5.17.4. Posterior Segment Ocular Complications. Ocular Changes During Acute Leprosy Reactions
- 5.17.5. Ocular Histopathology
- 5.17.6. Pathogenesis and Immunology
- 5.17.7. Systemic and Ocular Diagnosis
- 5.17.8. Differential Diagnosis
- 5.17.9. Treatment of Systemic Disease and Eye Disease
- 5.17.10. Management of Ocular Complications

5.18. Eye Infections Due To the Herpes Virus
- 5.18.1. Virology, Herpes Simplex Virus and Varicella Zoster Virus
  - 5.18.1.1. Clinical Features, Acute Retinal Necrosis and Other Retinopathies
  - 5.18.1.2. Diagnostics, Functional and Imaging tests, AFG, OCT and - OCT
  - 5.18.1.3. Differential Diagnosis of Acute Retinal Necrosis
  - 5.18.1.4. Treatment of Acute Retinal Necrosis, Antiviral Agents. Treatment of Associated Retinal Detachment
- 5.18.2. Eye Infection Due To Epstein-Barr Virus
- 5.18.3. Cytomegalovirus Eye Infections
  - 5.18.3.1. Ocular Clinical Features
  - 5.18.3.2. Systemic and Ocular Treatment
  - 5.18.4.3. Complications, Prognosis and Conclusions of Cytomegalovirus Infection

5.19. Rubella Eye Disease. Measles Disease
- 5.19.1. Definition of Measles or Rubella Disease
- 5.19.2. History
- 5.19.3. Congenital Rubella
- 5.19.4. Acquired Rubella
- 5.19.5. Subacute Sclerosis Subacute Panencephalitis
- 5.19.6. Treatment for Ocular Rubella
- 5.19.7. Prognosis and Conclusions

5.20. Presumptive Ocular Histoplasmosis Syndrome
- 5.20.1. Definition
- 5.20.2. History, Mycology and Epidemiology
- 5.20.3. Clinical Features, Disseminated choroiditis, Maculopathy
- 5.20.4. Pathogenesis, Pathophysiology, Immunology
- 5.20.5. Laboratory Diagnostics and Ocular Diagnostics, Imaging Tests
- 5.20.6. Differential Diagnosis
- 5.20.7. Laser Treatment, Corticosteroid Treatment and Other Currently Proposed Treatments
- 5.20.8. Submacular and Subretinal Surgery. Complications
- 5.20.9. Prognosis and Conclusions

5.21. Ocular Candidiasis
- 5.21.1. Definition of Candida Eye Infection
- 5.21.2. History and Epidemiology
- 5.21.3. Clinical Features, Endogenous and Exogenous Candida Endophthalmitis
- 5.21.4. Complications, Pathogenesis, Histopathology and Immunology
- 5.21.5. Diagnosis. Vitreous and Anterior Chamber Aspiration
- 5.21.6. Differential Diagnosis
- 5.21.7. Systemic and Medical Treatment. The Role of Vitrectomy
- 5.21.8. Prognosis and Conclusions

5.22. Ocular Amebiasis
- 5.22.1. Definition of Acanthamoeba and Naegleria Eye Infection
- 5.22.2. History and Microbiology
- 5.22.3. Epidemiology, Pathophysiology
- 5.22.4. Clinical Ocular Disease, Anterior Pole, Uveitis and Late Complications
- 5.22.5. Diagnostics, Confocal Microscopy, Laboratory Diagnostics
- 5.22.6. Histology, Cultures
- 5.22.7. Differential Diagnosis
- 5.22.8. Medical Treatment, The Value of Vitrectomy and Cryotherapy
- 5.22.9. Prevention, Prognosis and Conclusions

Module 6. Hereditary Retinal Dystrophies and Paediatric Retinal Pathology

6.1. Hereditary Retinal dystrophies
- 6.1.1. Clinical Diagnosis. In-clinic Tests and Campimetry
- 6.1.2. Imaging Tests, OCT and Angio - OCT, Autofluorescence (AF), Fluorescein Angiography and indocyanine Green
- 6.1.3. Electrophysiological Study
  - 6.1.3.1. Generalised Photoreceptor Dystrophies
  - 6.1.3.2. Macular Dystrophies
  - 6.1.3.3. Generalised Choroidal Dystrophies
  - 6.1.3.4. Hereditary Vitreoretinopathies
  - 6.1.3.5. Albinism
- 6.1.4. RHD in the Pediatric Age Group, Main Signs and Symptoms
- 6.1.5. Genetic Basis of RHD
- 6.1.6. Clinical Classification of RHD
  - 6.1.6.1. Introduction
  - 6.1.6.2. DHR and Non-syndromic Vitreoretinal
    - 6.1.6.2.1. Rod Diseases
      - 6.1.6.2.1.1. Stationary: Stationary Night Blindness Normal and Abnormal Fundus (Fundus Albipunctatus and Oguchi Disease)
      - 6.1.6.2.1.2. Progressives: Retinitis Pigmentosa (RP) or Cone-Rod Dystrophies (CRD)
    - 6.1.6.2.2. Cone Diseases
      - 6.1.6.2.2.1. Stationary or Cone Dysfunctions: Congenital Achromatopsia
      - 6.1.6.2.2.2. Cone and Cone–Rod Dystrophies (CRD)
    - 6.1.6.2.3. Macular Dystrophies
      - 6.1.6.2.3.1. Stargardt/Fundus Flavimaculatus
      - 6.1.6.2.3.2. Best's Disease
      - 6.1.6.2.3.3. Central Areolar Choroidal Dystrophy (CACD)
      - 6.1.6.2.3.4. X-linked Juvenile Retinoschisis
      - 6.1.6.2.3.5. Other Macular Dystrophies
    - 6.1.6.2.4. Widespread Photoreceptor Diseases

6.1.6.2.4.1. Choroideremia
6.1.6.2.4.2. Atrophy Gyrate
6.1.6.2.5. Exudative and Non-Exudative Vitreoretinopathies
6.1.6.3. Syndromic RHD
6.1.6.3.1. Usher Syndrome
6.1.6.3.2. Bardet Biedl Syndrome
6.1.6.3.3. Senior Loken Syndrome
6.1.6.3.4. Refsum´s Disease
6.1.6.3.5. Joubert´s Disease
6.1.6.3.6. Alagille´s Disease
6.1.6.3.7. Alström's Syndrome
6.1.6.3.8. Neuronal Ceroid Lipofuscinosis
6.1.6.3.9. Primary Ciliary Dyskinesia (PCD)
6.1.6.3.10. Stickler's Disease
6.1.7. RHD Treatment
6.1.7.1. Gene Therapy A New Future for Treating Diseases with Genetic Alterations. Luxturna
6.1.7.2. Neurotrophic Growth Factor Therapies
6.1.7.3. Cell Therapy
6.1.7.4. Computer Vision
6.1.7.5. Other treatments

6.2. Retinopathy of Prematurity
6.2.1. Introduction and Historical Recollection
6.2.2. ROP Classification
6.2.3. Disease Context and Risk Factors
6.2.4. Diagnosis, Screening and Follow-up Guidelines in ROP
6.2.5. ROP Treatment Criteria
6.2.6. Using Anti-Vascular Endothelium Grown Factor
6.2.7. Use of Laser Treatment Today
6.2.8. Treatment by Scleral Surgery and/or Vitrectomy in Advanced Stages
6.2.9. Sequelae and Complications Arising from ROP
6.2.10. Criteria for Discharge and Subsequent Follow-up
6.2.11. Accountability, Documentation and Communication
6.2.12. Future of Screening and New Treatment Options
6.2.13. Medical-legal Considerations

6.3. Albinism
6.3.1. Introduction and Definitions
6.3.2. Examination and Clinical Findings
6.3.3. Natural History
6.3.4. Treatment and Management of Albino Patients

6.4. X-linked Congenital Retinoschisis
6.4.1. Definition, Genetical Study and Family Tree
6.4.2. Examination and Clinical Findings
6.4.3. Electrophysiological Tests
6.4.4. Classification
6.4.5. Natural History and Genetic Counselling
6.4.6. Treatment Guidelines According to Staging

6.5. Best's Disease
6.5.1. Definition, Genetic Study
6.5.2. Diagnosis, Clinical Findings, Imaging Tests
6.5.3. Functional Testing, Microperimetry and Electrophysiological Testing
6.5.4. Natural History, Clinical Course
6.5.5. Current and Future Treatments for Best's Disease

6.6. Stargardt's Disease, Fundus Flavimaculatus
6.6.1. Definition and Genetic Study
6.6.2. Clinical Findings in Consultation, Imaging Tests
6.6.3. Electrophysiological Tests
6.6.4. Evolutionary History and Genetic Counselling
6.6.5. Current Treatments

6.7. Familial Exudative Vitreoretinopathy. (RVEF)
- 6.7.1. Definition, Genetic Study
- 6.7.2. RVEF Clinical Findings
- 6.7.3. Imaging Tests, OCT, Angio-OCT. AFG
- 6.7.4. Natural History and Progression of the Disease, Staging
- 6.7.5. RVF Laser Treatment
- 6.7.6. Treatment with RVEF Vitrectomy
- 6.7.7. Treating Complications

6.8. Persistent Foetal Vasculature Syndrome. (PFVS)
- 6.8.1. Definition and Evolution of Disease Nomenclature
- 6.8.2. Ultrasound Examination, Imaging Tests
- 6.8.3. Clinical Findings in Consultation
- 6.8.4. Treatment Guidelines and Staging
- 6.8.5. Surgical Treatment of PFVS. Vitrectomy
- 6.8.6. Natural and Evolutionary History of the Disease
- 6.8.7. Visual Rehabilitation

6.9. Coat's Disease
- 6.9.1. Definition of Coat's Disease Evolving Forms
- 6.9.2. Clinical Findings in Consultation
- 6.9.3. Imaging Studies, Retinography, AFG, OCT Angio-OCT Evolving Forms
- 6.9.4. Ocular Ultrasound in Coat's Disease
- 6.9.5. Treatment Spectrum According to the Developmental Form. Natural History
- 6.9.6. Laser Treatment and Cryotherapy
- 6.9.7. Treatment by Vitrectomy in Advanced Forms
- 6.9.8. Visual Rehabilitation

6.10. Norrie's Disease
- 6.10.1. Definition, Genetic Study
- 6.10.2. Clinical Findings in Consultation
- 6.10.3. Treatment Guidelines and Genetic Counselling Treatment Guidelines and Current Pharmaceuticals
- 6.10.4. Natural and Evolutionary History of Norrie's Disease

6.11. Incontinentia Pigmenti
- 6.11.1. Definition and Genetic Study
- 6.11.2. Clinical Findings and Functional Tests
- 6.11.3. Natural and Evolutionary History of the Disease
- 6.11.4. Current Therapeutic Possibilities, Visual Aids

6.12. Choroidal Neovascularisation in the Pediatric Age Group
- 6.12.1. Clinical Findings in Consultation
- 6.12.2. Basic Functional and Imaging Tests
- 6.12.3. Differential Diagnosis
- 6.12.4. Treatment Guidelines and Their Possibilities According to Age

6.13. Retinal Detachment in the Pediatric Age and Detachment Associated with Ocular Coloboma
- 6.13.1. General Considerations
- 6.13.2. Anatomy and Surgical Adaptation to Retinal Detachment Morphology
- 6.13.3. Peculiarities of Surgery in the Pediatric Age Group, Specialized Surgical Instruments and Equipment for Young Children
- 6.13.4. Scleral Surgery in the Pediatric Age Group
- 6.13.5. Vitrectomy in the Pediatric Age Group
- 6.13.6. Post-surgical Medical and Postural Treatment in Infancy
- 6.13.7. Visual Rehabilitation

6.14. Stickler's Syndromes
- 6.14.1. Definition and Classification of Stickler Syndromes
- 6.14.2. Clinical Findings and Imaging Tests
- 6.14.3. Systemic and Ocular Treatment for the Disease
- 6.14.4. Current Treatment for Stickler Syndrome
- 6.14.5. Natural and Evolutionary History of the Disease

6.15. Marfan Syndrome
- 6.15.1. Definition and Genetic Study of the Disease
- 6.15.2. Systemic Spectrum of the Disease
- 6.15.3. Ocular Involvement in Marfan Disease
- 6.15.4. Ocular Clinical Findings
- 6.15.5. Applicable Treatments to Marfan Syndrome
- 6.15.6. Retinal Detachment in Marfan Syndrome
- 6.15.7. Natural and Evolutionary History of the Disease

Module 7. Muscular Degeneration Related to Aging (AMD)

7.1. Epidemiology of AMD
- 7.1.1. Introduction
- 7.1.2. International Classification Systems, Classification History
- 7.1.3. Incidence
- 7.1.4. Prevalence
- 7.1.5. Etiopathogenesis
- 7.1.6. Risk Factors

7.2. Genetics of Age-related Macular Degeneration
- 7.2.1. Introduction
- 7.2.2. Genetic Studies Associated with AMD
- 7.2.3. Complement H Factors and Loci Involved in AMD
- 7.2.4. Other Factors Implicated in AMD

7.3. Histopathology of AMD
- 7.3.1. Ocular Ageing, Changes in the Various Retinal Structures
- 7.3.2. Histological Changes in the Developmental Form of AMD
- 7.3.3. Changes in the Various Retinal Structures and Pigmented Epithelium
- 7.3.4. Drusas
- 7.3.5. Incipient Atrophy
- 7.3.6. Geographical Atrophy
- 7.3.7. Neovascular Age-related Macular Degeneration

7.4. Clinical and Angiographic Findings in AMD. AFG and ICG
- 7.4.1. Clinical Signs and Symptoms of AMD
- 7.4.2. Drusas
- 7.4.3. Pigment Changes
- 7.4.4. Geographical Atrophy
- 7.4.5. Pigment Epithelium Detachment DEP
- 7.4.6. Subretinal Neovascular Complexes
- 7.4.7. Disciform Shapes
- 7.4.8. Angiographic Study with Fluorescein and Indocyanine Green. Current Applications of the Technique

7.5. Optical Coherence Tomography and Angio-OCT in Age-related Macular Degeneration
- 7.5.1. OCT and Angio-OCT as a Basis for Disease Monitoring
- 7.5.2. Initial Information on the Technology
- 7.5.3. OCT in Early Stages of the Disease
- 7.5.4. OCT and Angio-OCT, in Geographic Atrophic Forms of the Disease
- 7.5.5. OCT and Angio-OCT, in Quiescent Forms
- 7.5.6. Exudative AMD and its Examination with OCT and Angio-OCT
- 7.5.7. OCT in Retinal Pigment Epithelial Detachments
- 7.5.8. OCT and Angio-OCT, in Other Forms of Presentation of AMD
- 7.5.9. Importance of OCT in Clinical Trials for Drug Development and Drug Comparisons in AMD
- 7.5.10. Prognostic Factors of OCT and Angio-OCT in AMD. Biomarkers

7.6. Updated Classification of AMD and its Correspondence with Previous Classifications
- 7.6.1. Type 1 Neovascularisation
- 7.6.2. Type 2 Neovascularisation
- 7.6.3. Type 3 Neovascularisation
- 7.6.4. Type 1 Aneurysmal Dilatations or Polypoidal Choroidal Vasculopathy

7.7. Treatment of Atrophic and Degenerative Forms of AMD
- 7.7.1. Introduction
- 7.7.2. Diet and Nutritional Supplements in AMD Prevention
- 7.7.3. The Role of Antioxidants in the Evolutionary Control of the Disease
- 7.7.4. What would be the ideal business mix?
- 7.7.5. Role of Sun-Protection in AMD

7.8. Disused Treatments for Neovascular Forms of AMD
- 7.8.1. Laser Treatment in AMD, Historical Implications
- 7.8.2. Types of Lasers for Retinal Treatment
- 7.8.3. Mechanism of Action
- 7.8.4. Historical Results and Recurrence Rate
- 7.8.5. Indications and Instructions for Use
- 7.8.6. Complications
- 7.8.7. Transpupillary Thermotherapy as a Treatment for AMD
- 7.8.8. Epiretinal Brachytherapy for the Treatment of AMD

7.9. Current Treatments for Neovascular Forms of AMD
- 7.9.1. Photodynamic Therapy for Some Cases of AMD. Historical Recollections of Their Use
- 7.9.2. Macugen
- 7.9.3. Ranibizumab
- 7.9.4. Bevacizumab
- 7.9.5. Aflibercep
- 7.9.6. Brolucizumab
- 7.9.7. Role of Corticosteroids for some types of AMD

7.10. New Treatments for Exudative AMD

7.11. Combined Therapies for AMD

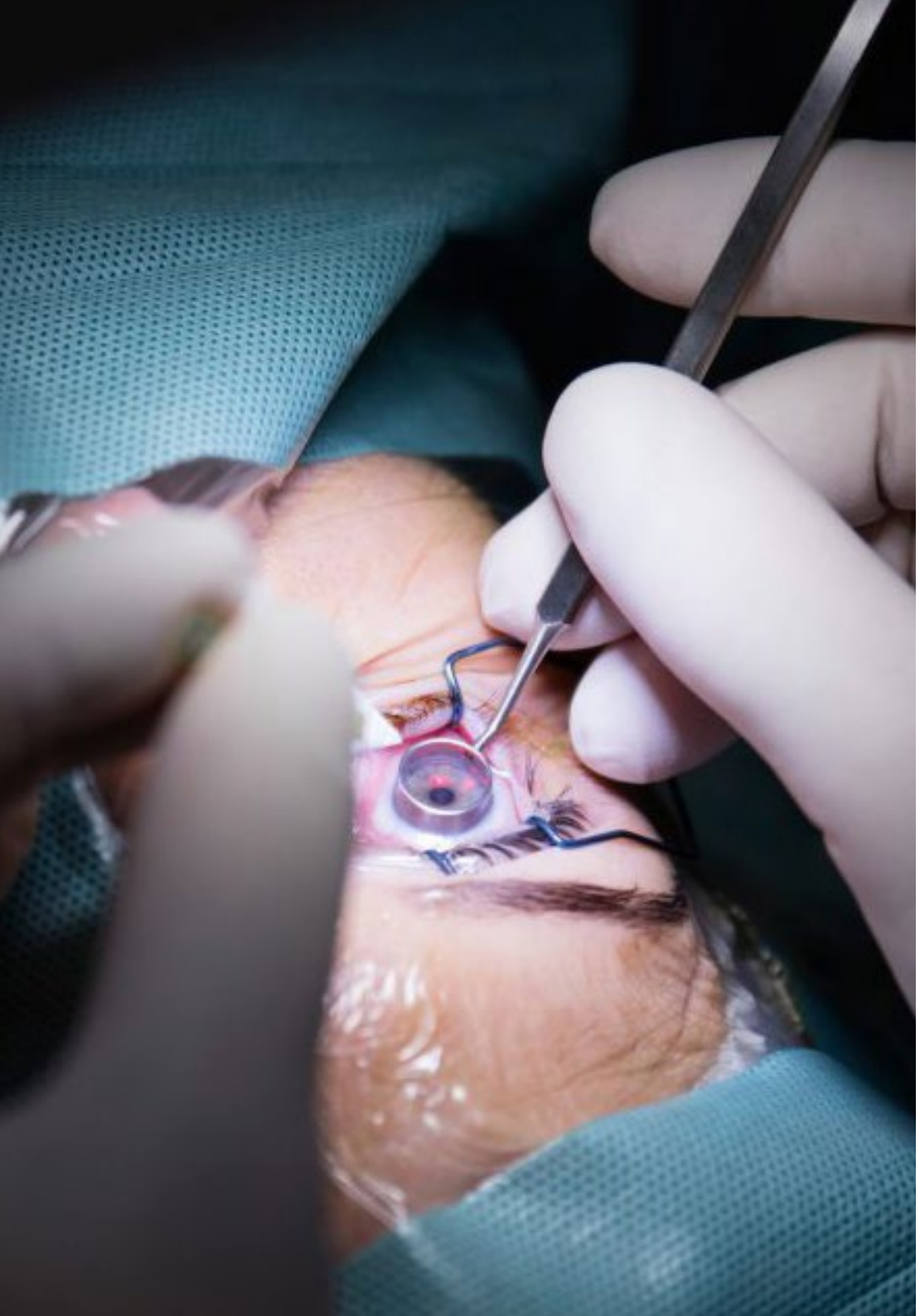
7.12. Systemic Impact of Intravitreal Drugs for AMD
- 7.12.1. Cardiovascular Risk Factors in AMD
- 7.12.2. Half-life of Different Intravitreal Drugs in AMD
- 7.12.3. Adverse Effects in Major Studies of Intravitreal Drugs

Module 8. Tumour Pathology of the Retina, Choroid and Vitreous

8.1. Retinoblastoma
- 8.1.1. Definition
- 8.1.2. Genetics of Retinoblastoma
- 8.1.3. Retinoblastoma Disease. Histopathology
- 8.1.4. Presentation, Diagnosis and Exploration, Imaging Techniques for Children
- 8.1.5. Differential Diagnosis
- 8.1.6. Classification
- 8.1.7. Retinoblastoma Treatment
  - 8.1.7.1. Chemotherapy / Chemoreduction / Intra-arterials
  - 8.1.7.2. Thermotherapy
  - 8.1.7.3. Photocoagulation
  - 8.1.7.4. Cryotherapy
  - 8.1.7.5. Brachytherapy
  - 8.1.7.6. External Radiotherapy
  - 8.1.7.7. Enucleation
  - 8.1.7.8. Extraocular Retinoblastoma
- 8.1.8. Regression Patterns
- 8.1.9. Visual Rehabilitation and Prognosis

8.2. Cavernous Hemangioma and Racemose Hemangioma
- 8.2.1. Definition
- 8.2.2. Clinical Symptoms
- 8.2.3. Prognosis
- 8.2.4. Diagnosis and Histology
- 8.2.5. Treatment

8.3. Retinal Capillary Hemangioblastoma and Von Hippel- Lindau Disease
- 8.3.1. Definition
- 8.3.2. Clinical Symptoms
- 8.3.3. Diagnostic Techniques
- 8.3.4. Differential Diagnosis
- 8.3.5. Treatment
- 8.3.6. Complications
- 8.3.7. Results



8.4. Tuberous Sclerosis and its Ophthalmological Pathology
- 8.4.1. Definition
- 8.4.2. Systemic Manifestations
- 8.4.3. Ocular Manifestations
- 8.4.4. Genetic Studies

8.5. Phacomatosis
- 8.5.1. Definition
- 8.5.2. Definition of Hamartoma, Choristoma
- 8.5.3. Neurofibromatosis (von Recklinghausen Syndrome)
- 8.5.4. Encephalofacial Hemangiomatosis (Sturge-Weber Syndrome)
- 8.5.5. Hemangiomatosis Racemose (Wyburn-Mason Syndrome)
- 8.5.6. Retinal Cavernous Hemangiomatosis
- 8.5.7. Phacomatosis Vascular Pigment
- 8.5.8. Oculo-dermal Melanocytosis
- 8.5.9. Other Phacomatoses

8.6. Retinal Metastases
- 8.6.1. Definition
- 8.6.2. Systemic Study Following the Finding of a Possible Metastasis
- 8.6.3. Eye Study
- 8.6.4. Treatment

8.7. Distant Effects of Cancer in the Retina. Paraneoplastic Syndromes
- 8.7.1. Definition
- 8.7.2. Cancer-associated Retinopathy Syndrome
- 8.7.3. MAR Cutaneous Melanoma-Associated Retinopathy Syndrome
- 8.7.4. Treatment of Paraneoplastic Retinopathies
- 8.7.5. Bilateral Diffuse Uveal Melanocytic Diffuse Melanocytic Proliferation

8.8. Melanocytoma of the Optic Nerve
- 8.8.1. Definition
- 8.8.2. Clinical Findings of Optic Nerve Melanocytoma
- 8.8.3. Pathology and Pathogenesis
- 8.8.4. Exploration and Diagnostic Approach
- 8.8.5. Treatment

8.9. Congenital Hypertrophy of Pigmented Epithelium
- 8.9.1. Definition
- 8.9.2. Epidemiology and Demography
- 8.9.3. Clinical Findings and Classification
- 8.9.4. Differential Diagnosis

8.10. Combined Pigment Epithelium and Retinal Hamartoma
- 8.10.1. Definition
- 8.10.2. Epidemiology
- 8.10.3. Clinical Manifestations
- 8.10.4. Examination in Consultation, Diagnosis
- 8.10.5. Differential Diagnosis
- 8.10.6. Clinical Course
- 8.10.7. Etiology and Pathology
- 8.10.8. Histopathology
- 8.10.9. Treatment

8.11. Choroidal Nevus
- 8.11.1. Definition and Prevalence
- 8.11.2. Choroidal Nevus and Systemic Disease
- 8.11.3. Histopathology
- 8.11.4. Clinical Findings in Consultation
- 8.11.5. Differential Diagnosis
- 8.11.6. Natural History of Choroidal Nevus
- 8.11.7. Observation and Monitoring of Choroidal Nevi

8.12. Choroidal Melanoma
- 8.12.1. Epidemiology
- 8.12.2. Prognosis and Natural History of Uveal Melanoma
- 8.12.3. Molecular Genetics of Choroidal Melanoma
- 8.12.4. Pathology of Choroidal Melanoma
- 8.12.5. Management and Treatment of Choroidal Melanoma
  - 8.12.5.1. Enucleation
  - 8.12.5.2. Brachytherapy for Choroidal Melanoma
  - 8.12.5.3. Endoresection by Vitrectomy of Choroidal Melanoma
  - 8.12.5.4. Abexternal Resection of Choroidal Melanoma
  - 8.12.5.5. Laser in Choroid Treatment, Transpupillary Thermotherapy Abexternal Resection of Choroidal Melanoma
  - 8.12.5.6. Photodynamic Therapy for the Treatment of Uveal Melanoma

8.13. Choroidal Metastases
- 8.13.1. Definition
- 8.13.2. Incidence and Epidemiology
- 8.13.3. Clinical Findings and Exploration
- 8.13.4. Differential Diagnosis
- 8.13.5. Pathology and Pathogenesis
- 8.13.6. Treatment
- 8.13.7. Prognosis

8.14. Choroidal Osteoma
- 8.14.1. Definition and Epidemiology
- 8.14.2. Clinical Findings and Exploration
- 8.14.3. Differential Diagnosis
- 8.14.4. Pathology and Pathogenesis
- 8.14.5. Diagnostic Approach
- 8.14.6. Treatment
- 8.14.7. Prognosis

8.15. Circumscribed Choroidal Hemangioma
- 8.15.1. Definition
- 8.15.2. Clinical Symptoms
- 8.15.3. Diagnostic Methods, AFG, ICG, Ocular Iltrasound, CT and MRI, OCT
- 8.15.4. Treatment

8.16. Diffuse Choroidal Hemangioma
- 8.16.1. Definition
- 8.16.2. Clinical Symptoms
- 8.16.3. Diffuse Choroidal Hemangioma
- 8.16.4. Treatment

8.17. Uveal Tumours
- 8.17.1. Ciliary Body Epithelial Tumours. Acquired and Congenital
- 8.17.2. Leukemias and Lymphomas. Primary Vitreous and Retinal Lymphoma

Module 9. Introduction to retinal surgery, vitrectomy arising from complications of anterior pole surgery, surgery on diabetic patients, endophthalmitis and viral retinitis

9.1. Instruments, Materials and Therapeutic Alternatives
- 9.1.1. Methods to Induce Chorioretinal Adhesion
- 9.1.2. Scleral Surgery Equipment
- 9.1.3. Gases for Intraocular Use
- 9.1.4. Silicone Oils
- 9.1.5. Perfluorocarbons
- 9.1.6. Cryotherapy
- 9.1.7. The Vitrectomy, Surgical Principles and Techniques
- 9.1.8. Different Sizes and Systems of Vitrectomy Probes
- 9.1.9. Endocular Light Sources and Diversity of Light Terminals
- 9.1.10. Endovascular Lasers
- 9.1.11. Accessory Instruments
- 9.1.12. Visualisation Systems in Vitrectomy. Surgical Lenses. Wide Field
- 9.1.13. Microscope Systems, 3D Microscopes

9.2. Advanced Vitrectomy Techniques
- 9.2.1. Simple Vitrectomy. Location of Pars Plana
- 9.2.2. Pars Plana Lensectomy
- 9.2.3. Endocyclophotocoagulation
- 9.2.4. Endolaser Techniques
- 9.2.5. Liquid Air Exchange Techniques. Gas Injection Techniques
- 9.2.6. Liquid Perfluorocarbon Injection Techniques
- 9.2.7. Techniques for the Use and Injection of Silicone Oils
- 9.2.8. Control of Intraocular Hemorrhage During Surgery
- 9.2.9. Pupil Management, Pupillary Opening, for Visualisation in Vitrectomy International Development Cooperation Handling for Removal of Air or Subretinal Substances

9.3. Surgical Techniques for the Management of Complications Arising from Cataract Surgery
- 9.3.1. Anterior Vitrectomy
- 9.3.2. Vitrectomy of Dislocated Crystalline Lens to Vitreous or Crystalline Debris in Vitreous
- 9.3.3. Surgical Techniques to Manage Dislocated Vitreous Lenses
- 9.3.4. Techniques for Secondary Lens Implantation in the Absence of a Capsular Bag. Current Lens Models
- 9.3.5. Techniques for the Treatment of Vitreous Incarcerations

9.4. Glaucoma-related Vitrectomy Techniques
- 9.4.1. Filter Surgery and Vitrectomy
- 9.4.2. Lensectomy and Vitrectomy in the Presence of Leakage Blebs
- 9.4.3. Techniques for the Management of Pupillary and Angular Blockade
- 9.4.4. Techniques for Vitreous Chamber Valve Device Implantation

9.5. Diagnostic Biopsy
- 9.5.1. Biopsy Techniques for the Anterior Segment
- 9.5.2. Techniques for Vitreous Biopsy and Collection of Material for Analysis
- 9.5.3. Retinal Biopsy Techniques
- 9.5.4. Uveal Biopsy Techniques

9.6. Vitrectomy in Diabetes Mellitus
- 9.6.1. Indications for Surgery in DM
- 9.6.2. Vitrectomy of Simple Hemorrhage
- 9.6.3. Vitrectomy for Diabetic Tractional Detachment
- 9.6.4. Vitrectomy for Progressive Fibrovascular Proliferation
- 9.6.5. Vitrectomy for Dense Macular Hemorrhages
- 9.6.6. Vitrectomy in Diabetic Rhegmatogenous Detachment
- 9.6.7. Use of Silicone in the Diabetic Patient

9.7. Vitrectomy for Endophthalmitis
- 9.7.1. Pharmacological Management of Endophthalmitis
- 9.7.2. Sampling for Microbiology
- 9.7.3. Vitrectomy of the Patient with Endophthalmitis

9.8. Vitrectomy for Retinitis Due To Viruses
- 9.8.1. Vitrectomy in Herpes Simplex Retinitis
- 9.8.2. Vitrectomy in Cytomegalovirus Retinitis
- 9.8.3. Other Herpetic Retinitis
- 9.8.4. Vitrectomy in Acute Retinal Necrosis
- 9.8.5. Intravitreal Antiviral Agents

9.9. Intravitreal Pharmaceuticals
- 9.9.1. Slow-release Implants
- 9.9.2. Intravitreal Agents, Miscellaneous

Module 10. Comprehensive Treatment for Retinal Detachment

10.1. Retinal Detachment
- 10.1.1. Extraocular Anatomy and Physiology Adapted to Retinal Detachment Treatment
- 10.1.2. Extraocular Anatomy and Physiology Adapted to Retinal Detachment Treatment
- 10.1.3. Vitreous Liquefaction
- 10.1.4. Posterior Vitreous Detachment
- 10.1.5. Abnormal Vitreous-Retinal Adhesions
- 10.1.6. Reticular Degeneration
- 10.1.7. Asymptomatic Retinal Tears
- 10.1.8. In-consultancy Examination of Retinal Detachment. Color Coding Dhen Drawing
- 10.1.9. Lincoff's Laws. Methods for Locating Retinal Tears

10.2. Principles of Retinal Reapplication Surgery
- 10.2.1. Physiological Factors That Maintain Retinal Detachment
- 10.2.2. Factors That Induce Retinal Detachment
- 10.2.3. History of Retinal Detachment Surgery, Contributions of Jules Gonin
- 10.2.4. Evolution of Contemporary Surgical Techniques
- 10.2.5. Pre-operative Eye Examination
- 10.2.6. Anesthesia in Retinal Detachment Surgery
- 10.2.7. Methods for Creating a Chorioretinal Adhesion

10.3. Scleral Surgery for Retinal Detachment
- 10.3.1. Materials for Scleral Indentation
- 10.3.2. Preparation of the RD's Surgical Process in the Clinic
- 10.3.3. Preparing the Surgical Field
- 10.3.4. Examination of Retinal Detachment in the Operating Theatre. Location of Tears and Their Scleral Markings
- 10.3.5. Sealing of Retinal Tears, Positioning of the Various Devices, Locks, Silicone Sponges, etc
- 10.3.6. Cryotherapy or Laser Around Ruptures, Surgical Technique
- 10.3.7. Drainage and Control of Subretinal Fluid
- 10.3.8. Scleral Cerclage Height Adjustment and Suturing of Intraocular Implants and Injections
- 10.3.9. Closure and End of Surgery
- 10.3.10. Medical Treatment Accompanying the Scleral Surgical Process

10.4. Alternative Methods of Treatment for Retinal Detachment
- 10.4.1. Pneumatic Retinopexy
- 10.4.2. Lincoff Balloon or Orbital or Episcleral Balloon
- 10.4.3. Suprachoroidal Surgery, Suprachoroidal Indentation
- 10.4.4. Liquid-air Exchanges in Consultation with Expanding Gases
- 10.4.5. Nd:YAG Laser Vitreolysis
- 10.4.6. Enzymatic Vitreolysis

10.5. Complicated Types of Retinal Detachment
- 10.5.1. Total Retinal Detachments with Multiple Retinal Tears
- 10.5.2. Retinal Detachments of Posterior Pole Retina Caused by Macular Holes
- 10.5.3. Retinal Detachment Due To Giant Tears
- 10.5.4. Proliferative Vitreoretinopathy

10.5.5. Retinal Detachment Secondary to Uveitis and Retinitis
10.5.6. Retinal Detachment Secondary to Choroidal Detachment
10.5.7. Retinal Detachment Secondary to Retinal Coloboma
10.5.8. Retinal Detachment Secondary to Morning Glory Syndrome
10.5.9. Retinal Detachment Secondary to Retinoschisis
10.5.10. Retinal Detachment Secondary to Anterior Pole Surgery
10.5.11. Retinal Detachment with Major Corneal Opacity
10.5.12. Retinal Detachment in the Myopic Patient

10.6. Vitrectomy for the Treatment of Retinal Detachment
10.6.1. First Steps of Current and Past Vitrectomy
10.6.2. Central and Peripheral Vitrectomy
10.6.3. Use of Liquid Perfluorocarbon
10.6.4. Surgical Techniques for Retinal Reapplication Depending on the Location of the Tear
10.6.5. Endolaser
10.6.6. Endocular Cryotherapy
10.6.7. Endocular Diathermy
10.6.8. Surgical Techniques of Intraocular Exchanges, Liquid-Air, Liquid-Oil Silicone
10.6.9. Removal of Silicone Oil From the Anterior Chamber, Posterior Pole. Extraction of Heavy Oils
10.6.10. Control of Hemorrhage During Surgery
10.6.11. Membrane Clearance in Proliferative Vitreoretinopathy (PVR)
10.6.12. Anterior Retinectomy
10.6.13. Posterior Relaxing Retinotomy
10.6.14. Other Retinal Reapplication Techniques
10.6.15. Post-surgical Postural Treatment
10.6.16. Changes in Pressure, Aeroplane Flights During the Presence of Expandable Gases in the Eye
10.6.17. Expandable Gases and Anesthetic Gases

10.7. Complications of Retinal Detachment Surgery
10.7.1. Complications Arising From Sclerotomies
10.7.2. Retinal Incarceration at the Drainage Site in Scleral Surgery
10.7.3. All Aspects of the Lens in Retinal Detachment Surgery
10.7.4. Surgical Techniques for Mechanical Dilation of the Pupil
10.7.5. Intraoperative Complications of Retinal Detachment Surgery
10.7.6. Perioperative Complications of Retinal Detachment Surgery
10.7.7. Postoperative Complications of Retinal Detachment Surgery

Module 11. Surgery for High Myopia. Surgery in Diseases of the Macula. Surgical Techniques in Ocular Trauma. Latest Surgical Techniques

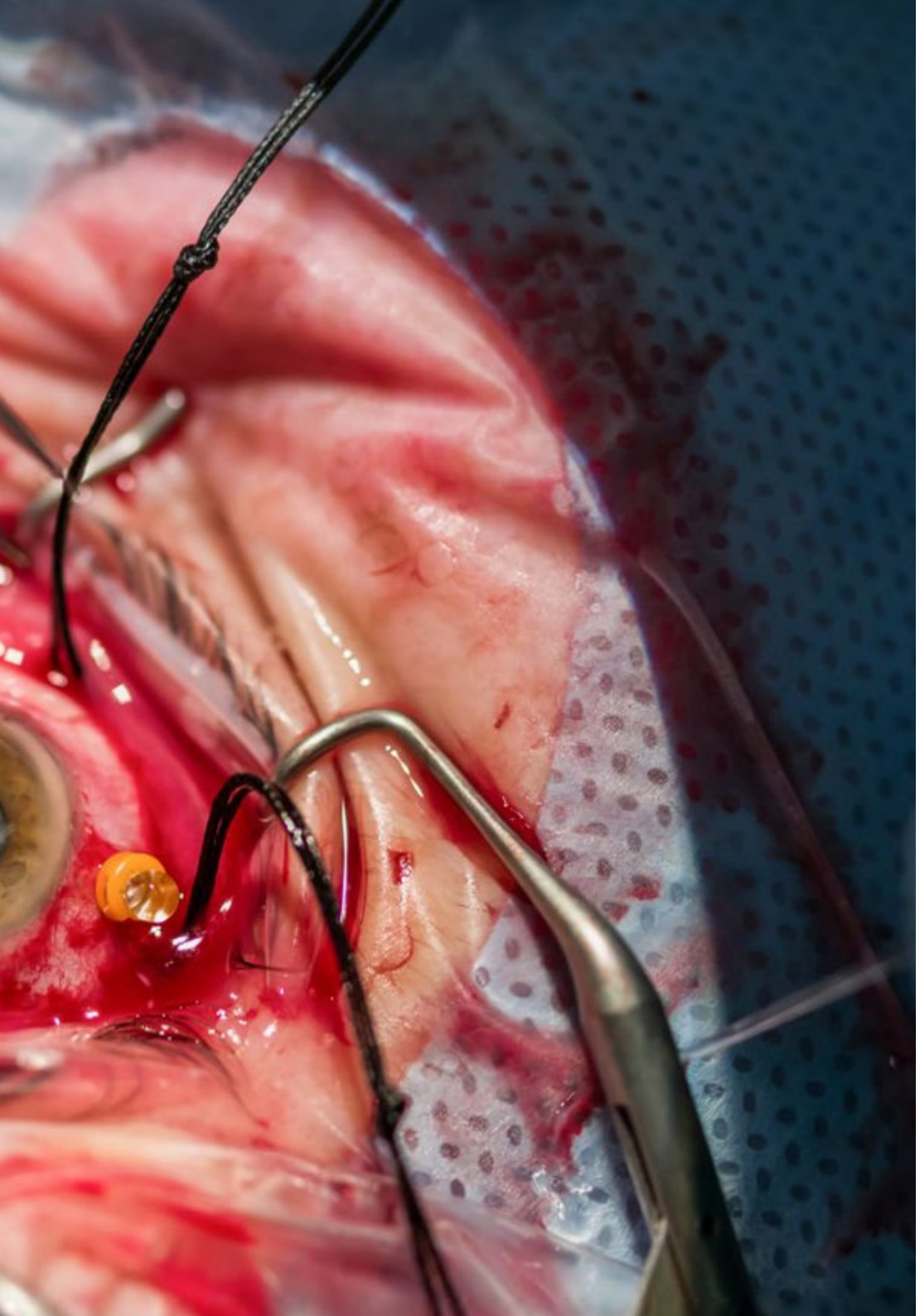
11.1. Surgery for High Myopia
11.1.1. The Sclera in High Myopia
11.1.2. The Peripheral Retina in the High Myopia
11.1.3. Surgical Equipment Adapted to High Myopia
11.1.4. Vitreomacular Traction Syndrome and Epiretinal Membrane in High Myopia
11.1.5. Macular Retinoschisis
11.1.6. Myopic Macular Hole
11.1.7. Macular Indentation
11.1.8. Intraoperative Complications in High Myopia
11.1.9. Perioperative Complications in High Myopia

11.2. Vitrectomies for Macular Diseases
11.2.1. Idiopathic Macular Holes
11.2.2. Epiretinal Membranes
11.2.3. Vitreomacular Traction Syndrome
11.2.4. Colobomatous Fossa of the Optic Nerve

11.2.5. Submacular Hemorrhage
11.2.6. The Use of Tissue Plasminogen Activator in Submacular Hemorrhage Surgery
11.2.7. Submacular Surgery of Neovascular Complexes
11.2.8. Surgical Techniques for Subretinal Surgery
11.2.9. Pigment Epithelium Cell Transplantation
11.2.10. Vitrectomy in Vitreous Opacities
11.2.11. Surgical Techniques to Apply Gene Therapy

11.3. Surgical Techniques in Ocular Trauma
11.3.1. Examination of Eye Injuries in the Consultation Room
11.3.2. Exploration and Primary Scleral Repair of Ocular Perforator Trauma
11.3.3. Treatment of Hyphema
11.3.4. Surgical Techniques Iridodialysis Repair
11.3.5. Surgical Techniques for the Treatment of Traumatic Lens Dislocation or Subluxation or Traumatic Intraocular Lenses
11.3.6. Surgical Techniques for Intraocular Foreign Bodies
11.3.7. Penetrating and Piercing Injuries
11.3.8. Traumatic Suprachoroidal Hemorrhages
11.3.9. Sympathetic Ophthalmia

11.4. Other Retinal Surgery Techniques
11.4.1. Surgical Techniques in Retinal Occlusion
11.4.2. Removal of Intra-Arterial Emboli
11.4.3. Terson Syndrome
11.4.4. Macular Translocation
11.4.5. Artificial Vision, Bionic Retinal Prostheses
11.4.6. Intraoperative Radiotherapy for Subretinal Neovascular Complexes
11.4.7. Surgical Techniques for the Treatment of Choroidal Detachments



100% online, without restrictive schedules or continuous evaluation chronograms: this is how you will be able to access the theoretical contents that TECH offers you through this Hybrid Professional Master's Degree"

07

Clinical Internship

This program includes a first level clinical practice, after passing the initial theoretical phase. During this educational stage, the physician will have access to the best diagnostic and surgical technology. Thus, you will learn about the latest developments in the surgical management of various pathologies under the rigorous advice of leading experts in ophthalmology. A great opportunity that only TECH can offer to the specialist.

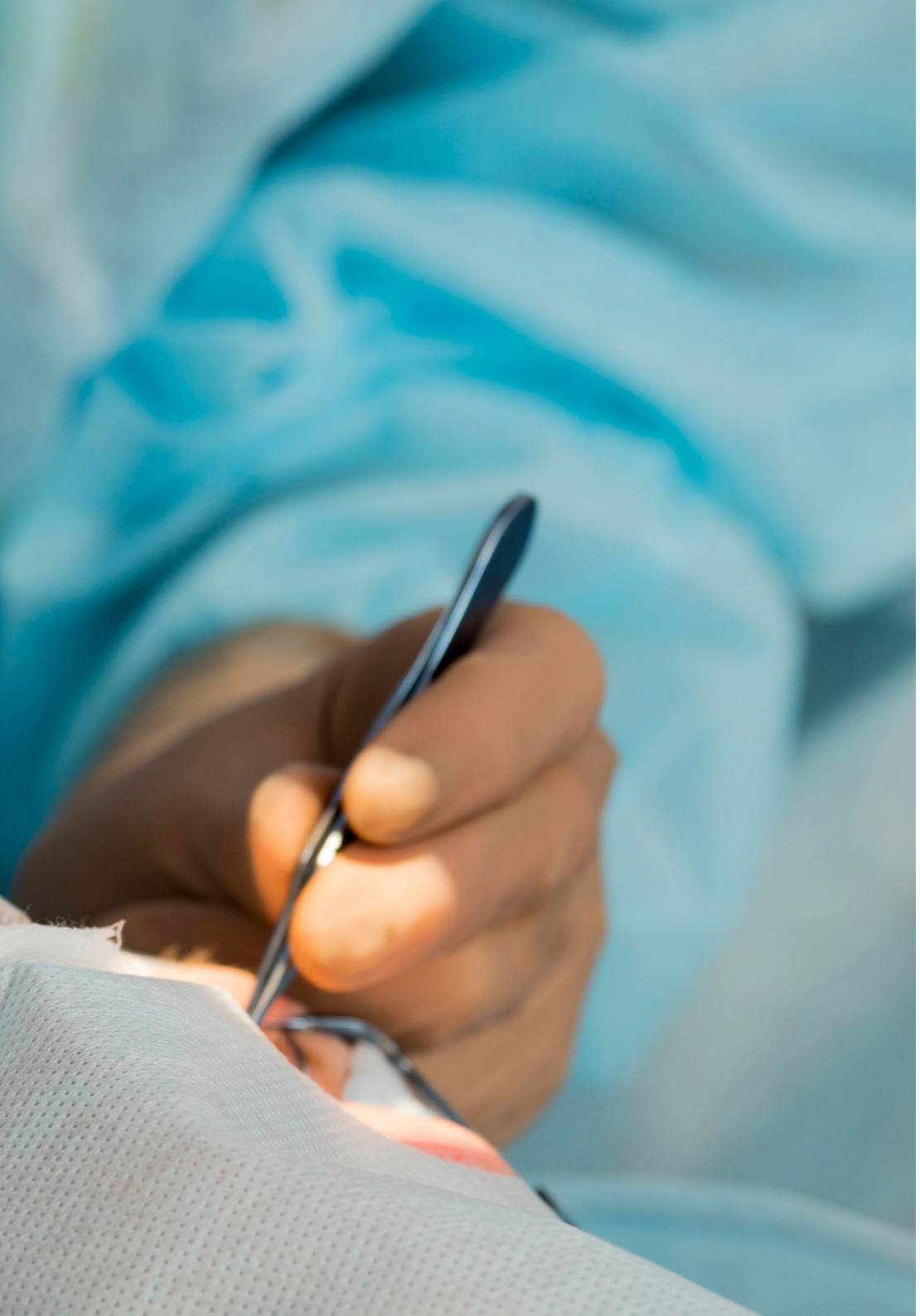
Do your clinical internship in one of the best hospital centers, being part of a highly competent work team and participating in an interdisciplinary way in the areas of interest for the clinical practice in this field"

The Internship Program of this Hybrid Professional Master's Degree is exclusively face-to-face. In its organization chart, the doctor will dedicate 3 weeks to the immersive and direct learning of the most updated skills in relation to the diagnosis, treatment and surgical intervention of real patients with pathologies of the Macula, Retina and Vitreous. This intensive and immersive process will take place in a prestigious hospital institution, equipped with the most advanced devices in the field of Ophthalmology.

Also in this second phase of the academic program, the specialist will work together with leading experts who are part of the multidisciplinary team of these facilities. Likewise, an assistant tutor will be in charge of supervising their progress on an ongoing basis and involving the healthcare professional in the most up-to-date care dynamics applied in that entity.

The practical part will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of the professors and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of the medical (learning to be and learning to relate).

The procedures described below will form the basis of the practical part of the training, and their completion 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
New technologies in the diagnosis of pathology of Macula, Retina and Vitreous	Perform angiography of the eye circulation by means of Optical Coherence Tomography
	Obtain detailed information on the emergence and evolution of retinal diseases such as age-related macular degeneration by means of autofluorescence imaging
	To study the vascularization of the eye through contrast angiography
	More detailed and accurate fundus photography with the Clarus 500 Retinograph, which does not require dilation of the patient's pupil
	Use an Amsler grid to examine the clarity of the patient's central vision
	Isolation of mycotic microorganisms for diagnosis by vitreous biopsy
Non-invasive trends in the treatment of infectious pathologies in the macula, retina and vitreous	Differential diagnosis and correct treatment of all common and less common ocular diseases
	Treat fungal infections of the eye, such as endogenous endophthalmitis, with amphotericin B
	Prescribe oral drug therapy for patients with persistent fungal infections
Latest surgical techniques for Macula, Retina and Vitreous	Intravitreally administer specific medications that prevent wet macular degeneration, diabetic retinopathy or rupture of blood vessels within the eye with an ocular injection
	Use new techniques in vitrectomy: pumps, illumination, visualization systems
	Applying surgery in diabetic retinopathy: from vitreous hemorrhage to tractional RD
	Repair holes or tears in the retina by laser surgery
	Reducing abnormal blood vessels using photocoagulation technique
	Implement Cryopexy by applying a very cold probe to the outer wall of the eye to treat a retinal tear
	To master the advances in Oculoplastics in order to incorporate them into routine medical practice
Management of pediatric patients with macular, retinal and vitreous pathologies	Perform complete vision examinations of the pediatric patient
	Early implantation of a retinal prosthesis for detachments of this eye structure in pediatric age
	Preventing Retinal Disease in Childhood Patients with Marfan Syndrome through Specific Follow-up Strategies
	Joining the lining of the back of the eye to preserve the vision of the pediatric patient with familial exudative vitreoretinopathy
	Monitor the patient's health conditions and know how diseases such as diabetes or hypertension have a direct impact on vision

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 educational entity undertakes to take out civil liability insurance to cover any eventuality that may arise during the stay at the internship center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. In this way, the professional will not have to worry in case he/she has to face an unexpected situation and will be covered until the end of the practical 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 Professional 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 Professional 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 Professional Master's Degree will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: the Hybrid Professional 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 Professional 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. DOES NOT INCLUDE: The Hybrid Professional 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?

The centers selected for the clinical practice of this Hybrid Professional Master's Degree meet the highest standards of quality care. All these entities have multidisciplinary teams that practice with excellence the latest techniques in Macula, Retina and Vitreous Surgery and Pathology. At the same time, it has state-of-the-art technological equipment to efficiently perform all these procedures. Thus, the ophthalmologist will be brought up to date on the handling of the most complex devices for that specialty and will become familiar with the most extensive intra-hospital protocols.

From the first day of practical training, you will have the opportunity to develop new knowledge in the direct care of real cases with different ocular pathologies"

The student will be able to take the practical part of this Hybrid Professional Master's Degree in the following centers:

Hospital HM Rosaleda

Country: Spain
City: 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

Hospital HM La Esperanza

Country: Spain
City: La Coruña

Address: Av. das Burgas, 2, 15705, Santiago de Compostela, A Coruña

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

Related internship programs:
Oncology Nursing
- Clinical Ophthalmology

Hospital HM Modelo

Country: Spain
City: 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

Policlínico HM Rosaleda Lalín

Country: Spain
City: 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

Hospital HM Nou Delfos

Country: Spain
City: Barcelona

Address: Avinguda de Vallcarca, 151, 08023 Barcelona

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

Related internship programs:
- Aesthetic Medicine
- Clinical Nutrition in Medicine

Hospital HM San Francisco

Country: Spain
City: 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

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

Hospital HM Madrid

Country: Spain
City: 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

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

Hospital HM Torrelodones

Country
Spain

City
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

Hospital HM Montepríncipe

Country
Spain

City
Madrid

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

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

Related internship programs:
- Palliative Care
- Aesthetic Medicine

Hospital HM Sanchinarro

Country
Spain

City
Madrid

Address: Calle de Oña, 10, 28050, Madrid

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

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

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

Policlínico HM Moraleja

Country: Spain
City: Madrid

Address: P.º de Alcobendas, 10, 28109, Alcobendas, Madrid

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

Related internship programs:
- Rehabilitation Medicine in Acquired Brain Injury Management

Policlínico HM Gabinete Velázquez

Country: Spain
City: Madrid

Address: C. de Jorge Juan, 19, 1° 28001, 28001, Madrid

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

Related internship programs:
- Clinical Nutrition in Medicine
- Aesthetic Plastic Surgery

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

Take advantage of this opportunity to surround yourself with expert professionals and learn from their work methodology"

09

Methodology

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

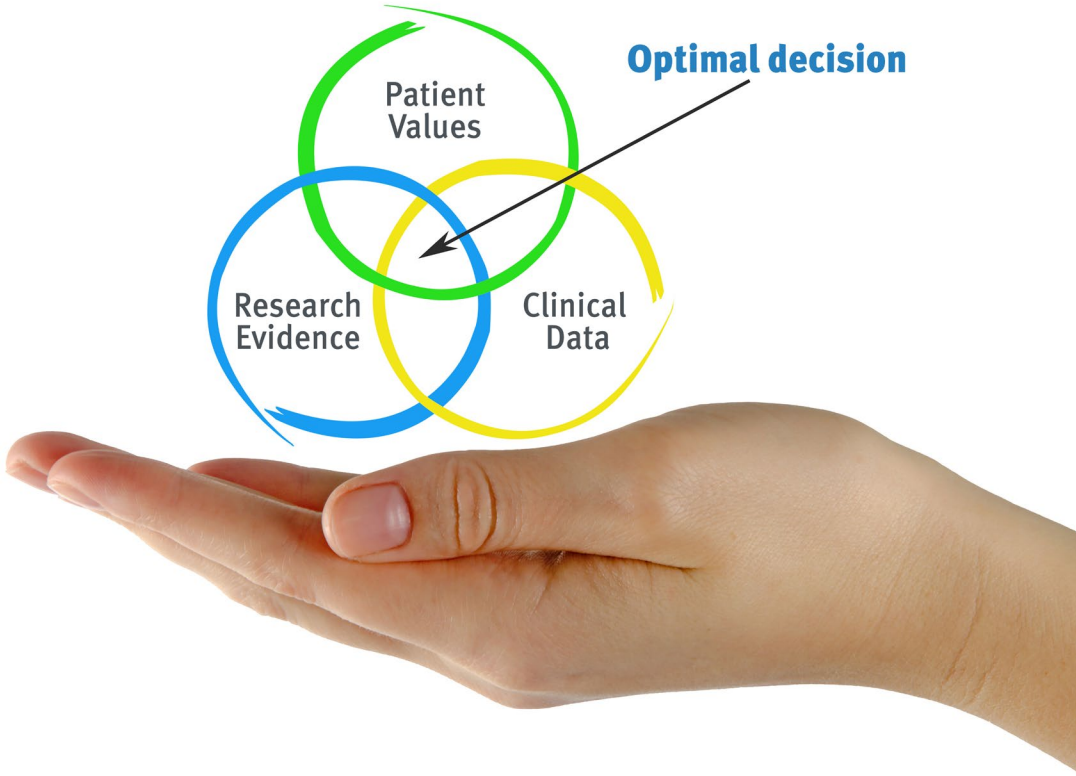
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. 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.

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:

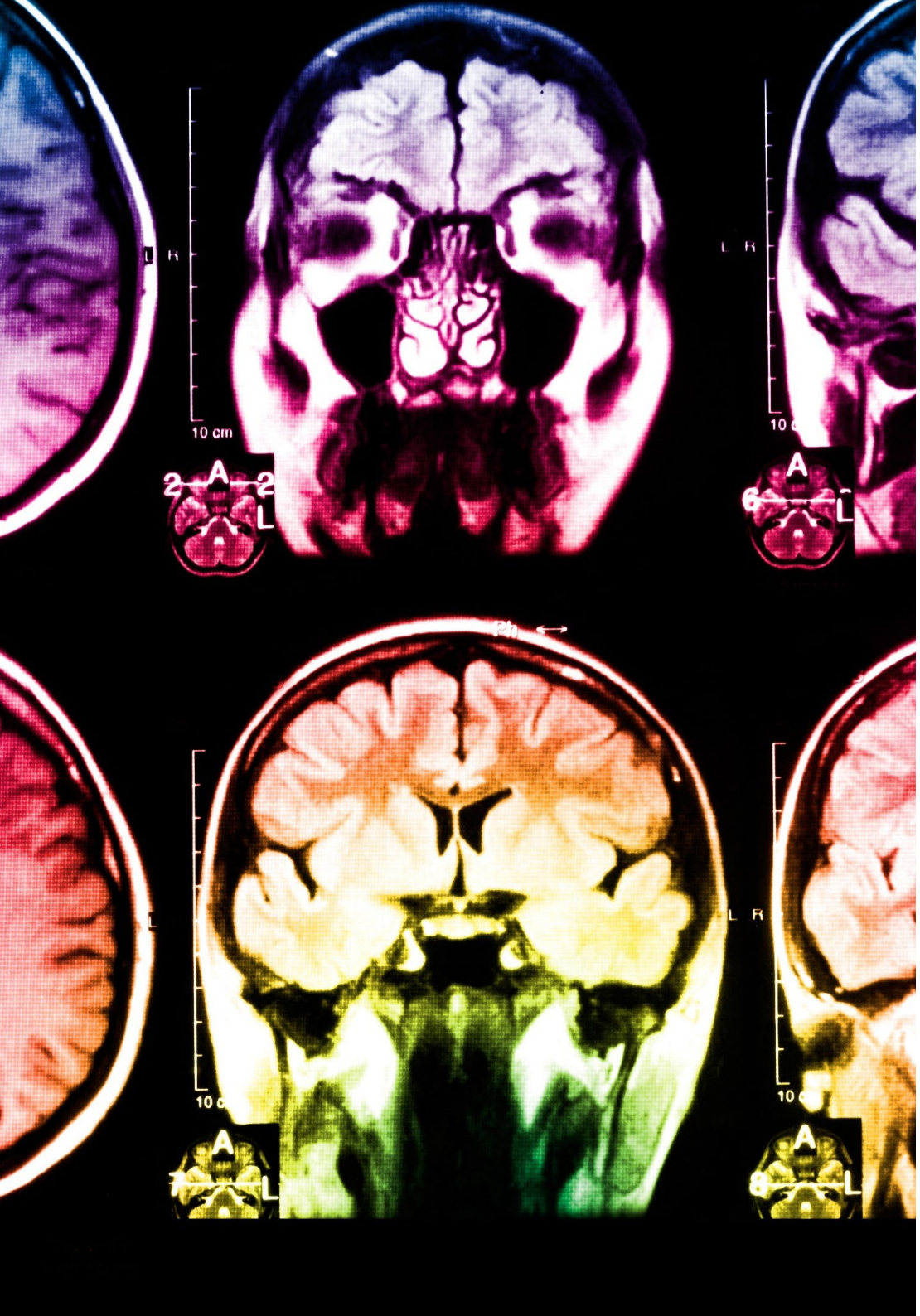
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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.

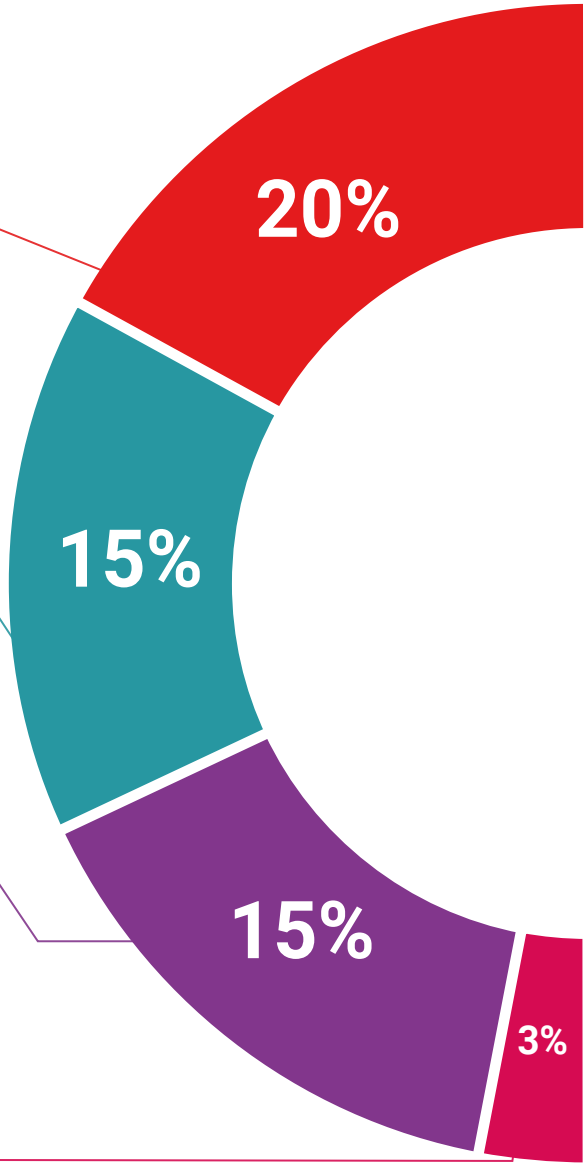
Interactive Summaries

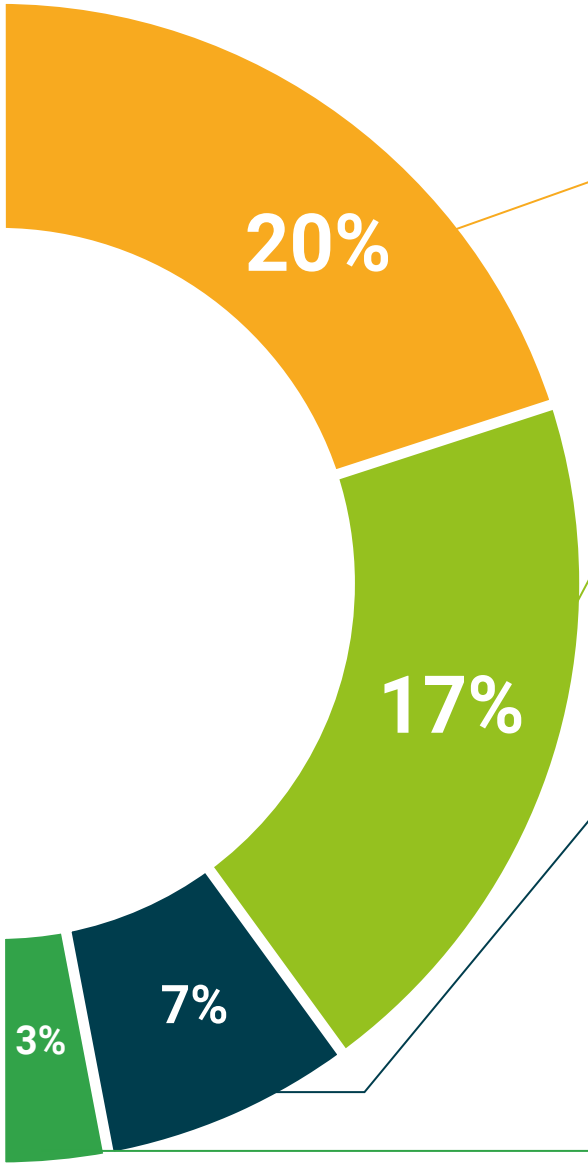
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

This Hybrid Professional Master's Degree in Macula, Retina and Vitreous Pathology and Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Professional 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 Professional Master's Degree diploma in Macula, Retina and Vitreous Pathology and Surgery** 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.

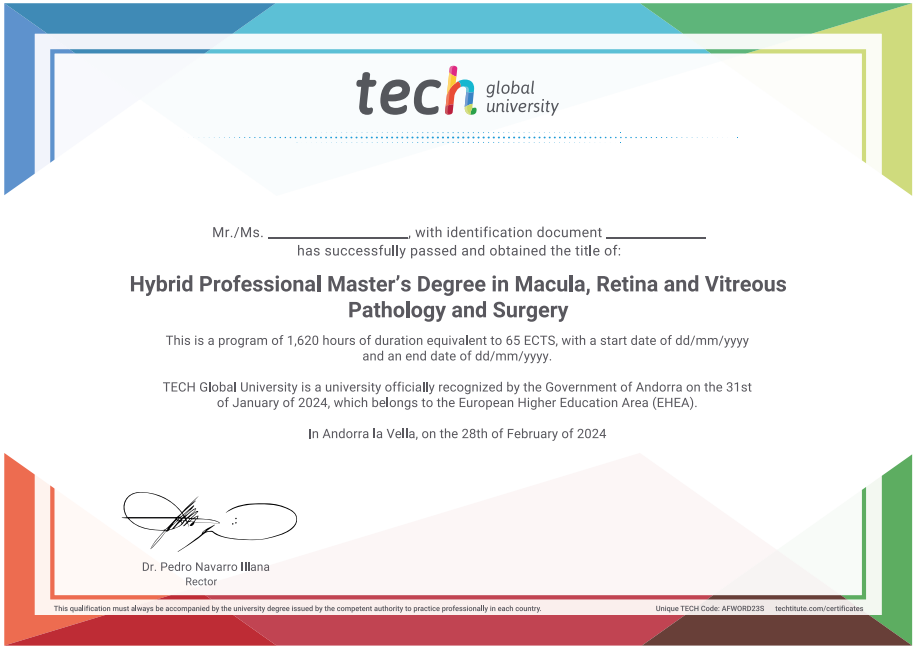
Title: **Hybrid Professional Master's Degree in Macula, Retina and Vitreous Pathology and Surgery**

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

Duration: **12 months**

Certificate: **TECH Global University**

Recognition: **60 + 5 ECTS Credits**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Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Hybrid Professional Master's Degree in Macula, Retina and Vitreous Pathology and Surgery

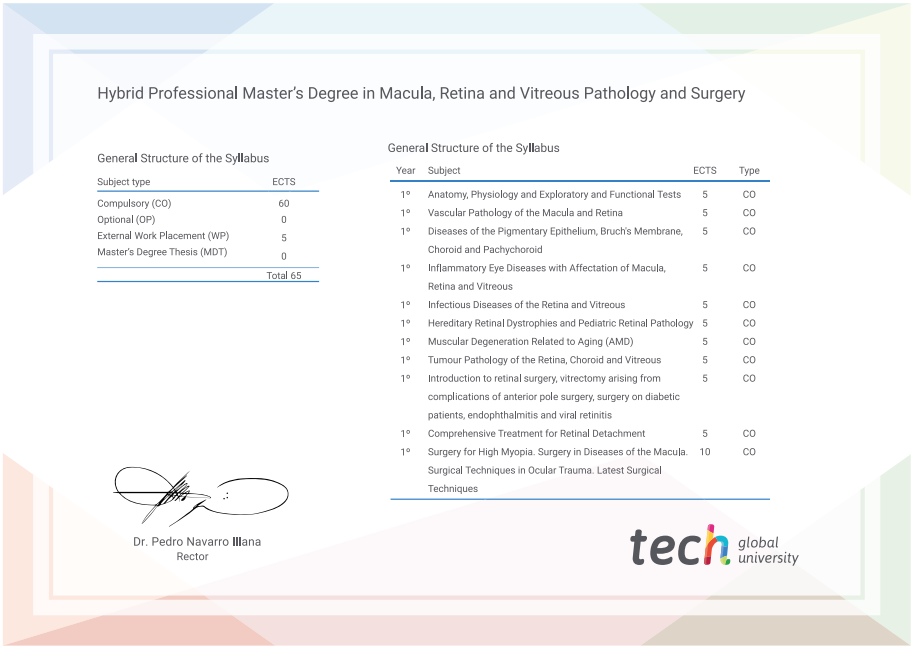
This is a program of 1,620 hours of duration equivalent to 65 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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

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

Dr. Pedro Navarro Illana
Rector

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


Hybrid Professional Master's Degree in Macula, Retina and Vitreous Pathology and Surgery

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	5
Master's Degree Thesis (MDT)	0
	Total 65

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Anatomy, Physiology and Exploratory and Functional Tests	5	CO
1º	Vascular Pathology of the Macula and Retina	5	CO
1º	Diseases of the Pigmentary Epithelium, Bruch's Membrane, Choroid and Pachychoroid	5	CO
1º	Inflammatory Eye Diseases with Affectation of Macula, Retina and Vitreous	5	CO
1º	Infectious Diseases of the Retina and Vitreous	5	CO
1º	Hereditary Retinal Dystrophies and Pediatric Retinal Pathology	5	CO
1º	Muscular Degeneration Related to Aging (AMD)	5	CO
1º	Tumour Pathology of the Retina, Choroid and Vitreous	5	CO
1º	Introduction to retinal surgery, vitrectomy arising from complications of anterior pole surgery, surgery on diabetic patients, endophthalmitis and viral retinitis	5	CO
1º	Comprehensive Treatment for Retinal Detachment	5	CO
1º	Surgery for High Myopia. Surgery in Diseases of the Macula. Surgical Techniques in Ocular Trauma. Latest Surgical Techniques	10	CO

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

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Hybrid Professional Master's Degree

Macula, Retina and Vitreous Pathology and Surgery

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

Duration: **12 months**

Certificate: **TECH Global University**

60 + 5 créditos ECTS

Hybrid Professional Master's Degree

Macula, Retina and Vitreous Pathology and Surgery

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