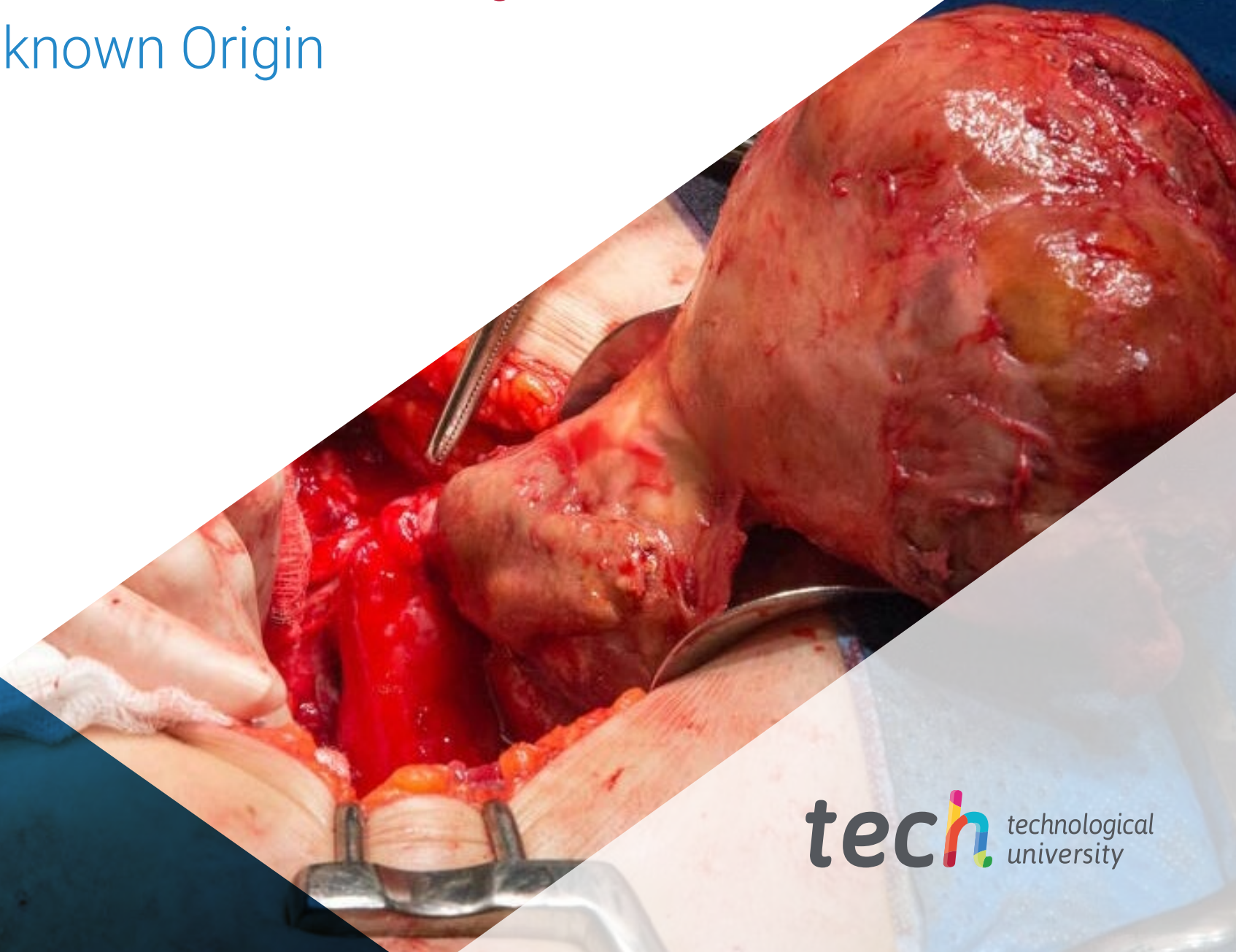


# Hybrid Professional Master's Degree

## Cancer of Unknown Origin





## Hybrid Professional Master's Degree Cancer of Unknown Origin

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months.

Certificate: TECH Technological University

Teaching Hours: 1,620 h.

Website: [www.techtitute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-cancer-unknown-origin](http://www.techtitute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-cancer-unknown-origin)

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# 01

# Introduction

Medical professionals and researchers maintain a continuing interest in the study of orphan cancers and cancers of unknown origin. The growing progress in Genetics, Epidemiology and Biomedicine has allowed improving diagnostic tests and clinical treatments for certain pathologies, which are still difficult to treat. With this program, TECH offers the specialist the opportunity to obtain a complete update of their knowledge through an advanced and 100% online syllabus, in which they will delve into new clinical trials, low incidence tumors and Nanoscience applied to rare tumors. This program is complemented by a practical phase in a first level hospital center. A stay where students will spend 3 weeks with the best specialists in the management of patients with this type of cancer.





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*This Hybrid Professional Master's Degree will show you the advances obtained in the latest clinical trials diagnosed with Cancer of Unknown Origin”*

The study of lymphomas, sarcomas, melanomas or carcinomas by prestigious research centers that invest time and resources in knowing the origin of the same in depth, in order to obtain effective treatments, is becoming more and more frequent. A scenario that sometimes seems distant, but which in recent years has achieved important milestones thanks to the advances made through Epidemiology, Genetics, Biomedicine and Bioinformatics.

Multidisciplinary areas that try to reduce the existing figure, in which one out of every five patients diagnosed with cancer has a rare type of tumor. In this line, TECH has designed this Hybrid Professional Master's Degree that provides medical professionals with the most advanced and updated knowledge on the present reality of orphan tumors, agnostic and of unknown origin. All this is complemented with a practical stay in which you will be able to update your knowledge directly in one of the best hospitals in the approach and study of this type of cancer.

Thus, students will have access to a 100% online theoretical framework, with multimedia content that will take them to the most recent developments in clinical research on rare tumors, new models of clinical trials, pharmacology, precision medicine and molecular aspects that affect hereditary syndromes. A syllabus that you can access comfortably from any device with an internet connection and at any time of the day.

Once this phase is completed, the professional will enter into a practical stay that will undoubtedly mark the path of updating knowledge in this field. This institution has selected the best clinical environments, so that the graduate can gain access to the most innovative techniques, methods and procedures in this area in just 3 months. In this way, you will be able, alongside the best, to integrate this methodology into your daily practice.

A unique opportunity that allows physicians to update their knowledge in Cancer of Unknown Origin, through a quality university program, compatible with their daily professional life and with the best specialists in this field.

This **Hybrid Professional Master's Degree in Cancer of Unknown Origin** contains the most complete and up-to-date scientific program on the market. Its most outstanding features are:

- ♦ Development of more than 100 clinical cases presented by professional experts in Cancer
- ♦ 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
- ♦ Patient assessment care for long-surviving patients with low-incidence tumors
- ♦ Comprehensive systematized action plans for the main symptomatology in patients with Cancer of unknown origin
- ♦ Presentation of practical workshops on diagnostic and therapeutic techniques in the critically ill patient
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ Practical clinical guides on approaching different pathologies
- ♦ With a special emphasis on evidence-based medicine and methodologies in cancer research
- ♦ 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

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*Take an intensive 3-week program at a prestigious center that will show you the paradigm shift of Cancer of Unknown Origin in the molecular era”*

In this Professional Master's Degree, of a professionalizing nature and blended learning modality, the program is aimed at updating professional experts in Cancer who develop their functions in specialized Units, and who require a high level of qualification. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge into medical practice, and the theoretical-practical elements will facilitate the updating of knowledge and will allow decision making in patient management.

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

*This Hybrid Professional Master's Degree will show you the progress made with adolescent patients and long surviving children.*

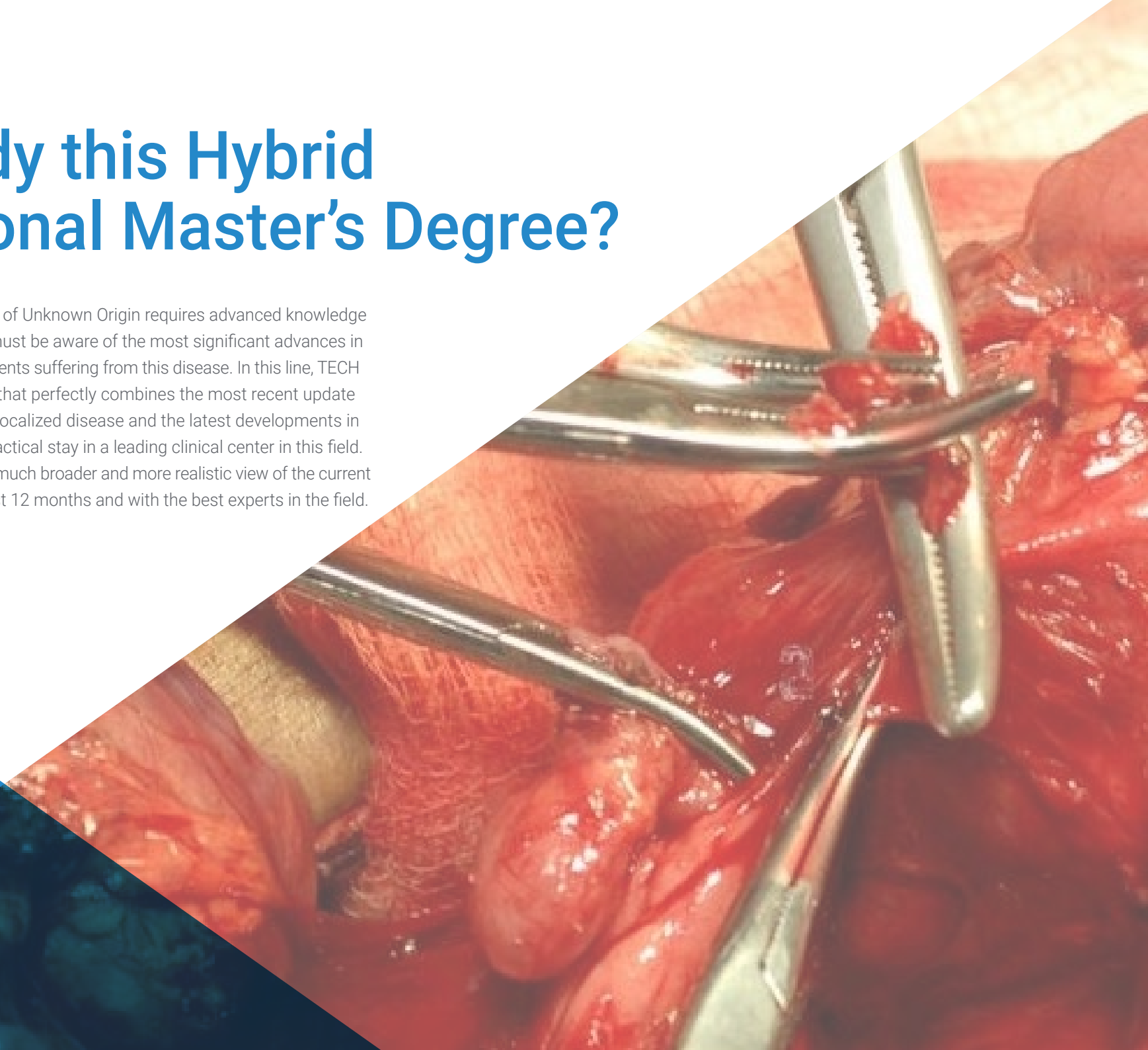
*Learn about the most advanced techniques in Molecular Biology applied to Medullary Thyroid Cancer.*



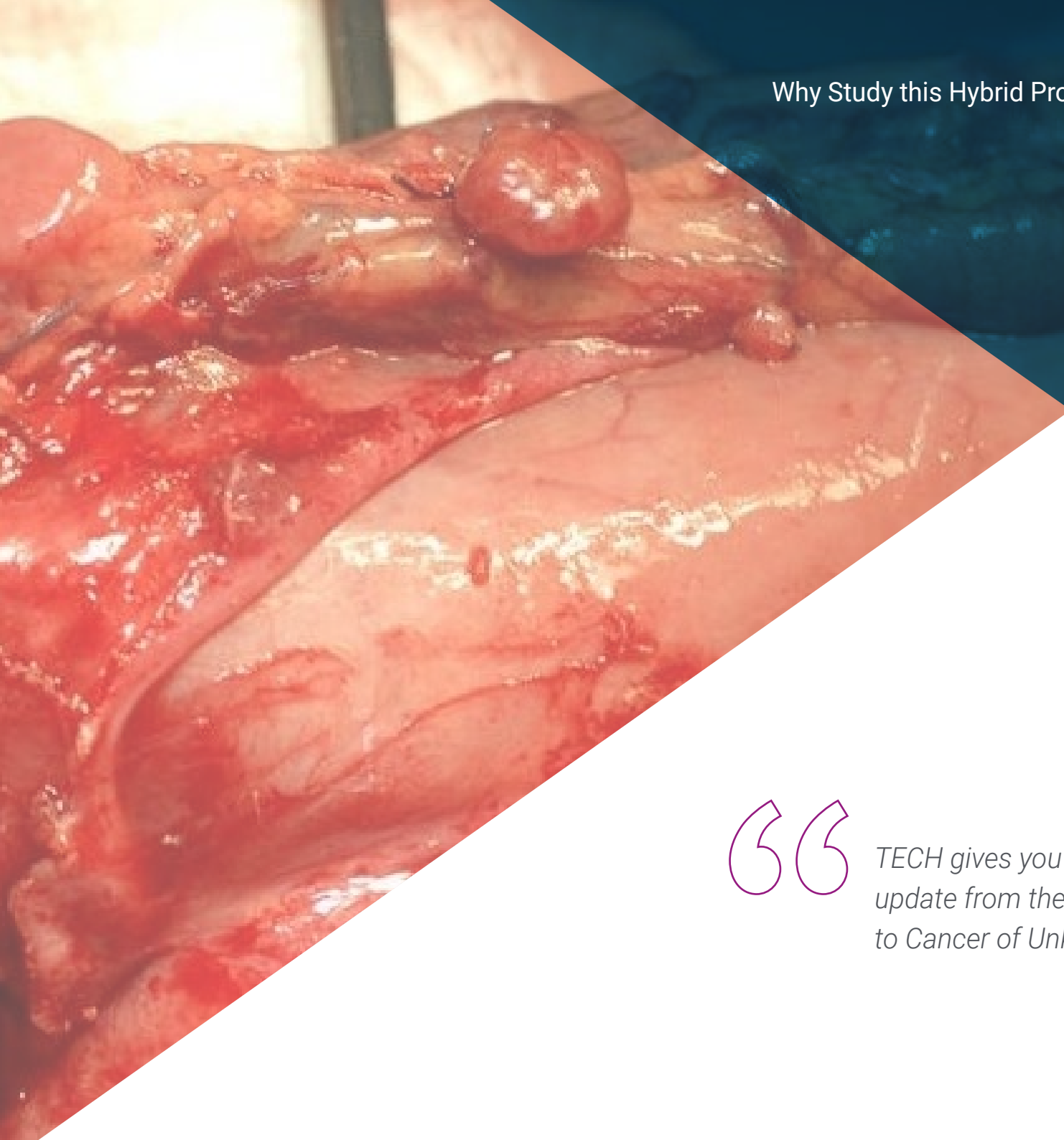
02

# Why Study this Hybrid Professional Master's Degree?

The study and treatment of Cancer of Unknown Origin requires advanced knowledge on the part of professionals, who must be aware of the most significant advances in order to increase the survival of patients suffering from this disease. In this line, TECH has created a pioneering program that perfectly combines the most recent update in Molecular Biology, treatment of localized disease and the latest developments in interventional techniques with a practical stay in a leading clinical center in this field. Thus, the professional will obtain a much broader and more realistic view of the current panorama in this field. All this in just 12 months and with the best experts in the field.







“

*TECH gives you the opportunity to receive an update from the best experts in the approach to Cancer of Unknown Origin”*

### **1. Updating from the latest technology available**

New technologies have favored the study of cancer of unknown origin, improving the devices used for the diagnosis and analysis of samples taken from patients. That is why TECH brings professionals closer to the latest clinical trials, biobanks and state-of-the-art technology for DNA studies through this Hybrid Professional Master's Degree.

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

Throughout this academic journey, the medical professional has an excellent teaching team with extensive experience in the management of patients with different types of cancer. Thanks to them you will get a deep theoretical insight, which you will be able to apply during your clinical stay. An environment where you are tutored, at all times, by an expert in Cancer of Unknown Origin, who will show you the most innovative methods used today.

### **3. Entering First-Class Clinical Environments**

TECH wanted to make a difference with this program by including a first-class clinical stay in a prestigious hospital. A unique environment, where the professional will have access to the most advanced and updated information on the treatment of low incidence cancer from the first moment, always following the most recent scientific criteria in the work methodology.





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

At present, there are many educational programs that are far removed from the daily work of specialists and have a significant teaching load that is not very compatible with personal and working life. For this reason, TECH breaks through with a Hybrid Professional Master's Degree that combines an advanced theoretical framework 100% online and flexible, with a practical stay of 3 weeks in a space specialized in Cancer of Unknown Origin. All designed and taught by the best professionals.

#### 5. Expanding the Boundaries of Knowledge

TECH offers the possibility of doing this Internship Program, not only in national, but also in international centers. This way, the specialist will be able to expand their frontiers and catch up with the best professionals, who practice in first class centers and in different continents. A unique opportunity that only TECH, the largest online university in the world, could offer.



*You will have full hands-on immersion at the center of your choice"*

# 03

## Objectives

This Hybrid Professional Master's Degree in Cancer of Unknown Origin provides the medical professional with a global and exhaustive vision of this area, through advanced and recent content, which will allow them to update their knowledge in an unprecedented way. To this end, TECH has designed a program that will allow you to combine your responsibilities while expanding your skills in this field. All this, reinforced by an excellent clinical stay in a first class hospital center.





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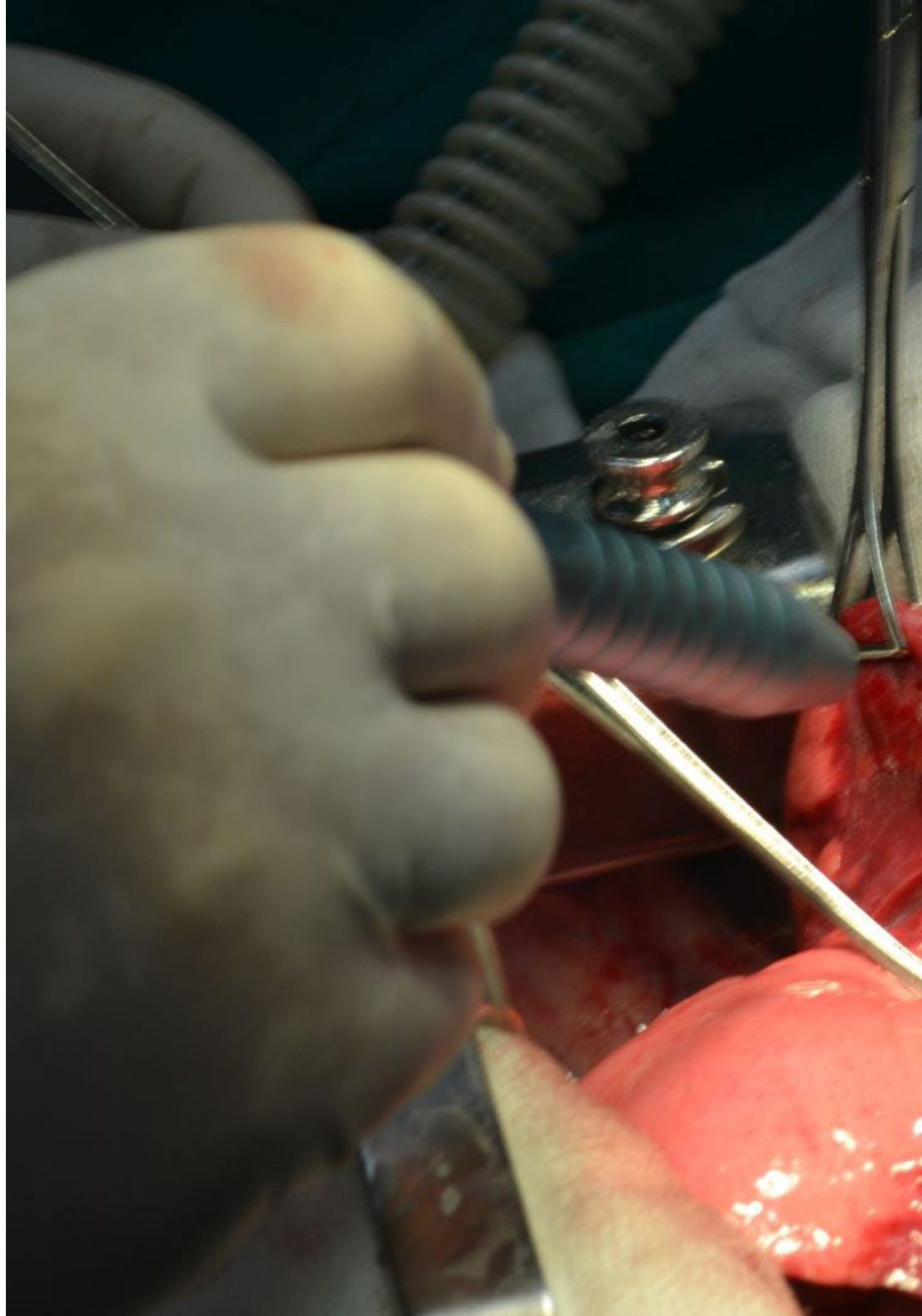
*You will be able to get an update on the most frequent toxicity in patients with antineoplastic treatments and in intensive care”*



## General Objectives

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- ♦ Acquire concepts and knowledge regarding the clinical epidemiology, diagnosis and treatment of infrequent tumors, agnostic diagnoses and cancers of unknown origin
- ♦ Have a deeper knowledge of specific treatment networks, reference centers, clinical trials, etc.
- ♦ Acquire knowledge about Molecular Biology tools for the study of these tumors
- ♦ Specialize in inter-professional relationship tools for the treatment of orphan, agnostic and cancer of unknown origin and to access expert networks in the different pathology groups





## Specific Objectives

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### Module 1. The reality of orphan, agnostic and tumors of unknown origin

- ◆ Be able to place the entities under study in an epidemiological context, to know their incidence and prevalence, as well as the trend of the rates at European level
- ◆ Delve into the survival data at European level and the causes of the differences in survival between rare tumors and reference tumor pathology
- ◆ Gain a deeper understanding of aspects related to precision medicine in the context of rare tumors, agnostic treatments and Cancer of Unknown Origin
- ◆ Handle the different models of care for rare tumors, as well as concepts in their field such as tumor registries, expert networks, reference units and tumor board review
- ◆ Acquire training on biobanks and their role in clinical research
- ◆ Become familiar with the methodological aspects of low incidence tumor research
- ◆ Specialize in the European framework of legislation in relation to low incidence tumors, the role of regulatory agencies and the particularities of access to drugs to drugs
- ◆ Be aware of the implications of all this in the patient's experience, as well as the repercussions of the disease at the psychological and social level

### Module 2. Molecular Biology Tools for the Agnostic Approach to Rare Cancer

- ♦ Acquire the ability to use molecular biology tools for an agnostic approach to rare cancers
- ♦ Deepen the knowledge of the study of tumor DNA, both in solid biopsy and liquid biopsy
- ♦ Study aspects of the genome, the exome and sequencing panels; and to learn about the available platforms and current applications
- ♦ Develop skills in germline DNA, becoming familiar with the concepts of variants and polymorphisms and being able to study germline alterations in depth
- ♦ Provide the necessary knowledge in the study of messenger RNA, developing content about the transcriptome, RNA sequencing panels (Nanostring) and Single Cell RNA
- ♦ Know in depth the development, present and future of drug sensing in primary cell culture and organoids
- ♦ Complete the training in immunotherapy with its aspects related to molecular biology, knowing concepts such as mutational load, neo-antigens, microbiota or adoptive cell therapy

### Module 3. Pleural, Mediastinal and Chest Wall Tumors: Lung Cancer As a Paradigm of New Rare Tumors. Head and Neck Cancer

- ♦ Teach students how to manage four groups of pathologies in this area: pleural tumors, mediastinal tumors (thymoma and thymic carcinoma), chest wall tumors and neuroendocrine lung tumors (typical carcinoid, atypical carcinoid and large cell carcinoma)
- ♦ Acquire skills in aspects of epidemiology, etiology and pathogenesis, clinical presentation, diagnosis and classification, prognostic factors, treatment and clinical guideline recommendations
- ♦ Explore the prospects for each of these areas of pathology
- ♦ Acquire competencies on the role of lung cancer as a paradigm of personalized medicine
- ♦ Be able to use diagnostic techniques and new treatment options The skills to be acquired in this block refer to the types of sample according to the diagnostic approach; optimization in sample management, response time and characteristics of the report; tumor heterogeneity; role of liquid biopsy; molecular diagnostic techniques: IHC, FISH, RT-PCR, NGS and guideline recommendations in this context
- ♦ Specialize in driver mutations in the lung cancer context: EGFR, BRAF, MET, KRAS, ALK, ROS-1
- ♦ Gain an in-depth understanding of the role of translocations and rearrangements/ amplifications: NTRK, RET, MET, HER-2
- ♦ Recognize the most uncommon tumors of the otorhinolaryngological and head and neck area, acquiring skills for their diagnosis and treatment



#### **Module 4. Uncommon Digestive Tumors Digestive Neuroendocrine Tumors. Thyroid Cancer**

- ♦ Have an in-depth knowledge of a heterogeneous group of pathologies with very different diagnostic, therapeutic and prognostic approaches, including: small bowel tumors, appendicular tumors, anal canal carcinoma, liver and intrahepatic bile duct tumors, gallbladder and extrahepatic bile duct neoplasms, and gastrointestinal stromal tumors
- ♦ Acquire skills in the molecular approach to enable effective treatment with targeted therapies, as in the case of GIST (gastrointestinal stromal tumors) or more recently carcinomas of the biliary tract
- ♦ Study thyroid cancer and neuroendocrine tumors Acquire the ability to diagnose and treat this group of neoplasms
- ♦ Specialize in neuroendocrine tumors and to acquire the competence to approach them in the context of the multidisciplinary team

#### **Module 5. Uncommon Gynecologic Tumors. Rare Breast Tumors. Genitourinary Oncology of Uncommon Tumors**

- ♦ Study orphan urological neoplasms in depth
- ♦ Address rare urological pathology in terms of its clinical, diagnostic and therapeutic aspects, with special emphasis on molecular developments in recent years, in which many of these tumors are beginning to be tributary to a molecular approach
- ♦ Update knowledge on rare gynecologic cancers
- ♦ Recognize the rare types of breast cancer, the more specific aspects of their approach and the complexity of their treatment

#### **Module 6. Hereditary Syndromes, from Biology to Clinical Application. Pediatric Tumors and Pediatric Tumors in Adults**

- ♦ Have a thorough understanding of uncommon hereditary syndromes from a clinical and molecular perspective
- ♦ Have sufficient knowledge of rare neoplasia, its relationship with heredity and the criteria for referral to a referral unit
- ♦ Acquire knowledge about pediatric cancer Know the criteria to be considered a tumor as such
- ♦ Be up to date in the diagnosis and treatment of these clinical entities

#### **Module 7. Musculoskeletal Tumors: Epithelial Cancer. Central Nervous System Tumors: Ocular Tumors**

- ♦ Specialize in sarcomas as a paradigm of rare cancer: its diversity, classification, characteristics and diagnostic approach to therapy
- ♦ Prepare students for the initial approach and management of skeletal and soft tissue tumors and visceral sarcomas
- ♦ Gain in-depth knowledge of rare and ultra-rare tumors of the central nervous system
- ♦ Expand knowledge of next generation sequencing (NGS) as an emerging technology that can detect a wide variety of molecular disorders in brain tumors
- ♦ Learn about the development of technology in new equipment for neuro-oncological care, allowing stereotactic surgery, the evolution of neuroimaging techniques, neuronavigation, neuroendoscopy, as well as the emergence of specialized surgery instruments
- ♦ Acquire knowledge about rare epithelial neoplasms, Merckel cell carcinoma and ocular melanoma

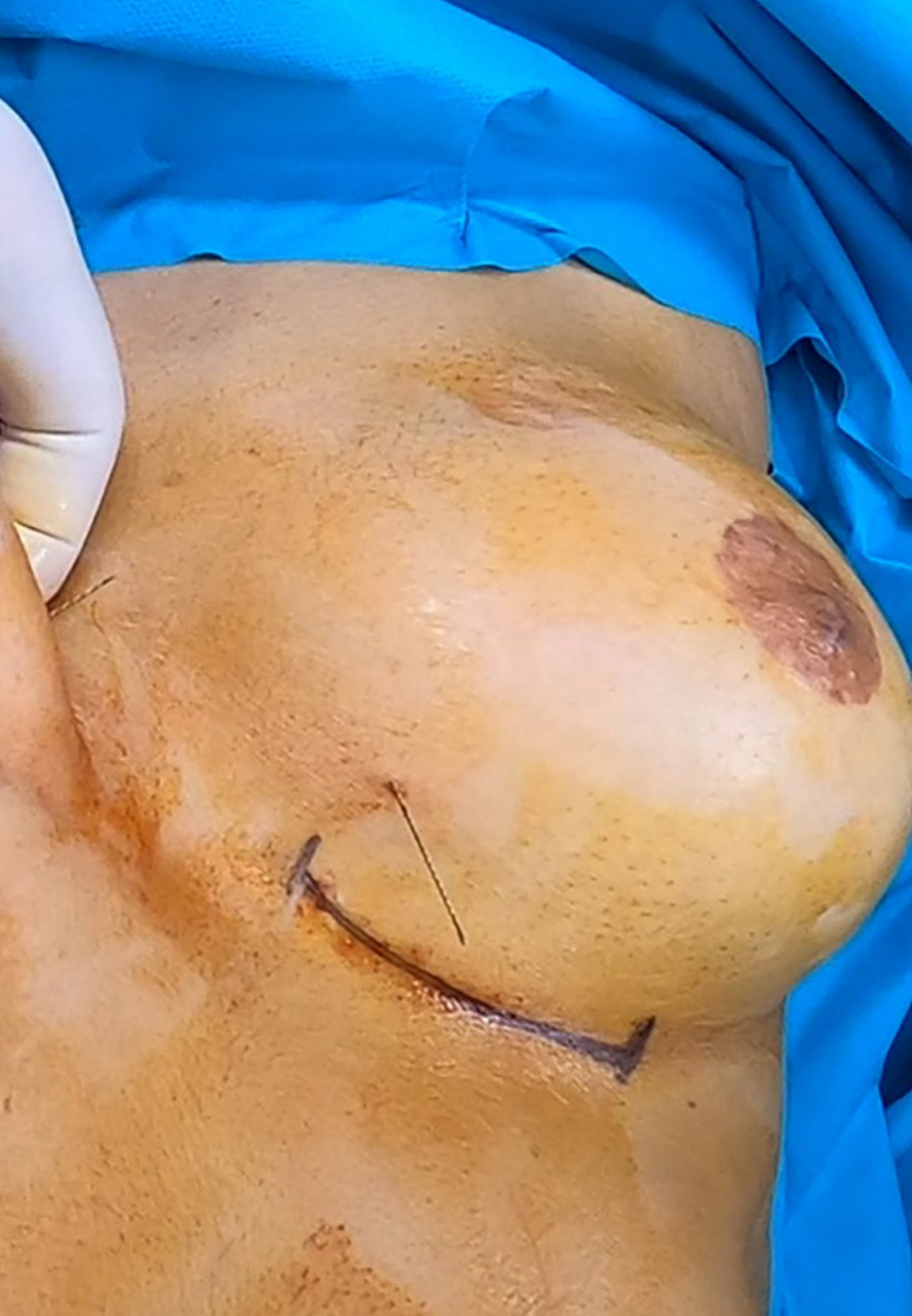
### Module 8. Agnostic Tumors

- ◆ Become familiar with the concept of agnostic diagnosis
- ◆ Delve into the new paradigm in cancer treatment, opening the door to the choice of treatment based on a particular bio-molecular alteration, over and above the type and location of the tumor, a concept known as tumor agnostic treatment
- ◆ Gain knowledge about one of the most important biomarkers detected is the NTRK fusion gene, which appears in a wide variety of tumor types in both adult and pediatric patients
- ◆ Provide the student with the necessary judgment to use molecular tools efficiently and safely to detect patients carrying their mutations
- ◆ Manage the approach to tumors with microsatellite instability
- ◆ Delve into the development of numerous agnostic treatments in various pathologies

### Module 9. Cancer of Unknown Origin

- ◆ Delve into the concept of cancer of unknown origin
- ◆ Know in depth its modes of presentation and the tests that should be performed in targeted manner
- ◆ Acquire the skills for the approach of this disease and the collaboration to optimize the survival of these patients
- ◆ Know how use molecular tools in the context of this pathology
- ◆ Manage the distinctive ways in which their research is addressed: basket and umbrella essays





**Module 10. Supportive Treatment, Antineoplastic Treatment Toxicity Control, Palliative Care and Care of Long-Term Survivors with Low-Incidence Tumors**

- ♦ Learn to care for long-surviving patients, resulting in a population with very unique needs
- ♦ Acquire the skills to detect and address the needs of this population
- ♦ Provide skills for terminal illness, end of life and pain care
- ♦ Delve into the importance of supportive care in the quality of life and cancer patient survival
- ♦ Acquire skills for the care of major cancer syndromes: pain, emesis, alterations of the intestinal habitus, etc.
- ♦ Be able to deal with the toxicity of oncological treatment Hepatic

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*This program will allow you to become familiar with the management of the peculiar aspects of the scientific approach in Basket and Umbrella trials”*

# 04 Skills

This Hybrid Professional Master's Degree in Cancer of Unknown Origin allows medical professionals to enhance their skills in the diagnosis and detailed study of this type of disease. For this purpose, TECH provides the most innovative pedagogical tools and a team of top-level experts in this area. As a result, you will be able to successfully achieve your upgrade objectives.





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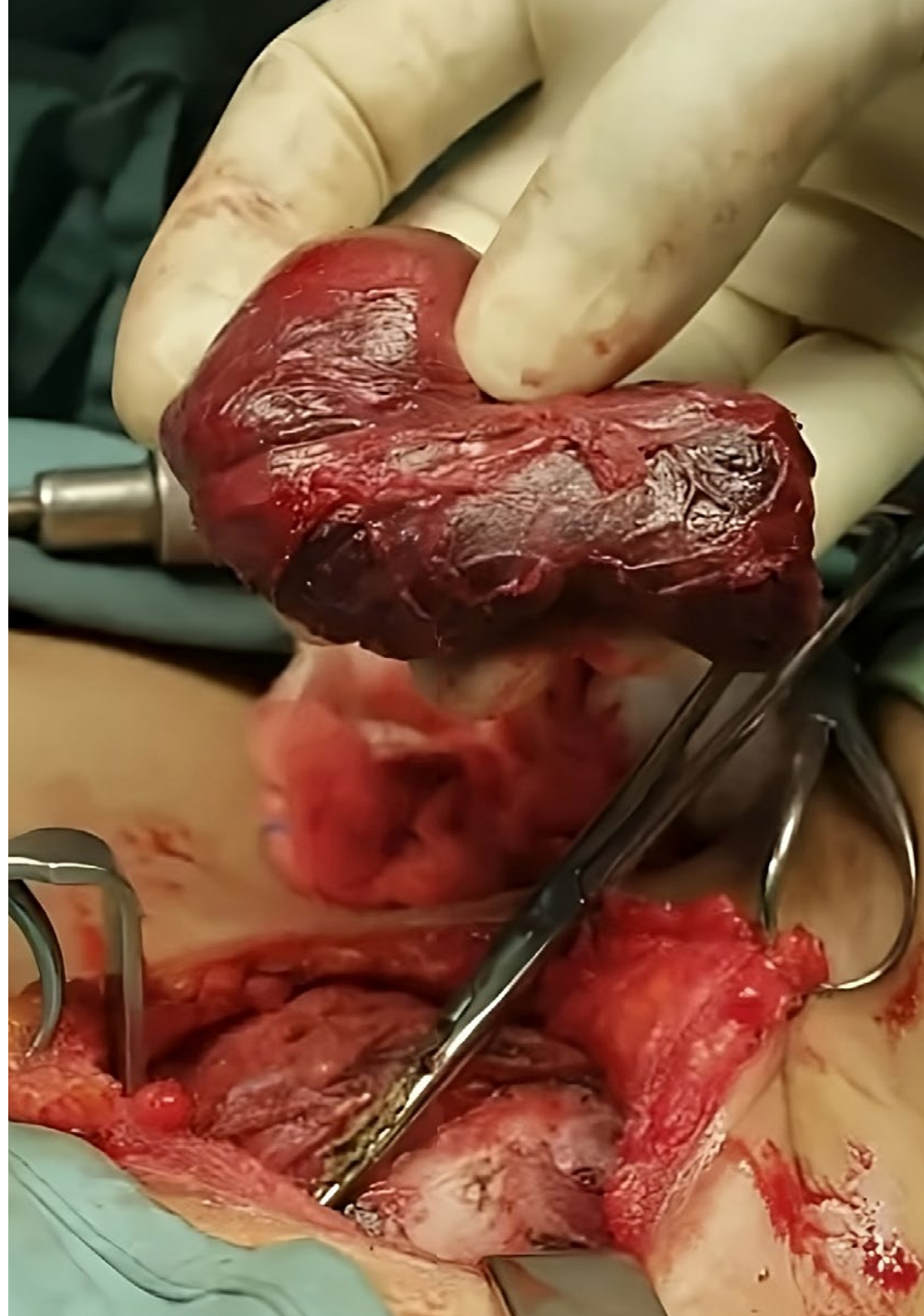
*Elevate your competencies to address infrequent bladder and upper urinary tract tumors”*



## General Skills

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- ♦ Possess and understand in depth knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- ♦ Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study
- ♦ Integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments
- ♦ Manage the communication of findings, and the ultimate knowledge and rationale behind them to specialized and non-specialized audiences in a clear and unambiguous manner
- ♦ Acquire the learning skills that will enable further studying in a largely self-directed or autonomous manner
- ♦ Incorporate new technologies into daily practice, knowing their advances, limitations and future potential





## Specific Skills

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- ♦ Understand the concepts surrounding this disease: rare tumor, tumor-agnostic therapy, cancer of unknown primary
- ♦ Understand the epidemiological and social significance of rare cancers
- ♦ Possess and understand knowledge that provides a basis for the global approach to these diseases
- ♦ Master knowledge of molecular biology tools for the study of these tumors
- ♦ Apply diagnostic algorithms and evaluate the prognosis of this disease
- ♦ Gain in-depth knowledge of inter-professional relationship tools for rare cancers, cancer of unknown primary and tumor-agnostic therapy
- ♦ Further develop and use tumor registries
- ♦ Know in-depth and use face-to-face or virtual molecular committees
- ♦ Understand aspects of biobank operations
- ♦ Apply knowledge to solve clinical and research problems in this area of rare pathologies
- ♦ Specialize in the fundamental problems that occur in the field of this disease Understand medication access circuits
- ♦ Communicate knowledge in the setting of these tumors
- ♦ Possess learning skills that allow continued self-directed or autonomous study in this environment
- ♦ Understand the social responsibility due to rare diseases
- ♦ Possess and understand in-depth knowledge that provides a basis for the development and/or application of ideas in a research context



*In thanks to the Relearning system used by TECH to reduce the long hours of study and memorization”*

05

# Course Management

TECH carries out a thorough selection process for each and every one of the teachers that make up its programs. In this way, students who take this program will have access to the most current knowledge provided by specialists in various types of low-incidence cancers, with extensive professional experience in this field. This is a guarantee for the specialist who wishes to carry out an update in the hands of the best.







“

*TECH has assembled an excellent team of professionals with a proven track record in the study and management of low-incidence cancers”*

## Management



### Dr. Carmen Beato Zambrano

- ♦ Specialist in Medical Oncology at Virgen Macarena University Hospital.
- ♦ Medical Oncologist of the HLA Hospital Group
- ♦ Medical Oncologist at GenesisCare
- ♦ Medical Oncologist at Oncoavanze
- ♦ Author and co-author of a large number of scientific articles.
- ♦ Master's Degree in Clinical Trials from the University of Seville
- ♦ Degree in Palliative Care from the University Pontificia de Comillas
- ♦ Postgraduate Diploma in Oncology from the University of Navarra
- ♦ Member of the Spanish Group on Orphan and Infrequent Tumors
- ♦ Secretary Spanish Group for Cancer of Unknown Origin

## Professors

### Dr. Ramón De las Peñas Bataller

- ♦ Medical Director of the Oncology Consortium at the Castellón University General Hospital
- ♦ President of of the Spanish Group of Orphan and Infrequent Customer Tumors (GETTHI)
- ♦ Bachelor in Medicine and Surgery from the University of Valencia
- ♦ Specialist in Neurology
- ♦ Specialist in Medical Oncology

### Dr. Jesús Corral Jaime

- ♦ Lung Cancer Oncologist Expert in Lung Cancer
- ♦ Medical Oncologist, University of Navarra Clinic
- ♦ Consultant in Medical Oncology, Hospital Virgen del Rocío, Madrid
- ♦ Professional Master's Degree in Biomedical Research, University of Seville, Spain
- ♦ Professional Master's Degree in Clinical Trials, University of Seville, Spain
- ♦ Member of: Spanish Society of Medical Oncology, Society for the Study of Thoracic Wall Tumors in Women, Spanish Lung Cancer Group (GECP), Specialty of Medical Oncology, National Commission of Medical Oncology, Spanish Society for the Study of Thoracic Wall Tumors in Women, Spanish Lung Cancer Group (GECP)

### Dr. Fernando Manuel Henao Carrasco

- ♦ Specialist in Oncology Radiotherapy
- ♦ Adjunct physician, from Oncology Unit, Donostia University Hospital
- ♦ Specialist Physician of the Extremaduran Health Service
- ♦ Member: Andalusian Society of Medical Oncology (SAOM)

### Dr. David Garcia

- ♦ Pediatrician Oncohematologist
- ♦ Specialist in the Oncohematology Unit of the Pediatrics Clinical Management Unit of the Virgen Macarena University Hospital
- ♦ Resident Medical Intern in Pediatrics and Specific Areas at the Reina Sofía Maternity and Children's Hospital Córdoba, Spain
- ♦ External Rotating Stay at the Pediatric Oncohematology and Transplant Service at the Vall-d'Hebron Maternal and Child Hospital
- ♦ Area Specialist in the Pediatrics Service at the Reina Sofía Maternity and Children's Hospital in Cordoba, Pediatric Oncology Unit and Emergency Department
- ♦ Area Specialist in the Pediatrics Service at the Infanta Margarita de Cabra Hospital. Complementary Day in the Pediatric and Neonatal Hospitalization Ward. Emergency Room and Delivery Room Assistance
- ♦ Clinical Practice Tutor
- ♦ Researcher
- ♦ University Lecturer
- ♦ Degree in Medicine from the University of Córdoba
- ♦ Scholarships Studies from the University of Concepcion. Chile
- ♦ Scholarship from the Spanish Association of Pediatrics for external rotation during residency
- ♦ Member: Spanish Society of Hematology and Pediatric Oncology, Society of Pediatrics of Western Andalusia and Extremadura, Spanish Association of Pediatrics

#### **Dr. Javier Pérez Altozano**

- ♦ Area Specialist in the Medical Oncology Service at the Virgen de los Lirios Hospital
- ♦ Medical Oncologist at the Lilly Clinic
- ♦ Assistant Doctor in Medical Oncology from the Elche University General Hospital
- ♦ Assistant Doctor in Medical Oncology from the Vega Baja. Hospital Orihuela, Spain
- ♦ Master's Degree in Clinical and Medical Care Management
- ♦ Master's Degree in Immuno-Oncology
- ♦ Expert in Medical Management and Health Services Management
- ♦ Expert in Molecular Biology of Lung Cancer
- ♦ Member: Spanish Oncology Society

#### **Dr. Juan José Reina Zoilo**

- ♦ Digestive and Neuroendocrine Tumor Specialist
- ♦ Medical Oncologist of the Digestive and Neuroendocrine Tumors Unit at the Virgen Macarena University Hospital
- ♦ Specialist in Oncology at the Juan Ramón Jiménez Hospital
- ♦ Specialist in Oncology at the San Pedro de Alcántara Hospital
- ♦ Resident Medical Intern at the Virgen del Rocío University Hospital
- ♦ Member: Andalusian Cancer Society (REDSAC), Spanish Society of Medical Oncology (SEOM), Spanish Society of Medical Oncology (SEOM)

#### **Dr. Francisco Javier Martín Ramos**

- ♦ Orthopedic Spine Surgeon Expert at Traumaspine
- ♦ Specialist in Traumatology and Spine Surgery at the Virgen Macarena University Hospital
- ♦ Traumatologist and Orthopedic Surgeon at the Virgen de Valme University Hospital
- ♦ Traumatologist in the Spine Unit at the Asepeyo mutual company
- ♦ Specialist in Orthopedic Surgery and Traumatology in the Spine Surgery Unit
- ♦ Expert in Pathology of the Spine, Tumors and Infections of the Locomotor System
- ♦ Master's Degree in Clinical Trials at the Virgen Macarena University Hospital

#### **Dr. Raquel Calero Domínguez**

- ♦ Psychologist Specialist in Psycho-Oncology
- ♦ Psychologist at Hospital Nisa Sevilla Aljarafe
- ♦ Psychologist at Quirónsalud Los Remedios Medical Center
- ♦ Psychologist in Hospital Quirónsalud Infanta Luisa
- ♦ Coordinator of the Oncology Patient Meetings
- ♦ Doctorate in Psychology the Complutense University of Madrid
- ♦ Degree in Psychology from the University of Seville
- ♦ Master in Psycho-Oncology and Palliative Care from the Complutense University of Madrid

**Dr. María Dolores Morillo Rojas**

- ♦ Ophthalmology Specialist at the Glaucoma Unit of the University Hospital of Jerez de la Frontera
- ♦ Medical Specialist in Ophthalmology at the Virgen Macarena University Hospital
- ♦ Medical Degree from the University of Seville
- ♦ Master's Degree in Ophthalmology from the CEU Cardenal Herrera University
- ♦ Diploma in Advanced Studies from the University of Seville
- ♦ Master's Degree in Clinical Trials from the University of Seville
- ♦ Member and Bibliographic Commentator in the Spanish Society of Ophthalmology

**Dr. Paloma Navarro Alcaraz**

- ♦ Researcher at the Genitourinary, Gynecological and Skin Tumors Unit and Rare Tumors Program at the HM University Hospital Research Foundation. Madrid
- ♦ Researcher at the National Cancer Research Center
- ♦ Professor of Science at Saint Louis University
- ♦ Dr. in Biochemistry and Molecular Biology from the Complutense University of Madrid
- ♦ Graduate in Pharmacy from the Complutense University of Madrid

**Dr. Isaura Fernández Pérez**

- ♦ Specialist in Medical Oncology in the Galician Health Service
- ♦ Medical Oncologist in the Breast, Gynecological, Unknown Origin and Central Nervous System Cancer Unit, Vigo University Hospital Complex, Álvaro Cunqueiro Hospital
- ♦ Degree in Medicine and Surgery from the University of Santiago de Compostela

**Dr. Sergio Ruiz Llorente**

- ♦ Researcher at HM Hospitales Research Foundation
- ♦ Researcher at Memorial Sloan Kettering Cancer Center. United States
- ♦ Investigator in National Cancer Research Center
- ♦ Researcher at the Alberto Sols Biomedical Research Institute
- ♦ Researcher at the Translational Oncology Laboratory of the Clara Campal Comprehensive Oncology Center
- ♦ Dr. in Biological Sciences from the University of Alcalá de Henares
- ♦ Degree in Biological Sciences, specializing in Molecular and Cellular Biology, Universidad de Alcalá

**Dr. Arántzazu Barquín García**

- ♦ Ovarian Cancer Oncologist Specialist in Ovarian Cancer Immunology
- ♦ Oncologist at the Urological, Gynecological and Dermatological Tumors Unit, Medical Hospital, Centro Integral Oncológico Clara Campal
- ♦ Physician at the Princess Margaret Specialist Cancer Center, United Kingdom
- ♦ Medical Oncology Specialist, Ramón y Cajal University Hospital, Madrid
- ♦ Treasurer of the Spanish Group of Orphan and Infrequent Tumors (GETTHI)

**Dr. Jesús García-Donas Jiménez**

- ♦ Medical Oncologist in the Unit of Urological, Gynecological and Dermatological Tumors of HM Hospitales
- ♦ Director of the Translational Oncology Laboratory
- ♦ Expert in Immuno-Oncology at the Clara Campal Comprehensive Oncology Center
- ♦ Treasurer of the Spanish Group of Orphan and Infrequent Tumors (GETTHI)
- ♦ Degree in Medicine from the Complutense University of Madrid

# 06

## Educational Plan

The curriculum of this Hybrid Professional Master's Degree has been created to offer the most rigorous and comprehensive knowledge on Cancer of Unknown Origin over 12 months. For this, the professional has video summaries of each topic, videos in detail, essential readings and case studies that can be accessed at any time of the day from a computer, tablet or cell phone with an internet connection. In addition, at the end of this theoretical stage, he will begin a practical phase in a hospital center of great national and international prestige.





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*You have innovative multimedia teaching tools that will provide you with dynamic and visual content on rare tumor studies”*

## Module 1. The reality of orphan, agnostic and tumors of unknown origin

- 1.1. Low Incidence Cancer
  - 1.1.1. Uncommon, Rare and Ultrare Cancer
  - 1.1.2. Orphan Tumors
  - 1.1.3. Agnostic Tumors
  - 1.1.4. Cancers of Unknown Origin
- 1.2. Epidemiology of Uncommon Cancer
  - 1.2.1. Incidence and Prevalence of Uncommon Tumors
  - 1.2.2. Trend of Rates at European and National Level
- 1.3. Survival in Rare Tumors
  - 1.3.1. Survival Data at European and National Level
  - 1.3.2. Causes of Differences in Survival
- 1.4. Precision Medicine and Rare Tumors
  - 1.4.1. Precision Medicine
  - 1.4.2. Rationale for Precision Medicine in Uncommon Tumors
  - 1.4.3. Clinical Experiences with Precision Medicine in Uncommon Tumors
  - 1.4.4. Application of Genomics in the Diagnosis and Treatment of Rare Tumors
- 1.5. Models of Care for Uncommon Tumors
  - 1.5.1. Tumor Registers
  - 1.5.2. Expert Networks
  - 1.5.3. Reference Units
  - 1.5.4. Tumor Board Review
- 1.6. Role of the Biobank in Clinical Research
  - 1.6.1. Biobanks
  - 1.6.2. Legislative Regulation
  - 1.6.3. The Biobank in the Management of Uncommon Tumors
- 1.7. Methodological Aspects of Clinical Research in Uncommon Tumors
  - 1.7.1. Importance of Clinical Research in Uncommon Tumors
  - 1.7.2. Research Difficulties in Uncommon Tumors
  - 1.7.3. New Models of Clinical Trials
  - 1.7.4. Bayesian Inference
  - 1.7.5. Nanoscience Applied to Rare Tumors or Bioinformatics and New Mathematical Models for the Study of Rare Tumors

- 1.8. Legislation
  - 1.8.1. European Framework
  - 1.8.2. Regulatory Agencies
- 1.9. Access to Drugs
  - 1.9.1. Access to Drugs
  - 1.9.2. Off-Label Therapies
- 1.10. Psychological and Social Aspects of Low-Incidence Tumors
  - 1.10.1. Psychological Aspects of this Spectrum of Pathology
  - 1.10.2. Social Issues Affecting the Uncommon Cancer Patient

## Module 2. Molecular Biology Tools for the Agnostic Approach to Rare Cancer

- 2.1. Concepts of Molecular Oncology
  - 2.1.1. Genetic Concepts
  - 2.1.2. Epigenetic Concepts
  - 2.1.3. crDNA Concepts
  - 2.1.4. RNA Concepts
- 2.2. Tumor DNA Study I. Solid Biopsy
  - 2.2.1. Genome
  - 2.2.2. Exome
  - 2.2.3. Sequencing Panels
- 2.3. Study of Tumor DNA II Fluid Biopsy
  - 2.3.1. Available Platforms
  - 2.3.2. Current Applications
- 2.4. Study of Germline DNA
  - 2.4.1. Variants and Polymorphisms
  - 2.4.2. Germline Alterations
- 2.5. Study of Messenger RNA
  - 2.5.1. Transcriptome
  - 2.5.2. Sequencing Panels (Nanosting)
  - 2.5.3. Single Cell RNA
- 2.6. Epigenetics I. Methylome and Methylation Panels
  - 2.6.1. Methyloma
  - 2.6.2. Methylation Panels



- 2.7. Epigenetics II Non-Coding RNA, Chromatin Modifications
  - 2.7.1. Long Non-Coding RNA
  - 2.7.2. MicroRNA
  - 2.7.3. Chromatin Remodeling
- 2.8. Functional Models I. Drug Sensing in Primary Cell Culture and Organoids
- 2.9. Molecular Biology in Immuno-Oncology I
  - 2.9.1. Tumor Mutation Burden
  - 2.9.2. Neoantigens
  - 2.9.3. Microbiota
  - 2.9.4. Adoptive Cell Therapy
- 2.10. Molecular Biology in Immuno-Oncology II. Functional Models
  - 2.10.1. Coculture of Lymphocytes
  - 2.10.2. Humanized Murine Methods

### Module 3. Pleural, Mediastinal and Chest Wall Tumors: Lung Cancer As a Paradigm of New Rare Tumors. Head and Neck Cancer

- 3.1. Pleural Tumors: Mesothelioma
  - 3.1.1. Introduction and Epidemiology
  - 3.1.2. Etiology and Pathogenesis
  - 3.1.3. Clinical Presentation
  - 3.1.4. Diagnosis and Staging
  - 3.1.5. Prognostic Factors
  - 3.1.6. Treatment and Recommendations (Guidelines/Consensus)
  - 3.1.7. Future Perspectives
- 3.2. Mediastinal Tumors: Thymoma and Thymic Carcinoma
  - 3.2.1. Introduction and Epidemiology
  - 3.2.2. Etiology and Pathogenesis
  - 3.2.3. Clinical Presentation
  - 3.2.4. Diagnosis and Staging
  - 3.2.5. Prognostic Factors
  - 3.2.6. Treatment and Recommendations (Guidelines/Consensus)
  - 3.2.7. Future
- 3.3. Chest Wall Tumors
  - 3.3.1. Introduction and Epidemiology
  - 3.3.2. Etiology and Pathogenesis
  - 3.3.3. Clinical Presentation
  - 3.3.4. Diagnosis and Classification
  - 3.3.5. Prognostic Factors
  - 3.3.6. Treatment and Recommendations
  - 3.3.7. Future
- 3.4. Pulmonary Neuroendocrine Tumor: Typical Carcinoid, Atypical Carcinoid, and Large Cell Carcinoma
  - 3.4.1. Introduction and Epidemiology
  - 3.4.2. Etiology and Pathogenesis
  - 3.4.3. Clinical Presentation
  - 3.4.4. Diagnosis and Classification
  - 3.4.5. Prognostic Factors
  - 3.4.6. Treatment and Recommendations
  - 3.4.7. Future
- 3.5. Lung Cancer as a Paradigm for Personalized Medicine: Diagnostic Techniques and the Role of Liquid Biopsy
  - 3.5.1. Introduction
  - 3.5.2. Sample Types According to Diagnostic Approach
  - 3.5.3. Sample Handling Optimization
  - 3.5.4. Response Time and Report Characteristics
  - 3.5.5. Tumor Heterogeneity: Role of Liquid Biopsy
  - 3.5.6. Molecular Diagnostic Techniques: IHQ, FISH, RT-PCR, NGS
  - 3.5.7. Guide Recommendations
- 3.6. Mutations: EGFR, BRAF, MET, KRAS
  - 3.6.1. Introduction: Epidemiology, Patient Profile, Diagnostic Techniques and Brain Disease
  - 3.6.2. Prognostic Factors
  - 3.6.3. First-Line Targeted Therapy
  - 3.6.4. Resistance Mechanisms
  - 3.6.5. Second-Line Therapy and Successive Lines
  - 3.6.6. Role of Chemotherapy +/- Immunotherapy
  - 3.6.7. Future

- 3.7. Translocations: ALK, ROS-1
  - 3.7.1. Introduction: Epidemiology, Patient Profile, Diagnostic Techniques and Brain Disease
  - 3.7.2. Prognostic Factors
  - 3.7.3. First-Line Targeted Therapy
  - 3.7.4. Resistance Mechanisms
  - 3.7.5. Second-Line Therapy and Successive Lines
  - 3.7.6. Role of Chemotherapy +/- Immunotherapy
  - 3.7.7. Future
- 3.8. Rearrangements/Amplifications: NTRK, RET, MET, HER-2
  - 3.8.1. Introduction: Epidemiology, Patient Profile, Diagnostic Techniques and Brain Disease
  - 3.8.2. Prognostic Factors
  - 3.8.3. First-Line Targeted Therapy
  - 3.8.4. Resistance Mechanisms
  - 3.8.5. Second-Line Therapy and Successive Lines
  - 3.8.6. Role of Chemotherapy +/- Immunotherapy
  - 3.8.7. Future
- 3.9. Nasopharyngeal Carcinoma and Salivary Gland Tumors: Nasal and Paranasal Sinus Tumors
  - 3.9.1. Nasopharyngeal Carcinoma
    - 3.9.1.1. Introduction
    - 3.9.1.2. Epidemiological Data
    - 3.9.1.3. Etiology and Etiopathogenesis
    - 3.9.1.4. Clinical Manifestations
    - 3.9.1.5. Diagnostic Methods and Extension Diagnosis
    - 3.9.1.6. Multidisciplinary Treatment
  - 3.9.2. Salivary Gland Tumors
    - 3.9.2.1. Major Salivary Gland Tumors
    - 3.9.2.2. Minor Salivary Gland Tumors
- 3.9.3. Nasal and Paranasal Sinus Tumors
  - 3.9.3.1. Epidemiology
  - 3.9.3.2. Etiopathogeny, Histology and Natural History
  - 3.9.3.3. Clinical, Diagnostic and Staging
  - 3.9.3.4. Treatment
- 3.10. Melanomas, Sarcomas and Lymphoproliferative Syndromes of the Head and Neck: Rare Tumors. Ameloblastoma. Neuroendocrine Head and Neck Tumors
  - 3.10.1. Head and Neck Melanoma
    - 3.10.1.1. Etiologic, Epidemiologic and Clinical Factors
    - 3.10.1.2. Diagnostic and Therapeutic Aspects
    - 3.10.1.3. Special Presentations of Head and Neck Melanoma
  - 3.10.2. Head and Neck Sarcomas
    - 3.10.2.1. Etiopathogenesis and Epidemiology
    - 3.10.2.2. Clinical Aspects
    - 3.10.2.3. Diagnosis
    - 3.10.2.4. Therapeutic Aspects
  - 3.10.3. Lymphoproliferative Head and Neck Syndromes
    - 3.10.3.1. Etiological Factors
    - 3.10.3.2. Staging Procedures
    - 3.10.3.3. Clinical Scheme of Lymphoid System Neoplasms
  - 3.10.4. Dental Tumors
    - 3.10.4.1. Odontogenic Tumor Classification
  - 3.10.5. Ameloblastoma
  - 3.10.6. Neuroendocrine Head and Neck Tumors
    - 3.10.6.1. Neuroendocrine Carcinomas of Epithelial Origin
    - 3.10.6.2. Atypical Carcinoid
    - 3.10.6.3. Small Cell Neuroendocrine Carcinoma
    - 3.10.6.4. Large Cell Neuroendocrine Carcinoma
    - 3.10.6.5. Neuroendocrine Carcinoma of Neural Origin

## Module 4. Uncommon Digestive Tumors Digestive Neuroendocrine Tumors. Thyroid Cancer

- 4.1. Tumors of the Small Intestine Appendicular Tumors
  - 4.1.1. Tumors of the Small Intestine
    - 4.1.1.1. Epidemiology. Risk Factors
    - 4.1.1.2. Pathogenesis, Molecular Profile and Hereditary Syndromes
    - 4.1.1.3. Clinical Characteristics. Histological Subtypes
    - 4.1.1.4. Diagnosis and Staging Prognosis
    - 4.1.1.5. Localized Disease Treatment Monitoring
    - 4.1.1.6. Treatment of Metastatic Disease
  - 4.1.2. Appendicular Tumors
    - 4.1.2.1. Epidemiology
    - 4.1.2.2. Histology Staging
    - 4.1.2.3. Clinical Presentation. Diagnosis
    - 4.1.2.4. Localized Disease Treatment
    - 4.1.2.5. Treatment of Metastatic Disease
    - 4.1.2.6. Pseudomyxoma Peritoneum
- 4.2. Cancer of the Anal Canal
  - 4.2.1. Epidemiology. Risk Factors
  - 4.2.2. HPV, Genotypes Molecular Pathogenesis
  - 4.2.3. Pathological Anatomy. Staging
  - 4.2.4. Clinical Presentation. Diagnosis
  - 4.2.5. Treatment of Localized Disease Monitoring
  - 4.2.6. Treatment of Metastatic Disease Immunotherapy
- 4.3. Tumors of the Liver and Intrahepatic Bile Ducts Neoplasms of the Gallbladder and Extrahepatic Bile Ducts
  - 4.3.1. Hepatocellular Carcinoma
    - 4.3.1.1. Epidemiological Aspects
    - 4.3.1.2. Diagnostic Process
    - 4.3.1.3. Staging
    - 4.3.1.4. Management of Local Disease: Transplantation vs. Resection
    - 4.3.1.5. Local Disease Management: Ablative Techniques
    - 4.3.1.6. Management of Locally Advanced Disease
      - 4.3.1.6.1. Radioembolization
      - 4.3.1.6.2. Transarterial Chemoembolization
      - 4.3.1.6.3. Radiotherapy
    - 4.3.1.7. Treatment of Metastatic Disease
  - 4.3.2. Biliary Tract Tumours
    - 4.3.2.1. Characterization of the Three Entities that Make Up the Group
    - 4.3.2.2. Epidemiological Aspects
    - 4.3.2.3. Risk Factors
    - 4.3.2.4. Clinical Expressivity
    - 4.3.2.5. Diagnostic Aspects
    - 4.3.2.6. Unresectability Criteria
    - 4.3.2.7. Histological Aspects
    - 4.3.2.8. Molecular Aspects. Molecular Classification
    - 4.3.2.9. Described Genomic Alterations
    - 4.3.2.10. Treatment of Localized Disease
      - 4.3.2.10.1. Surgery
      - 4.3.2.10.2. Adjuvant Criteria
      - 4.3.2.10.3. Monitoring
    - 4.3.2.11. Treating Advanced Stages of the Disease
      - 4.3.2.11.1. Treatment of Locally Advanced Disease
      - 4.3.2.11.2. Treatment of Metastatic Disease
    - 4.3.2.12. Monitoring
- 4.4. Gastrointestinal Stromal Tumors
  - 4.4.1. Clinical and Epidemiological Aspects
  - 4.4.2. Diagnostic Process of GIST
    - 4.4.2.1. Radiology
    - 4.4.2.2. Histology
    - 4.4.2.3. Molecular Biology
  - 4.4.3. Treatment of Localized Disease
    - 4.4.3.1. Surgical Aspects
    - 4.4.3.2. Prognostic Factors after Resection
    - 4.4.3.3. Adjuvant Treatment
    - 4.4.3.4. Neoadjuvant Treatment

- 4.4.4. Treating Advanced Stages of the Disease
  - 4.4.4.1. Surgery in the Context of Advanced Disease
  - 4.4.4.2. Systemic Treatment
  - 4.4.4.3. Monitoring
- 4.5. Neuroendocrine Tumors: Tumors of the Small Intestine
  - 4.5.1. Epidemiology
  - 4.5.2. Pathological Anatomy. Histological Degree Ki67 and Mitotic Index
  - 4.5.3. Molecular Factors Biomarkers
  - 4.5.4. Clinical Presentation. Carcinoid syndrome
  - 4.5.5. Diagnosis and Staging Prognosis
  - 4.5.6. Localized Disease Treatment Monitoring
  - 4.5.7. Treatment of Metastatic Disease Treatment of Hormonal Hypersecretion
- 4.6. Neuroendocrine Tumors: Pancreatic Tumors
  - 4.6.1. Epidemiology
  - 4.6.2. Pathologic Anatomy. Histological Degree
  - 4.6.3. Molecular Factors Biomarkers
  - 4.6.4. Clinical Presentation. Carcinoid syndrome
  - 4.6.5. Diagnosis and Staging Prognosis
  - 4.6.6. Localized Disease Treatment Monitoring
  - 4.6.7. Treatment of Metastatic Disease Treatment of Hormonal Hypersecretion Syndromes
  - 4.6.8. Advanced Line Treatment
- 4.7. Thyroid Cancer
  - 4.7.1. Introduction
  - 4.7.2. Incidence and Epidemiology
  - 4.7.3. Clinical and Diagnostic Aspects
  - 4.7.4. General Aspects of Treatment
  - 4.7.5. Guidelines Recommendations and Level of Evidence
- 4.8. Differentiated Thyroid Cancer
  - 4.8.1. Diagnosis, Pathological Anatomy and Molecular Biology
  - 4.8.2. Staging and Risk Assessment
  - 4.8.3. Management of Primary Tumor
  - 4.8.4. Management of Advanced Disease
  - 4.8.5. Follow-Up and Long Survivors

- 4.9. Anaplastic Thyroid Cancer
  - 4.9.1. Diagnosis, Pathological Anatomy and Molecular Biology
  - 4.9.2. Staging and Risk Assessment
  - 4.9.3. Management of Primary Tumor
  - 4.9.4. Management of Advanced Disease
  - 4.9.5. Follow-Up and Long Survivors
- 4.10. Medullary Thyroid Cancer
  - 4.10.1. Diagnosis, Pathological Anatomy and Molecular Biology
  - 4.10.2. Staging and Risk Assessment
  - 4.10.3. Management of Primary Tumor
  - 4.10.4. Management of Advanced Disease
  - 4.10.5. Follow-Up and Long Survivors

## Module 5. Uncommon Gynecologic Tumors. Rare Breast Tumors. Genitourinary Oncology of Uncommon Tumors

- 5.1. Rare Ovarian Cancer
  - 5.1.1. Sex Cord Tumors
  - 5.1.2. Granulosa Tumors
  - 5.1.3. Female Germ Cell Tumors
  - 5.1.4. Ovary Sarcomas
  - 5.1.5. Hereditary Ovarian Cancer
- 5.2. Rare Uterine Cancer
  - 5.2.1. Adenosarcoma
  - 5.2.2. Mixed Mullerian Tumor
  - 5.2.3. Uterine Sarcoma
  - 5.2.4. Hereditary Endometrial Carcinoma
- 5.3. Rare Cervix Cancer
  - 5.3.1. Adenocarcinoma
  - 5.3.2. Non-HPV-Associated Cervical Cancer
  - 5.3.3. Cervical Sarcomas
- 5.4. Other Rare Gynecologic Tumors
  - 5.4.1. Vulvar Cancer
  - 5.4.2. Vaginal Cancer

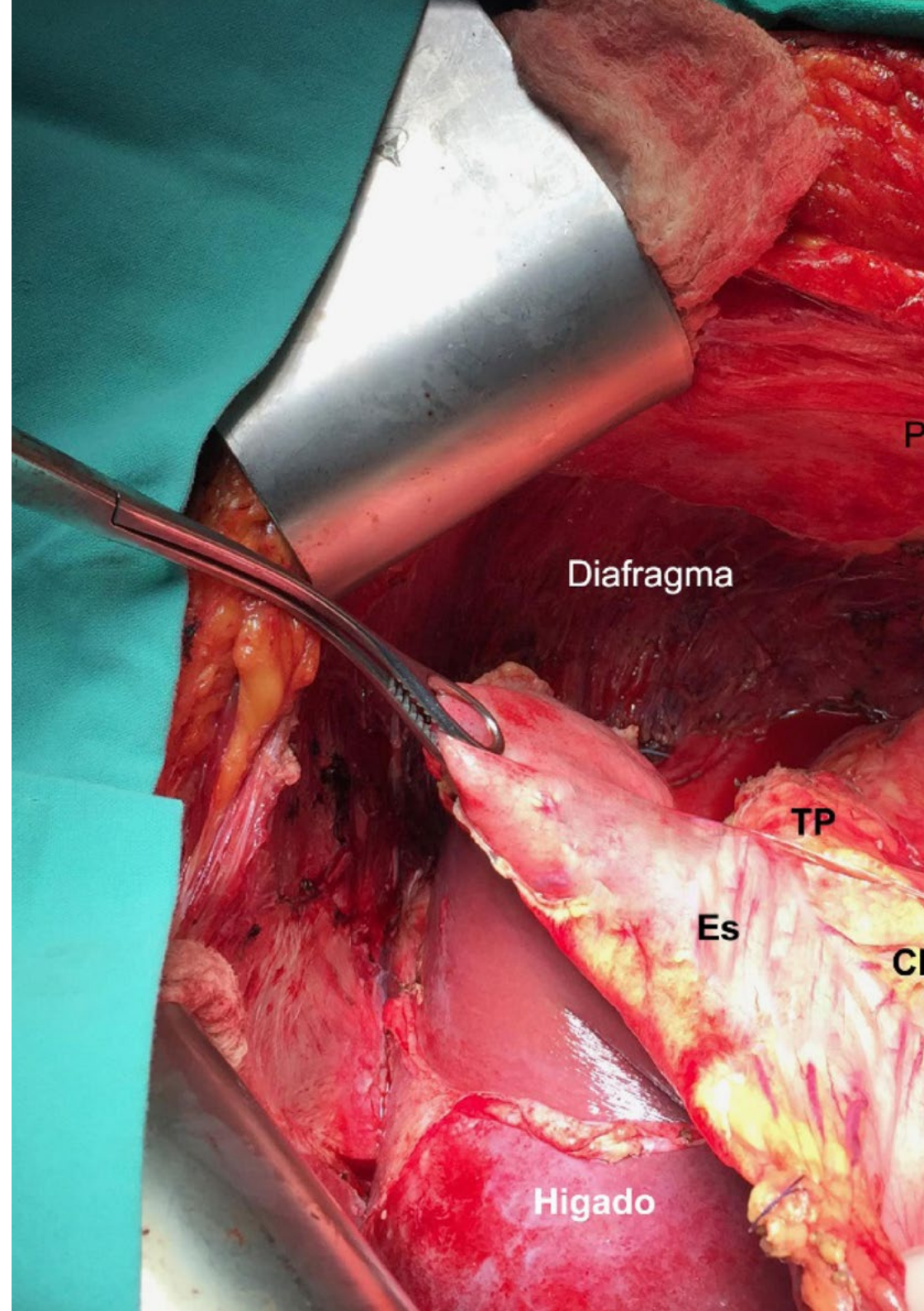
- 5.5. Rare Breast Tumors
  - 5.5.1. Classification of Rare Breast Tumors
  - 5.5.2. Diagnostic and Therapeutic Aspects
- 5.6. Germ Cell Tumors
  - 5.6.1. General Aspects: Etiology and Epidemiology
  - 5.6.2. Clinical Aspects and Classification
  - 5.6.3. Diagnostic and Therapeutic Aspects for Germinal Tumors
- 5.7. Low Incidence Prostate Tumors
  - 5.7.1. Adenocarcinoma with Histological Variants
    - 5.7.1.1. Adenocarcinoma NOS
    - 5.7.1.2. Adenocarcinoma of the Acinar Cells
    - 5.7.1.3. Mucinous Adenocarcinoma
    - 5.7.1.4. Signet Ring Adenocarcinoma
    - 5.7.1.5. Adenocarcinoma with Neuroendocrine Differentiation
    - 5.7.1.6. Oxyphilic Adenocarcinoma
    - 5.7.1.7. Spindle Cell Adenocarcinoma
    - 5.7.1.8. Lymphoepithelial Carcinoma
  - 5.7.2. Squamous Cell Carcinoma with Histologic Variants
    - 5.7.2.1. Squamous Carcinoma
    - 5.7.2.2. Adenosquamous Carcinoma
  - 5.7.3. Infiltrating Carcinoma of the Ducts
    - 5.7.3.1. Cribriform Carcinoma
    - 5.7.3.2. Solid Carcinoma NOS
    - 5.7.3.3. Papillary Adenocarcinoma NOS
  - 5.7.4. Transitional Cell Carcinoma
  - 5.7.5. Salivary Gland-Like Tumors
    - 5.7.5.1. Adenoid Cystic Carcinoma
    - 5.7.5.2. Basaloid Carcinoma
    - 5.7.5.3. Basal Cell Carcinoma
  - 5.7.6. New Molecular Array in Prostate Cancer

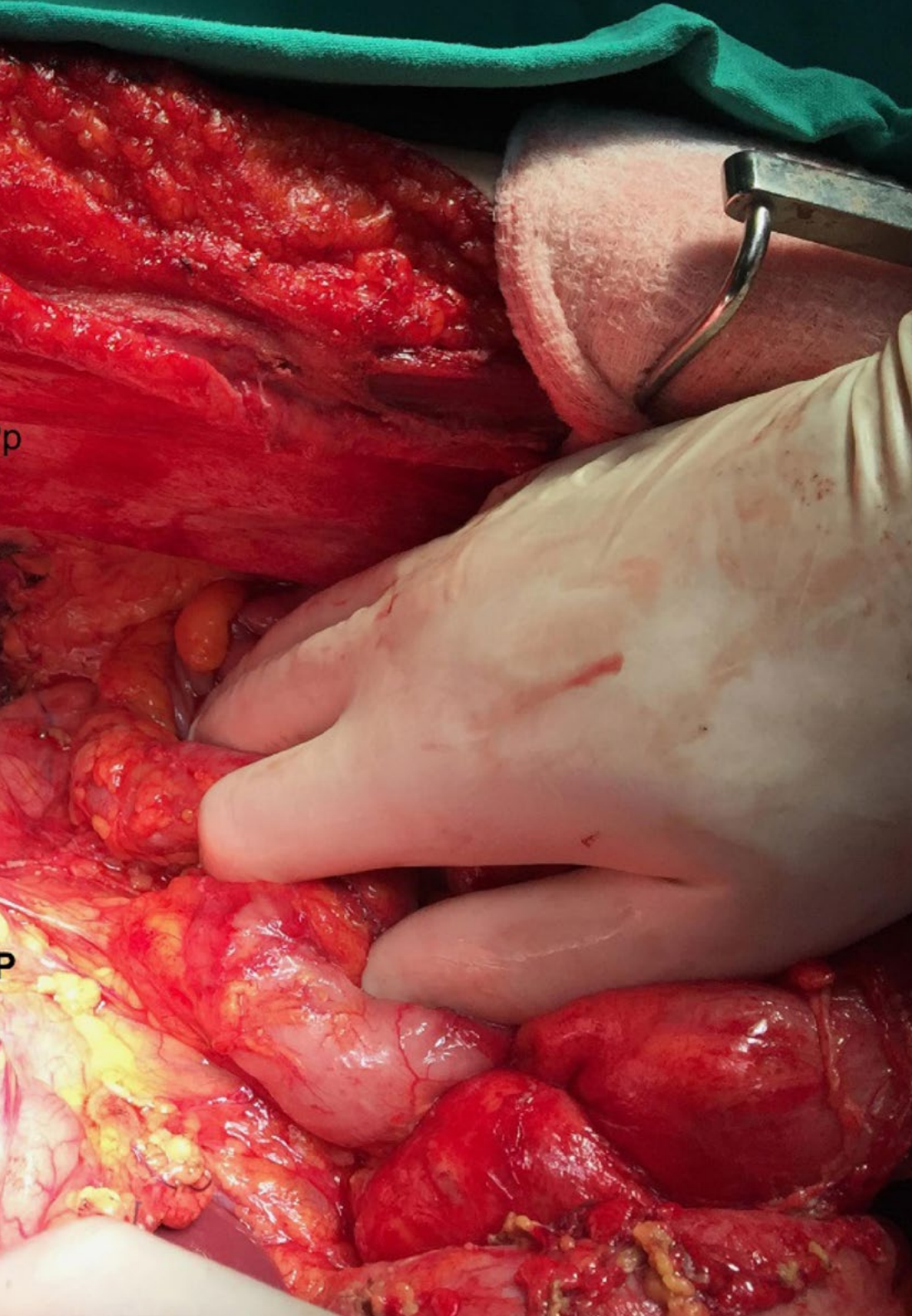
- 5.8. Rare Tumors of the Bladder and Upper Urinary Tract
  - 5.8.1. Transitional Cell Carcinoma
  - 5.8.2. Squamous Carcinoma with Variants
  - 5.8.3. Adenocarcinoma with Variants
  - 5.8.4. Salivary Gland-Like Tumors
  - 5.8.5. Molecular Subtypes of Bladder Cancer
- 5.9. Rare Renal Tumors
  - 5.9.1. General Aspects of Non-Clear Cell Renal Cancers
  - 5.9.2. Epidemiology and Etiopathogenesis
  - 5.9.3. Classification of Non-Clear Cell Renal Tumors
  - 5.9.4. Diagnosis and Treatment
- 5.10. Penile Cancer
  - 5.10.1. Epidemiology and Etiopathogenesis
  - 5.10.2. Clinical and Diagnostic Aspects
  - 5.10.3. Penile Cancer Staging
  - 5.10.4. Localized Disease
  - 5.10.5. Locally Advanced and Metastatic Disease

## Module 6. Hereditary Syndromes, from Biology to Clinical Application. Pediatric Tumors and Pediatric Tumors in Adults

- 6.1. Hereditary Predisposition to Endocrine and Neuroendocrine Tumors
  - 6.1.1. Clinical Aspects
  - 6.1.2. Molecular Aspects
- 6.2. Familial Melanoma and Genodermatosis
  - 6.2.1. General Aspects
  - 6.2.2. Clinical Aspects
  - 6.2.3. Molecular Aspects
- 6.3. Neurofibromatosis. Li Fraumeni Syndrome
  - 6.3.1. General Aspects of Neurofibromatosis
  - 6.3.2. Clinical Aspects
  - 6.3.3. Molecular Aspects
  - 6.3.4. General Aspects of Li Fraumeni Syndrome
  - 6.3.5. Clinical Aspects
  - 6.3.6. Molecular Aspects

- 6.4. Hereditary Syndrome in Children
  - 6.4.1. General Aspects
  - 6.4.2. Clinical Aspects
  - 6.4.3. Molecular Aspects
- 6.5. General Aspects of Pediatric Cancer
  - 6.5.1. Epidemiology and Etiopathogenesis
  - 6.5.2. Clinical Aspects of Pediatric Cancer
  - 6.5.3. Diagnostic and Therapeutic Aspects
  - 6.5.4. Molecular Biology and its Application to Pediatric Cancer
- 6.6. Intraocular Tumors
  - 6.6.1. Medulloepithelioma
  - 6.6.2. Retinoblastoma
- 6.7. Ocular Tumors in Children
  - 6.7.1. Orbital tumors
    - 6.7.1.1. Rhabdomyosarcoma
    - 6.7.1.2. Pleomorphic Adenoma of the Lacrimal Gland
    - 6.7.1.3. Orbital Metastases
  - 6.7.2. Intraocular Tumors
    - 6.7.2.1. Rhabdomyosarcoma
    - 6.7.2.2. Pleomorphic Adenoma of the Lacrimal Gland
- 6.8. Bone, Germ and Other Pediatric Tumors
  - 6.8.1. Ewing Sarcoma
  - 6.8.2. Germ Cell Tumors
  - 6.8.3. Other Pediatric Tumors
- 6.9. Palliative Care for Children
  - 6.9.1. Peculiar Aspects of PC for Children with Cancer
- 6.10. Pediatric Tumors in Adults
  - 6.10.1. General Aspects of Pediatric Tumors in Adults
  - 6.10.2. Classification of Development Tumors
  - 6.10.3. Diagnostic Aspects
  - 6.10.4. Treatment Difficulties
  - 6.10.5. New Approaches in the Management of Pediatric Tumors in Adults:  
New Methodological Designs





## Module 7. Musculoskeletal Tumors: Epithelial Cancer. Central Nervous System Tumors: Ocular Tumors

- 7.1. Bone and Soft Tissue Sarcomas: Classification, Characteristics, and Diagnostic Therapeutic Approach
  - 7.1.1. General Information, Epidemiology
  - 7.1.2. Etiopathogenesis and Classification
  - 7.1.3. Clinical Aspects
  - 7.1.4. Diagnostic and Therapeutic Aspects
- 7.2. Soft Tissue Sarcomas
  - 7.2.1. Liposarcomas
  - 7.2.2. Rhabdomyosarcoma
  - 7.2.3. Leiomyosarcoma
  - 7.2.4. Synovial Sarcoma
  - 7.2.5. Angiosarcoma
  - 7.2.6. Lymphangiosarcoma
  - 7.2.7. Malignant Peripheral Nerve Sheath Tumor
  - 7.2.8. Specific Soft Tissue Sarcomas
    - 7.2.8.1. Complex Karyotype Sarcomas
    - 7.2.8.2. Translocation-Specific Subtypes
    - 7.2.8.3. Developmental Sarcomas
    - 7.2.8.4. Alveolar Soft Tissue Sarcoma
    - 7.2.8.5. Clear Cell Sarcoma
    - 7.2.8.6. PEComa
    - 7.2.8.7. Solitary Fibrous Tumor
    - 7.2.8.8. Inflammatory Myofibroblastic Tumor
    - 7.2.8.9. Desmoplastic Round Cell Tumor
    - 7.2.8.10. Mesenchymal Tumors with Locally Aggressive Behavior
- 7.3. Skeletal Sarcomas
  - 7.3.1. Chondrosarcoma
  - 7.3.2. Fibrosarcoma
  - 7.3.3. Clear Cell Sarcoma
  - 7.3.4. Chordoma

- 7.4. Visceral Sarcomas
  - 7.4.1. General Aspects of Low-Incidence Visceral Sarcomas
  - 7.4.2. Visceral Sarcoma Classification
  - 7.4.3. Diagnostic and Therapeutic Aspects
  - 7.4.4. Molecular Aspects
- 7.5. Central Nervous System Tumors: Classification, Characteristics and Therapeutic Diagnostic Approach
  - 7.5.1. Classification
  - 7.5.2. Epidemiology and Etiopathogenesis
  - 7.5.3. General Clinical Features
  - 7.5.4. Diagnostic Algorithm
  - 7.5.5. Therapeutic Approach
- 7.6. Central Nervous System Tumors: Oligodendrogliomas and Diffuse Astrocytic Tumors: Ependymal Tumors. Choroid Plexus Tumors. Neuronal and Mixed Glial-Neuronal Tumors
  - 7.6.1. Oligodendrogliomas and Diffuse Astrocytic Tumors
  - 7.6.2. Ependymal Tumors
  - 7.6.3. Choroid Plexus Tumors
  - 7.6.4. Neuronal and Mixed Glial-Neuronal Tumors
- 7.7. Pineal Region Tumors: Embryonal Tumors. Central Nervous System Lymphomas. Germinal Cell Tumors. Selar Region Tumors. Miscellaneous
  - 7.7.1. Pineal Region Tumors
  - 7.7.2. Embryonal Tumors
  - 7.7.3. Central Nervous System Lymphomas
  - 7.7.4. Germ Cell Tumors
  - 7.7.5. Selar Region Tumors
  - 7.7.6. Miscellaneous
- 7.8. Malignant Skull Base Tumors: Craniopharyngioma and Solitary Fibrous Tumor/ Hemangiopericytoma
  - 7.8.1. Chordomas
  - 7.8.2. Chondrosarcomas
  - 7.8.3. Craneofaryngioma
  - 7.8.4. Solitary Fibrous Tumor: Hemangiopericytoma
- 7.9. Skin and Appendage Tumours
  - 7.9.1. Classification, Characteristics and Therapeutic Diagnostic Approach
  - 7.9.2. Tumors Originating in Benign Structures
    - 7.9.2.1. Porocarcinoma
    - 7.9.2.2. Hydradenocarcinoma
    - 7.9.2.3. Spiradenocarcinoma
    - 7.9.2.4. Cylindrocarcinoma
  - 7.9.3. Analogous Glandular Tumors
    - 7.9.3.1. Adenoid Cystic Carcinoma
    - 7.9.3.2. Secretor Carcinoma
    - 7.9.3.3. Apocrine Carcinoma
    - 7.9.3.4. Cribriform Carcinoma
    - 7.9.3.5. Malignant Mixed Tumor
    - 7.9.3.6. Malignant Myoepithelioma
  - 7.9.4. Hair Follicular Differentiation Tumors
    - 7.9.4.1. Trichilemmal Carcinoma
    - 7.9.4.2. Pilomatrical Carcinoma
  - 7.9.5. Tumors Originating in the Facial Area
    - 7.9.5.1. Mucinous Carcinoma
    - 7.9.5.2. Histiocytoid Carcinoma
    - 7.9.5.3. Endocrine Mucin-Producing Sweat Gland Carcinoma
  - 7.9.6. Cutaneous Sarcoma
    - 7.9.6.1. Atypical Fibroxanthoma
    - 7.9.6.2. Angiosarcoma
    - 7.9.6.3. Dermatofibrosarcoma Protuberans
    - 7.9.6.4. Non-HIV Kaposi's Sarcoma, Other Sarcomas
  - 7.9.7. Miscellaneous
    - 7.9.7.1. Microcystic Adrenal Carcinoma
    - 7.9.7.2. Adenosquamous Carcinoma
    - 7.9.7.3. Adenocarcinoma



- 7.10. Eye Tumors in Adults
  - 7.10.1. Eyelid Tumors
  - 7.10.2. Basal Cell Carcinoma
  - 7.10.3. Epidermoid Carcinoma
  - 7.10.4. Keratoacanthoma
  - 7.10.5. Lentigo Maligna Melanoma
  - 7.10.6. Conjunctival Tumors
  - 7.10.7. Conjunctival Squamous Neoplasia
  - 7.10.8. Conjunctival Melanoma
  - 7.10.9. Anterior Uveal Melanoma: Iris Melanoma
  - 7.10.10. Posterior Uveal Melanoma: Choroidal Melanoma
  - 7.10.11. Choroidal Metastases
  - 7.10.12. Orbital Metastases

## Module 8. Agnostic Tumors

- 8.1. Concept of Agnostic Treatment: New Entities in Oncology
  - 8.1.1. Concepts
  - 8.1.2. Agency-Approved Agnostic Treatments
  - 8.1.3. Agnostic Treatments under Development
- 8.2. Neurotrophic Tyrosine Receptor Kinase (NTRK) Family
  - 8.2.1. NTRK Structure and Function
  - 8.2.2. Algorithm for Identifying Patients with TRK Fusions
  - 8.2.3. Clinical Spectrum of NTRK-Fused Tumors
- 8.3. Treatment with NTRK Inhibitors
  - 8.3.1. General Aspects
  - 8.3.2. Indications
  - 8.3.3. Pivotal Test Results
  - 8.3.4. Results in Clinical Practice
  - 8.3.5. Toxicity of NTRK Inhibitors
- 8.4. Tumors with Microsatellite Instability
  - 8.4.1. Significance of Microsatellite Instability
  - 8.4.2. Algorithm for Identifying Patients with Microsatellite Instability
  - 8.4.3. Clinical Spectrum of Unstable Tumors
- 8.5. Treatment of Tumors with Microsatellite Instability
  - 8.5.1. General Aspects
  - 8.5.2. Indications
  - 8.5.3. Pivotal Test Results
  - 8.5.4. Results in Clinical Practice
- 8.6. Towards Agnostic Treatment of Thoracic and Head Neck Tumors
  - 8.6.1. General Aspects
  - 8.6.2. Indications and Results
  - 8.6.3. Toxicity
- 8.7. Towards Agnostic Treatment in Digestive Tumors
  - 8.7.1. General Aspects
  - 8.7.2. Indications and Results
  - 8.7.3. Toxicity
- 8.8. Towards Agnostic Treatment in Urologic and Gynecologic Tumors
  - 8.8.1. General Aspects
  - 8.8.2. Indications and Results
  - 8.8.3. Toxicity
- 8.9. Towards Agnostic Treatment in CNS Tumors
  - 8.9.1. General Aspects
  - 8.9.2. Indications and Results
  - 8.9.3. Toxicity
- 8.10. The Development of Agnostic Treatment in Other Tumors
  - 8.10.1. General Aspects
  - 8.10.2. Indications and Results
  - 8.10.3. Toxicity

## Module 9. Cancer of Unknown Origin

- 9.1. Introduction and Epidemiology of Cancers of Unknown Origin
  - 9.1.1. Incidence
  - 9.1.2. Prevalence
  - 9.1.3. Prognosis
  - 9.1.4. Risk Factors
- 9.2. Clinical Spectrum of the Disease
  - 9.2.1. Classification
  - 9.2.2. Subgroups of Patients According to their Presentation
- 9.3. Anatomopathological Aspects of the Disease
  - 9.3.1. General Considerations
  - 9.3.2. Histology
  - 9.3.3. Recommended Immunohistochemical Profile
- 9.4. Diagnosis of Cancers of Unknown Origin
  - 9.4.1. Recommended Diagnostic Tests
  - 9.4.2. Role of PET-CT
  - 9.4.3. Diagnostic Algorithm
- 9.5. Cancer of Unknown Origin in the Molecular Era
  - 9.5.1. Paradigm Shift
  - 9.5.2. Molecular Profiles Oriented to Anatomical Origin
  - 9.5.3. Molecular Profiling Aimed at Identifying Genomic Alterations
- 9.6. Classic Treatment for Cancers of Unknown Origin
  - 9.6.1. Good Subgroup Prognosis
  - 9.6.2. Poor Subgroup Prognosis
- 9.7. Targeted Therapy in the Molecular Era
  - 9.7.1. Paradigm Shift: From Clinical to Molecular Biology
  - 9.7.2. Molecular Profiles Oriented to Tumor Origin
  - 9.7.3. Molecular Profiles Oriented to Therapeutic Targets
- 9.8. Clinical Trials: New Designs
- 9.9. Role of Tumor Registers Clinical and Molecular Committees
  - 9.9.1. Tumor Registers
  - 9.9.2. Biobanks
  - 9.9.3. Clinical and Molecular Committees
- 9.10. Guide Recommendations

## Module 10. Supportive Treatment, Antineoplastic Treatment Toxicity Control, Palliative Care and Care of Long-Term Survivors with Low-Incidence Tumors

- 10.1. Increased Survival and Quality of Life Associated with Supportive Care in Cancer Patients
  - 10.1.1. Quality of Life Evaluation in Oncology
  - 10.1.2. Impact of Supportive Care Treatment on Quality of Life
  - 10.1.3. Impact of Supportive Care Treatment on Survival
- 10.2. Treatment of Oncologic Pain and its Associated Symptoms
  - 10.2.1. Baseline Pain in Cancer Patients
  - 10.2.2. Incidental Pain in Cancer Patients
  - 10.2.3. Types of Pain: Somatic, Visceral and Neuropathic
  - 10.2.4. Diagnostic Pain Assessment
  - 10.2.5. Pain Treatment 1st and 2nd Step
  - 10.2.6. Opioid Treatment: Opioid Rotation
  - 10.2.7. Opioid Treatment Toxicity
  - 10.2.8. Adjuvant Drugs
  - 10.2.9. Intervention Techniques
  - 10.2.10. Non-Pharmacological Techniques
- 10.3. Antineoplastic Treatment Toxicity: Chemotherapy
  - 10.3.1. Chemotherapy Mechanism of Action
  - 10.3.2. Chemotherapy Toxicity Assessment
  - 10.3.3. Most Common Toxicities
    - 10.3.3.1. Digestive Toxicity
    - 10.3.3.2. Skin and Mucosal Toxicity
    - 10.3.3.3. Hematological Toxicity
    - 10.3.3.4. Neurotoxicants
    - 10.3.3.5. Cardiotoxicity
    - 10.3.3.6. Nephrotoxicity

- 10.4. Antineoplastic Treatment Toxicity: Targeted Therapy
  - 10.4.1. Mechanism of Action of Targeted Therapies
  - 10.4.2. Toxicity Assessment of Targeted Therapy
  - 10.4.3. Most Common Toxicities
    - 10.4.3.1. Digestive Toxicity
    - 10.4.3.2. Skin and Mucosal Toxicity
    - 10.4.3.3. Hematological Toxicity
    - 10.4.3.4. Toxic Hypertension Management
    - 10.4.3.5. Cardiotoxicity
    - 10.4.3.6. Thrombotic Events
- 10.5. Antineoplastic Treatment Toxicity: Immunotherapy
  - 10.5.1. Immunotherapy Mechanism of Action
  - 10.5.2. Immunotherapy Toxicity Assessment
  - 10.5.3. Most Common Toxicities
    - 10.5.3.1. Digestive Toxicity
    - 10.5.3.2. Skin and Mucosal Toxicity
    - 10.5.3.3. Respiratory Toxicity
    - 10.5.3.4. Neurological Toxicity
  - 10.5.4. Toxicity in Special Populations
- 10.6. Severe Toxicity of Oncological Treatment: Admission Criteria for Cancer Patients in the ICU
  - 10.6.1. Severe Toxicity Spectrum in Patients Treated with Immunotherapy
  - 10.6.2. Retreatments after Treatment-Limiting Toxicity
  - 10.6.3. Cytokine Storm Syndrome
  - 10.6.4. Severe Neurological Toxicity
  - 10.6.5. Severe Respiratory Toxicity
  - 10.6.6. Aspects Related to Admission to Intensive Care Units in Cancer Patients
- 10.7. End-of-Life Care. Concepts Associated with Terminal Patients. Palliative Sedation
  - 10.7.1. Care Models for Palliative Care Patients
  - 10.7.2. Terminal Illness Concept
  - 10.7.3. Major End-of-Life Syndromes
  - 10.7.4. Agony Diagnosis: Situation in the Final Days
  - 10.7.5. Palliative Sedation
- 10.8. Long-Term Cancer Survivors: Monitoring Programs
  - 10.8.1. Introduction and Definition of the Long-Term Cancer Survivor Concept
  - 10.8.2. Survival Rates and Estimated Number of Long-Term Cancer Survivors
  - 10.8.3. Monitoring Models of Long-Term Cancer Survivors
- 10.9. Long-Term Cancer Survivors: Most Common Consequences
  - 10.9.1. Identification of Long-Term Survivors' Specific Problems
  - 10.9.2. Healthcare and Non-Healthcare Demand
- 10.10. Special Situations: Long-Term Survivors with Disease, Long-Term Child and Adolescent Survivors
  - 10.10.1. Sick Patients and Long-Term Survivors
  - 10.10.2. Long-Term Surviving Teenager



*This program will immerse you in the main adjuvant and neo-adjuvant treatments used in cancer patients”*

07

# Clinical Internship

TECH proposes the realization of a practical stay, which is the culmination of a program designed by and for professionals specialized in Cancer of Unknown Origin. A stage that lasts 3 weeks in a hospital center of reference in this field and that has the best specialists in this field.





“

*TECH has chosen the best hospitals specialized in Cancer of Unknown Origin for you to carry out a first class professional internship”of the highest level”*

The Internship Program of this program of Cancer of Unknown Origin consists of a clinical internship in a prestigious healthcare environment, where the professional will be supervised by a specialist in this type of disease. Thus, from Monday to Friday with 8 consecutive hours of professional practice, the students will be able to test the techniques and methodologies used for the detailed study of the various clinical cases that the reference hospital attends.

A stay, which will become the ideal space for the realization of eminently practical activities, which will lead students to the improvement of their skills. In this way, you will be able to analyze, collaborate and contribute to the diagnosis of infrequent tumors by applying the latest scientific evidence and state-of-the-art technology in individualized treatments.

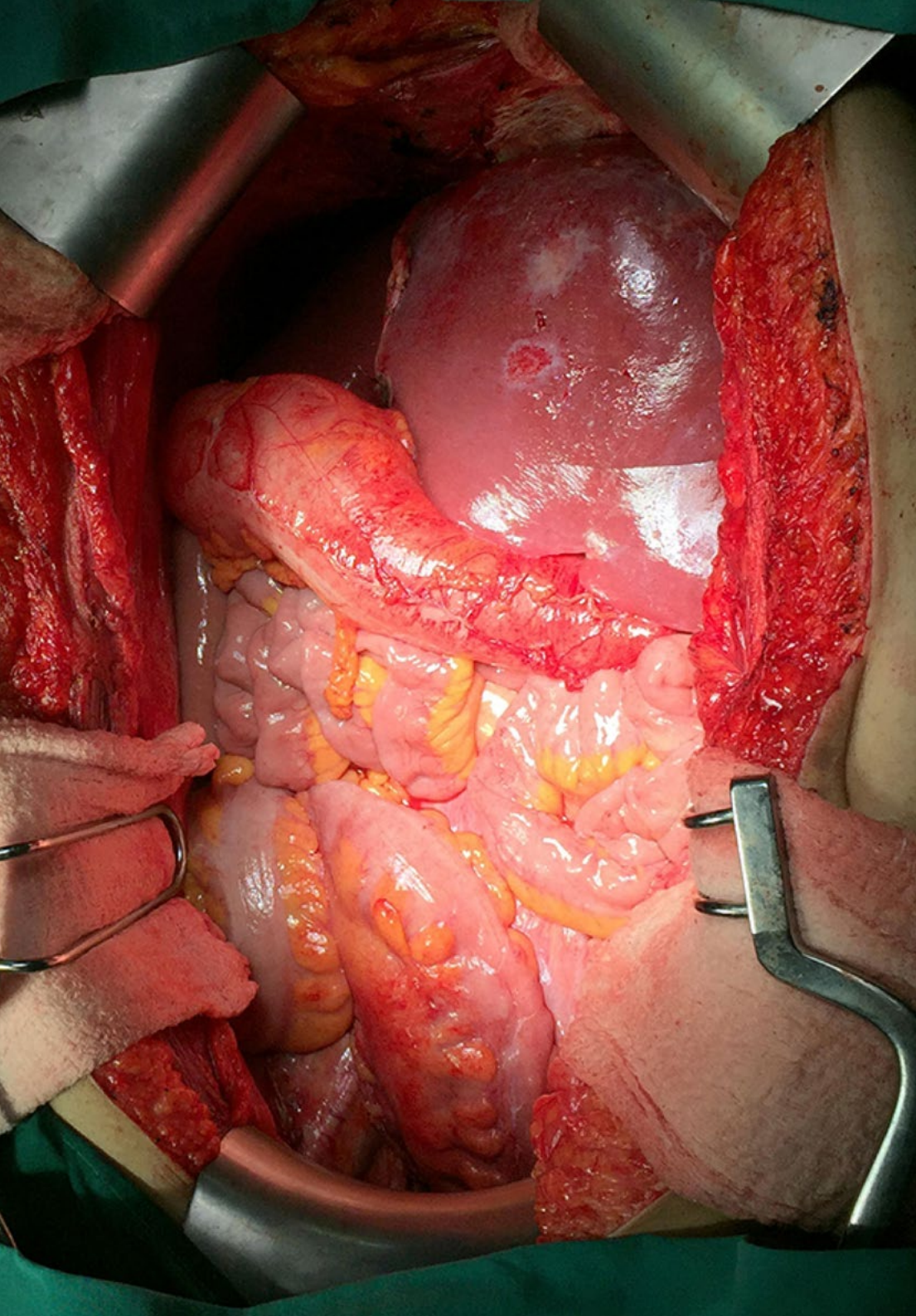
It is undoubtedly an opportunity to learn by working on future research in the diagnosis and treatment of cancer, improving the quality of life of patients and achieving greater patient survival. This is a challenge for professionals who enter this program and seek to give the best of themselves in their daily clinical practice.

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 to facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of medical professionals to (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:



*Throughout 120 practical hours you will be able to enhance your diagnostic skills in rare tumors thanks to the tutoring of the best experts"*



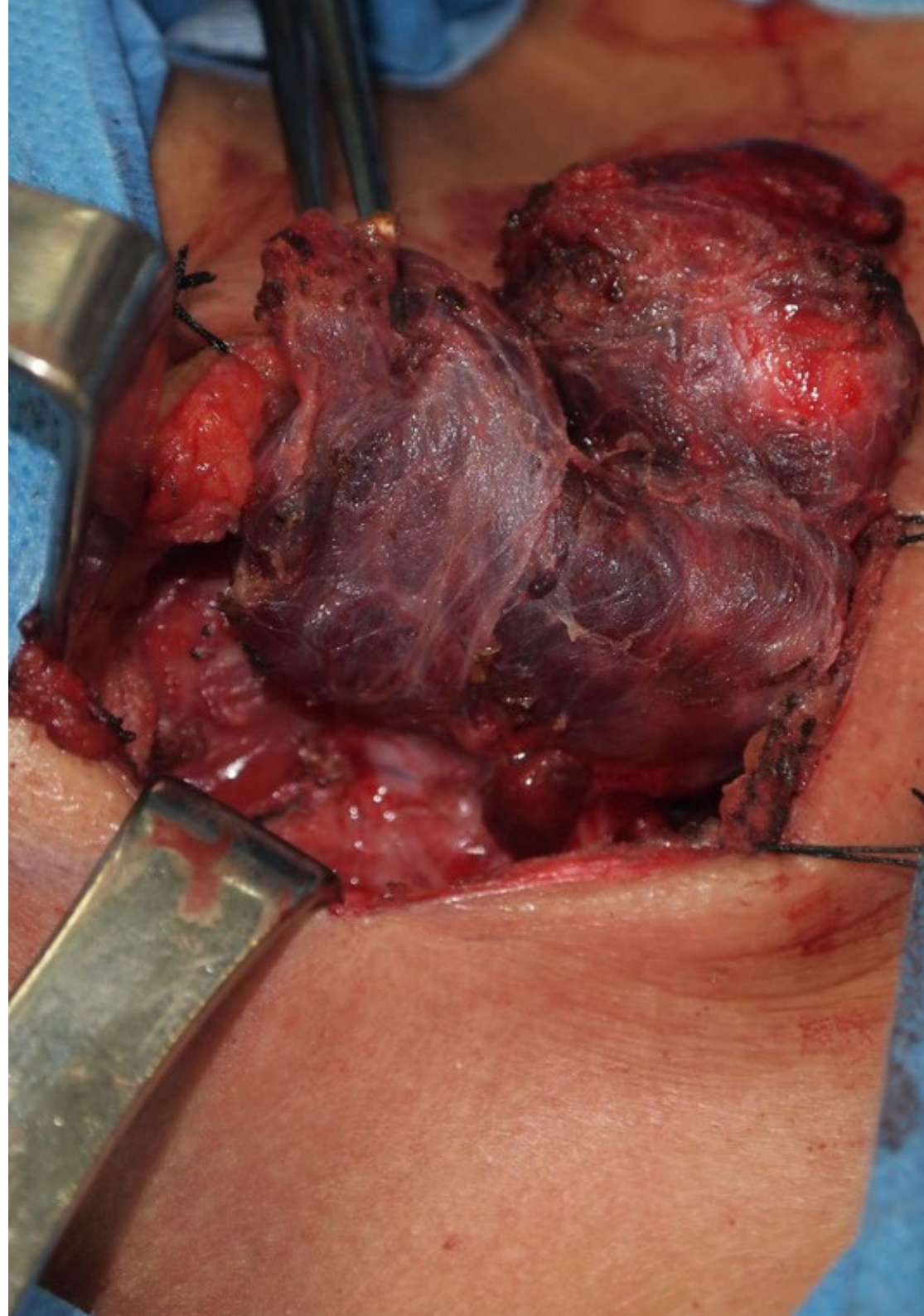
| Module   | Practical Activity  |
|--|---|
| <b>Clinical Analysis Research Techniques</b>                           | Collaborate in the study of infrequent tumors according to the lines of research closest to the case in question. |
|  | Contribute to the consultation of biobanks to obtain accurate data on certain cancers.                            |
|  | Access to new clinical trial models and interpretation of the results obtained                                    |
|  | To provide solutions to the difficulties in clinical research on rare tumors.                                     |
| <b>Treatment and study of pleural tumors and lung cancer</b>           | Diagnose the different tumors of pleural origin   |
|  | Use molecular diagnostic techniques: IHC, FISH, RT-PCR or NGS to obtain accurate results about the type of cancer |
|  | Apply guideline recommendations for specimen handling and diagnostic procedures                                   |
| <b>Treatments in long-surviving patients with low incidence tumors</b> | To evaluate the patient's oncologic quality of life   |
|  | Inform the patient about the impact of supportive care on quality of life and survival                            |
|  | Apply the latest and most advanced treatments for cancer pain and associated symptoms                             |
|  | To establish the mechanisms of action in the face of chemotherapy toxicity  |
| <b>Care for palliative patients</b>                                    | Collaborate in the care of palliative patients by applying the most advanced pharmacology.                        |
|  | Addressing major end-of-life syndromes  |
|  | Establish diagnosis of agony in the last days of the patient's life   |
|  | Apply palliative sedation according to the protocol established by the hospital center                            |

## 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 achieving this is the response to any incident that may occur during the entire teaching-learning process.

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

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. 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 of the Internship Program

The general terms and conditions of the internship agreement for the program are 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?

This Hybrid Professional Master's Degree program includes clinical internships. For this reason, TECH makes available to the professional hospital centers of great prestige in the study, diagnosis and clinical care of patients with low-incidence cancer. In this sense, this institution brings professionals closer to a real, first-class environment, which will allow them to update their knowledge in this field with the help of the best experts.





“

*This program brings you closer to innovative healthcare environments, where the latest scientific evidence is applied in the study of complex clinical cases of low-incidence cancer”*



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



Medicine.

### Hospital HM Modelo

|         |           |
|---------|-----------|
| Country | City      |
| Spain   | La Coruña |

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

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

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care



Medicine.

### Hospital HM Rosaleda

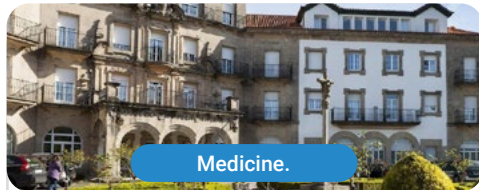
|         |           |
|---------|-----------|
| Country | City      |
| Spain   | La Coruña |

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

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

**Related internship programs:**

- Hair Transplantation
- Orthodontics and Dentofacial Orthopedics



Medicine.

### Hospital HM La Esperanza

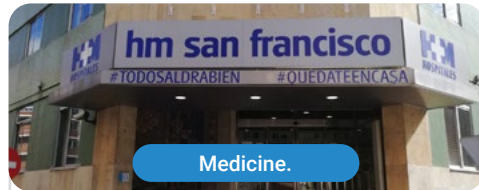
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|---------|-----------|
| Country | City      |
| Spain   | La Coruña |

Management: 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



Medicine.

### Hospital HM San Francisco

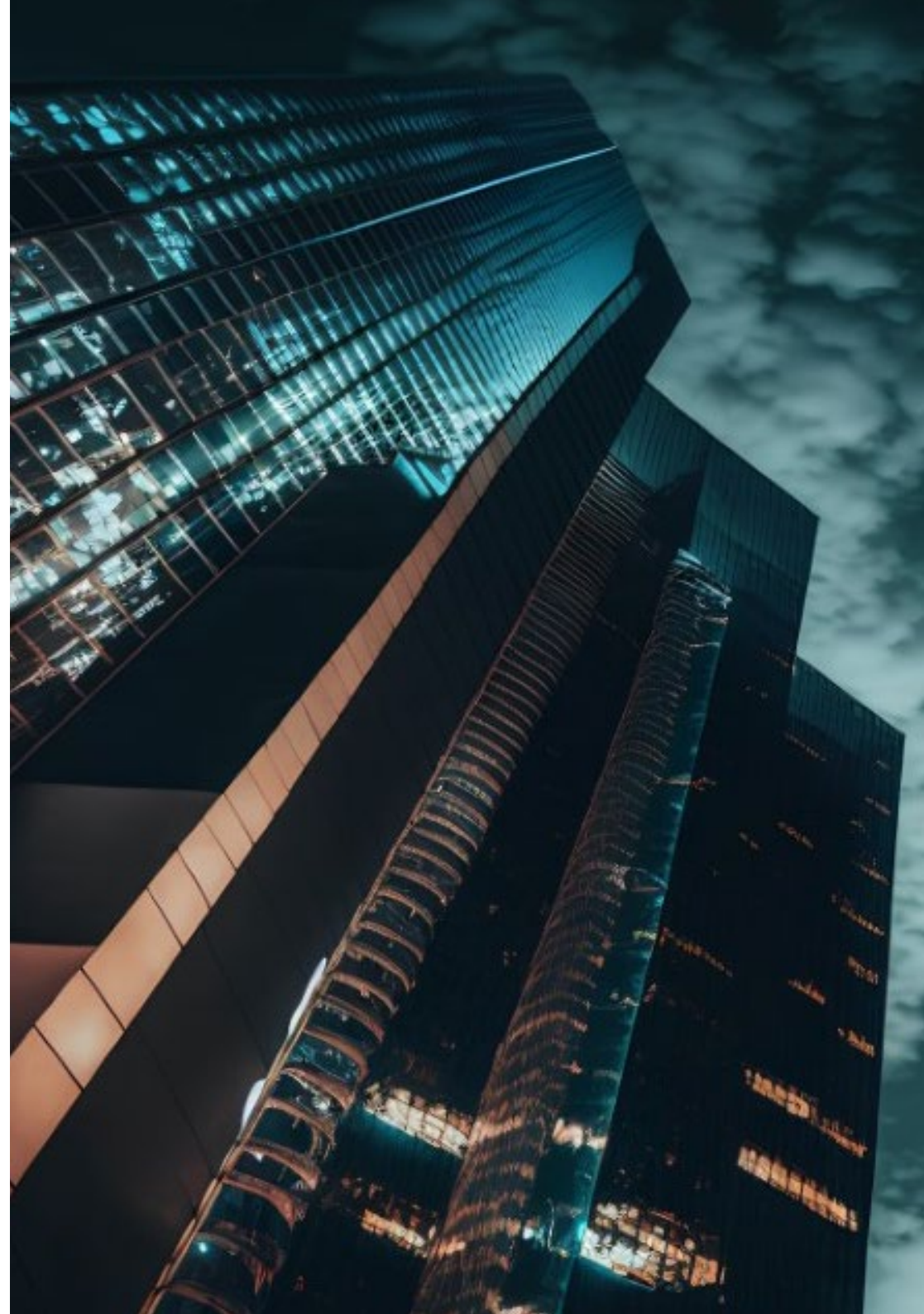
|         |      |
|---------|------|
| Country | City |
| Spain   | León |

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

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

**Related internship programs:**

- Update in Anesthesiology and Resuscitation
- Trauma Nursing





Medicine.

### Hospital HM Nou Delfos

|         |           |
|---------|-----------|
| Country | City      |
| Spain   | Barcelona |

Management: 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



Medicine.

### Hospital HM Madrid

|         |        |
|---------|--------|
| Country | City   |
| Spain   | Madrid |

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

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

**Related internship programs:**

- Palliative Care
- Anaesthesiology and Resuscitation



Medicine.

### Hospital HM Sanchinarro

|         |        |
|---------|--------|
| Country | City   |
| Spain   | Madrid |

Management: 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



Medicine.

### Hospital HM Nuevo Belén

|         |        |
|---------|--------|
| Country | City   |
| Spain   | Madrid |

Management: Calle José Silva, 7, 28043, Madrid

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

**Related internship programs:**

- General and Digestive System Surgery
- Clinical Nutrition in Medicine



Medicine.

### Hospital HM Montepríncipe

|         |        |
|---------|--------|
| Country | City   |
| Spain   | Madrid |

Management: 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



Medicine.

### Hospital HM Torrelodones

|         |        |
|---------|--------|
| Country | City   |
| Spain   | Madrid |

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

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

**Related internship programs:**

- Anaesthesiology and Resuscitation
- Palliative Care



Medicine.

### Hospital HM Puerta del Sur

|         |        |
|---------|--------|
| Country | City   |
| Spain   | Madrid |

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

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

**Related internship programs:**

- Palliative Care
- Clinical Ophthalmology



Medicine.

### Hospital HM Vallés

|         |        |
|---------|--------|
| Country | City   |
| Spain   | Madrid |

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

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

**Related internship programs:**

- Gynecologic Oncology
- Clinical Ophthalmology





Medicine.

### HM CIOCC - Centro Integral Oncológico Clara Campal

|         |        |
|---------|--------|
| Country | City   |
| Spain   | Madrid |

Management: Calle de Oña, 10, 28050, Madrid

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

**Related internship programs:**

- Gynecologic Oncology
- Clinical Ophthalmology



Medicine.

### HM CIOCC Barcelona

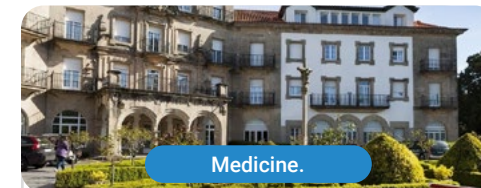
|         |           |
|---------|-----------|
| Country | City      |
| Spain   | Barcelona |

Management: Avenida de Vallcarca, 151, 08023, Barcelona

Network of private clinics, hospitals and specialized centers distributed Spanish democracy

**Related internship programs:**

- Advances in Hematology and Hemotherapy
- Oncology Nursing



Medicine.

### HM CIOCC Galicia

|         |           |
|---------|-----------|
| Country | City      |
| Spain   | La Coruña |

Management: Avenida das Burgas, 2, 15705, Santiago de Compostela

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

**Related internship programs:**

- Gynecologic Oncology
- Clinical Ophthalmology

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

The Hybrid Professional Master's Degree in Cancer of Unknown Origin guarantees, in addition to the most rigorous and up-to-date training, access to a Hybrid Professional Master's Degree issued by TECH Technological University.





“

*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

This **Hybrid Professional Master's Degree in Cancer of Unknown Origin** contains the most complete and up-to-date program in the professional and academic landscape.

After the student has passed the assessments, they will receive their corresponding Hybrid Professional Master's Degree diploma issued by TECH Technological University via tracked delivery\*.

In addition to the diploma, students will be able to obtain an academic transcript, as well as a certificate outlining the contents of the program. In order to do so, students should contact their academic advisor, who will provide them with all the necessary information.

Program: **Hybrid Professional Master's Degree in Cancer of Unknown Origin**

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

Duration: **12 months.**

Certificate: **TECH Technological University**

Teaching Hours: **1,620 h.**



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

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**Hybrid Professional  
Master's Degree**  
Cancer of Unknown Origin

Course Modality: Hybrid (Online + Clinical Internship)  
Duration: 12 months.  
Certificate: TECH Technological University  
Teaching Hours: 1,620 h..

# Hybrid Professional Master's Degree

## Cancer of Unknown Origin