

Advanced Master's Degree Clinical Endocrinology





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- » Modality: online
- » Duration: 2 years
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitute.com/us/medicine/advanced-master-degree/advanced-master-degree-clinical-endocrinology

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01

Introduction

Endocrinology is advancing rapidly, introducing new ways of dealing with hormonal and glandular disorders within its discipline. Thus, in recent years, there have been many new developments in this field, for which it is necessary to keep up to date. This program has been designed with the aim of offering specialists a complete and immediate update, providing them with the most relevant techniques and procedures in such areas as differentiated thyroid carcinoma or bone metabolism disorders. All this is achieved through a 100% online learning methodology that allows professionals to combine their studies with their work.





This Advanced Master's Degree will allow you to learn about the latest advances in endocrinology, delving into subjects such as thyrotropinomas or radionuclide therapy in pheochromocytomas"

Recent advances in endocrinology and endocrine oncology have improved the diagnostic processes, follow-up and treatment of patients with hormonal and metabolic problems. Thus, at present specialists can incorporate these new developments into their practice, but to do so they need access to a program that is adapted to their needs and professional circumstances.

This Advanced Master's Degree in Clinical Endocrinology will completely suit the physician, as its 100% online teaching methodology has been specifically designed with practicing specialists in mind. This way, you can decide when, where and how to study, without being subjected to uncomfortable commutes or rigid schedules. In addition, you will have at your disposal a prestigious faculty team that will update you with a wide range of multimedia resources: video procedures, analysis of actual clinical cases, master lectures or interactive summaries, among others.

Thus, thanks to this teaching system, endocrinologists will be able to delve into relevant aspects of the discipline such as the physiology of the menstrual cycle, the molecular aspects of differentiated thyroid carcinoma, the causes of nodular thyroid disease or hereditary disorders of carbohydrate metabolism.

This **Advanced Master's Degree in Clinical Endocrinology** contains the most complete and up-to-date scientific program on the market. Its most notable features are

- ◆ Case studies presented by experts in endocrinology
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Special emphasis on innovative methodologies in the field of Endocrinology
- ◆ 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



Incorporate into your daily work the most up-to-date developments in oncology of the endocrine system thanks to this Advanced Master's Degree, which is designed using the best multimedia resources"

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Update yourself in a fast and convenient way thanks to this program, specially designed to bring professionals closer to the latest scientific evidence in this medical field"

The teaching staff includes medical professionals who bring their experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive training experience designed to train for real-life situations.

This program is designed around Problem Based Learning, whereby the student must try to solve the different professional practice situations that arise during the academic year. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

TECH's online learning system will allow you to choose the time and place to study, without interfering with your work.

You will be accompanied by a highly prestigious faculty team in the field of endocrinology to assist you throughout your learning process.



02 Objectives

The main goal of this Advanced Master's Degree in Clinical Endocrinology is to update specialists in a manner that is simple, fast and totally adapted to their professional circumstances. To achieve this goal, TECH offers you the best online teaching method on the educational market, a system designed to bring endocrinologists up to date smoothly, without complications or restrictions, at the pace you want.



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This Advanced Master's Degree will allow you to achieve your primary objective: updating and learning the latest procedures in clinical endocrinology"



General Objectives

- ◆ Enhance the Understanding, Diagnosis and Treatment of Endocrine Oncologic Pathology
- ◆ Gain an upgrade in the most novel aspects of the diagnosis and treatment of Endocrine Oncologic Pathology
- ◆ Advance in the Multidisciplinary Approach indispensable in the management of Endocrine Oncologic Pathology
- ◆ Be able to accurately interpret currently available clinical information and associate it effectively in clinical practice

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The most recent advances in endocrinology are within your reach thanks to this Advanced Master's Degree"





Specific Objectives

Module 1. Hypothalamus, Pituitary Gland and Autoimmune Pathology

- ◆ Update the understanding in the biology, biochemistry and pathophysiology of the endocrine system
- ◆ Delve into the main clinical entities affecting the hypothalamic-pituitary axis
- ◆ Study in depth autoimmune polyglandular syndromes

Module 2. Thyroid Gland, Parathyroid Gland and MEN.

- ◆ Update the understanding of the main pathologies affecting the thyroid gland and learning the main diagnostic algorithms for these diseases
- ◆ Study in depth the laboratory findings that can lead to the diagnosis of the main parathyroid diseases
- ◆ Know how to interpret the clinical findings that should lead us to suspect the existence of multiple endocrine neoplasia

Module 3. Disorders of the Adrenal Glands

- ◆ Provide and expand clinical and pathophysiological data on the main endocrine pathologies affecting the adrenal glands
- ◆ Integrate the use of the main diagnostic algorithms in the achievement of the most clinically prevalent clinical judgments

Module 4. Obesity, Metabolic Syndrome and Dyslipidemia

- ◆ Update the understanding on obesity and its pharmacological treatments
- ◆ Delve into the approach and classification of the metabolic syndrome, as well as the profound impact it is having on the healthcare landscape
- ◆ Discuss and interpreting discoveries in lipid profiling and the development of therapeutic knowledge which has been generated in recent years in this field

Module 5. Diabetes Mellitus

- ◆ Provide and expanding knowledge on the pathogenesis and pathophysiology of diabetes mellitus
- ◆ Provide the basics of understanding of the main chronic complications (micro and macrovascular) of this pathology
- ◆ Discuss the different therapeutic options for this endocrinological disease

Module 6. Endocrinological Emergencies

- ◆ Know the most frequent causes that occur in the more common endocrine and metabolic emergencies, developing the activities to be carried out with the patient in the situations described in the contents
- ◆ Prioritize the actions to be performed according to their importance for the patient's life
- ◆ Identify the differential diagnosis in relation to the metabolic and electrolyte alterations of these pathologies
- ◆ Recognize the importance of the evaluation of blood analysis and metabolic values in the detection of related problems

Module 7. Disorders of Intermediary Metabolism and Bone Metabolism

- ◆ Update the understanding in this heterogeneous field of pathologies, especially in the clinical and diagnostic aspect
- ◆ Provide and expand knowledge about the skeletal system and related diseases in this area

Module 8. Clinical Nutrition and Dietetics

- ◆ Update the understanding in the field of dietetics and its connection with the most prevalent diseases, when its knowledge can be essential to achieve a favorable clinical evolution
- ◆ Know the different types of nutrition, their indications, their characteristics and their mechanics of delivery

Module 9. Women and Endocrinology

- ◆ Increase the understanding of female sex hormones throughout a woman's life
- ◆ Update on the particulars of endocrinological diseases in pregnant women
- ◆ Review the most important clinical understandings in human reproduction

Module 10. Miscellaneous

- ◆ Deepen the understanding of the study of hypogonadism and the main algorithms involved in its study
- ◆ Update on the particularities of endocrinological diseases in elderly patients
- ◆ Review the most important clinical knowledge in the detection of arterial hypertension of endocrinologic origin
- ◆ Study in depth the role of the endocrine system in the nervous system and the cardiovascular system
- ◆ Deepen the understanding of gastrointestinal hormones in the control of food intake

Module 11. Hypothalamic-Pituitary Tumor Pathology

- ◆ Understand comprehensively the clinical manifestations and diagnosis of functioning and non-functioning pituitary tumors
- ◆ Deepen the understanding on the surgical treatment of tumors of the hypothalamic-pituitary region, approach routes, perioperative management, postoperative functional evaluation
- ◆ Know the indications and types of pharmacological treatment in the different types of tumors
- ◆ Know in depth the indications and types of radiotherapy, its efficacy and side effects. Know additionally the indications for other treatments

Module 12. Thyroid Nodule Management. Parathyroid Tumors

- ◆ Deepen the understanding of the approach to the thyroid nodule
- ◆ Delve into the usefulness, characteristics and classifications of diagnostic tests
- ◆ Improve the understanding of the indications and complications of ethanolization and ablation techniques
- ◆ Study in depth the approach to primary hyperparathyroidism

Module 13. Differentiated Thyroid Carcinoma (DTC)

- ◆ Update the understanding of the pathogenesis of DTC
- ◆ Improve the understanding of the diagnosis and indications for treatment
- ◆ Advance the understanding of target therapies in advanced non-resectable TSC
- ◆ Deepen into the importance of the multidisciplinary approach

Module 14. Medullary Thyroid Carcinoma Other Thyroid Carcinomas

- ♦ Study in depth the diagnosis and treatment of MTC
- ♦ Deepen the understanding of other malignant thyroid tumors
- ♦ Optimize the monitoring and prognosis of malignant thyroid tumors not derived from follicular epithelium

Module 15. Tumors of the Adrenal Cortex

- ♦ Improve the understanding of the incidentally discovered adrenal nodule
- ♦ Study in depth diagnosis of ACTH-independent hypercortisolism
- ♦ Delve into the differential diagnosis of primary hyperaldosteronism due to adenoma and hyperplasia
- ♦ Study in depth the diagnosis, treatment and monitoring of Adrenal Carcinoma
Multidisciplinary approach

Module 16. Pheochromocytomas and Paragangliomas

- ♦ Delve into the molecular basis of these tumors and the importance of genetic studies
- ♦ Study in depth the diagnosis, treatment and monitoring of pheochromocytomas and paragangliomas

Module 17. Multiple Endocrine Neoplasia Syndromes

- ♦ Deepen the understanding on the hereditary syndromes of multiple endocrine neoplasia
- ♦ Delve into tracking the mutation carriers in the genes of the different syndromes
- ♦ Assessment and monitoring of family members

Module 18. Gastroenteropancreatic Neuroendocrine Tumors (GEPNET)

- ♦ Study in depth the epidemiology and the molecular and cellular basis of GEPNETs
- ♦ Delve into the diagnosis, treatment, monitoring and prognosis of NERs of different locations; pulmonary, gastric, intestinal and appendiceal

Module 19. GEPNET. Anatomical and Functional Diagnosis. Locoregional Disease Treatment

- ♦ Deepen the understanding of carcinoid syndrome and carcinoid heart disease
- ♦ Delve into the different types of ectopic hormone secretion
- ♦ Address the diagnosis of GEPNETs: Molecular Markers, Echoendoscopy, Imaging Tests
- ♦ Understand comprehensively monitoring and evaluating the response to treatment
- ♦ Study in depth the indications for treatment of G3 GEPNETs

Module 20. Gastroenteropancreatic Neuroendocrine Tumors. Treatment for an Advanced Disease

- ♦ Know the approach to an advanced disease
- ♦ Deepen the understanding on the surgical treatment of an advanced disease
- ♦ Increase the knowledge of pharmacological treatments in an advanced disease: biological treatments, targeted therapies and immunotherapy
- ♦ Deepen the understanding of radionuclide therapy treatment Teragnosis
- ♦ Delve into the nutritional approach that some patients with endocrine tumors may require
- ♦ Improve the multidisciplinary approach

03 Skills

This Advanced Master's Degree in Clinical Endocrinology will allow the specialists to incorporate the most innovative procedures, treatments and diagnostic methods to their work, since it has been developed according to the latest scientific evidence in this field. Thus, at the end of the program, the professionals will have the most advanced competencies in this important and exciting medical area, which has been subject to enormous transformations in recent years.





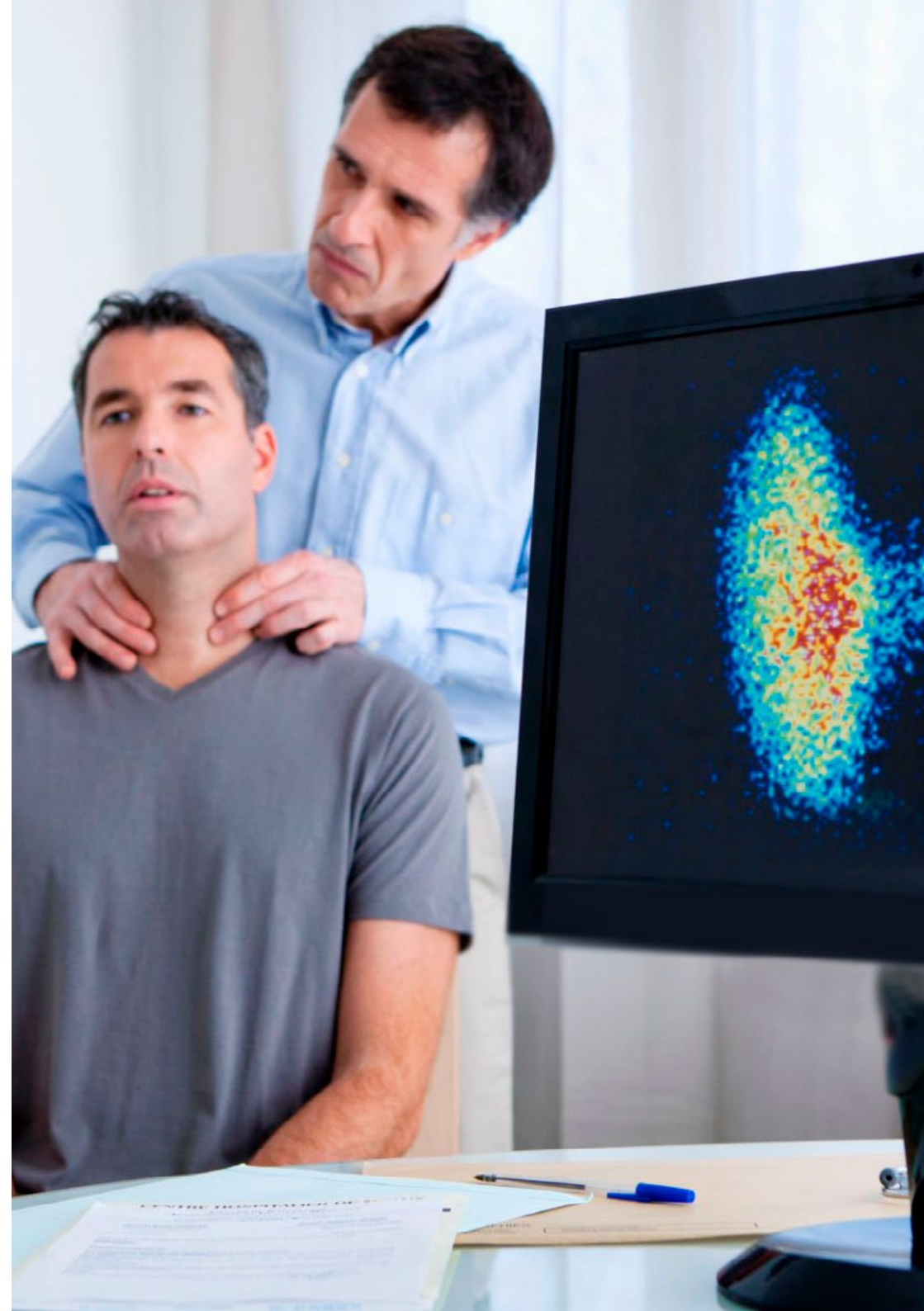
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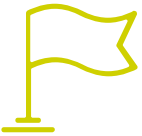
Refine and update your skills thanks to this program, which has the main objective of bringing the endocrinology specialists up to date”



General Skills

- ◆ Acquire and understand knowledge that provides an opportunity in the context of endocrinology
- ◆ Apply acquired knowledge and problem-solving skills in clinical settings in a comprehensive and solvent manner
- ◆ Integrate skills and deal with complex clinical situations, including pathophysiological reflections related to the application of these skills
- ◆ Communicate your findings to both specialized and non-specialized audiences in a clear and unambiguous manner
- ◆ Acquire the learning skills that will enable further studying in a self-directed or autonomous manner
- ◆ Identify the different clinical pathologies of endocrine oncologic pathology
- ◆ Multidisciplinary approach to different cases of endocrine oncologic pathology
- ◆ Addressing advanced disease management
- ◆ Delving into the various diagnostics available, in order to create effective treatments and monitoring





Specific Skills

- ◆ Creating a global and updated vision of the topics addressed, acquiring a valuable and deep understanding
- ◆ Generating interest to broaden knowledge in this area and discovering its application to daily clinical practice
- ◆ Comprehend the process of knowledge discovery, which includes the reading of specific information, contextualization and transversality with other medical branches
- ◆ Understand how to evaluate the performance of supervised and unsupervised learning algorithms
- ◆ Know the most relevant diagnostic techniques and therapeutic aspects in this field of medicine
- ◆ Delve into the tumors of the hypothalamic-pituitary region, their pathogenesis, anatomopathological aspects and their classification
- ◆ Understand thoroughly of the indications and extent of surgical treatment, its complications and subsequent monitoring
- ◆ Optimize the evaluation of treatment response
- ◆ Identify the different thyroid carcinomas
- ◆ Diagnose the functionality of the adrenal nodule
- ◆ Further the understanding of chromaffin tissue tumors
- ◆ Recognize the syndromes of multiple endocrine neoplasia and the correct way of approaching them
- ◆ Understand comprehensively the diagnosis, treatment, follow-up and prognosis of functioning and non-functioning pancreatic NETs
- ◆ Study in depth the surgical treatment of GEPNETs in the different localizations
- ◆ Understand comprehensively the sequencing of different treatments for gastroenteropancreatic neuroendocrine tumors



This degree will enable you to adapt to the latest developments in endocrinology"

04

Course Management

One of the many strengths of this Advanced Master's Degree in Clinical Endocrinology is its faculty team, composed of practicing professionals with extensive experience in this complex medical field. In this way, these professors have contributed to the development of this program, and will assist the specialists throughout the learning process, ensuring that they obtain the most up-to-date teaching.





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A faculty team made up of practicing specialists is responsible for assisting you throughout the learning process, bringing you up to date in a simple and effective way"

International Guest Director

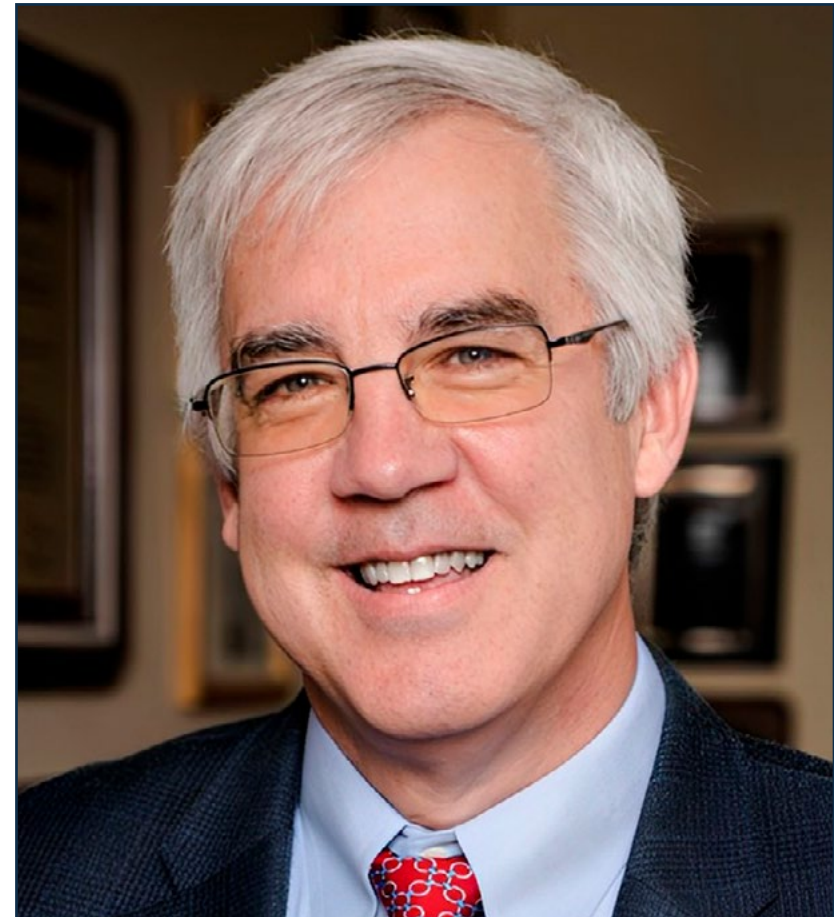
Dr. R. Michael Tuttle has developed, for more than 3 decades, a successful career in the medical field of Endocrinology. Thanks to his exceptional skills, this expert has received numerous international awards. He has received the Lewis Braverman Lectureship Award from the American Thyroid Association and the Knoll Pharmaceutical Mentor Award from the Endocrine Society.

He has also recently served as Clinical Director of the Endocrine Service at Memorial Sloan Kettering Hospital. He is also a permanent academic collaborator at Cornell University Medical School in New York.

In addition, Dr. Tuttle has distinguished himself on the clinical-research level. Specifically, he has delved deeply into the study of Thyroid Cancer and his work in this field has changed the paradigm regarding differentiated treatments (DTC) for this disease. Prior to his therapeutic innovations, all patients were treated with Total Thyroidectomy and Radioactive Iodine (RAI). However, this expert was one of the pioneers in using serum Thyroglobulin (Tg) as an indicator of residual DTC.

As such, he has led international studies that demonstrated the efficacy of recombinant thyrotropin (rhTSH) in determining TSH-stimulated Tg. This also led to the stratification of patients into risk categories and reduced the number of ionizing radiations. Together with his molecular analyses, his clinical work has opened a new scenario for multikinase inhibitor (TKI) therapies for radioiodine therapy-resistant DTC.

On the other hand, he has been a consultant to the Center for Disease Control for Radiation Exposure of Peoples in the Marshall Islands, the Hanford Downwinder Project, and a consultant to the National Academy of Sciences for Radiation Exposed Populations.



Dr. Tuttle, R. Michael

- Clinical Director of the Endocrinology Service at Memorial Sloan Kettering Cancer Center
- Specialist in Thyroid Cancer and Radioiodine Therapy.
- Academic Advisor, Cornell University Medical School, New York
- Fellowship at the Madigan Army Medical Center
- Residency in Medical Endocrinology at Dwight David Eisenhower Army Medical Center
- M.D. from the University of Louisville
- B.S. in Biology, Northern Kentucky University
- Member of:
 - Endocrine Society
 - American Thyroid Association
 - American Association of Endocrine Surgeons
 - American Association of Clinical Endocrinologists



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

Management



Dr. Álvarez Escola, María Cristina

- ♦ Head of the Endocrinology and Nutrition Department in La Paz University Hospital
- ♦ Supervisor of Residents in the Endocrinology and Nutrition Department of La Paz University Hospital
- ♦ Coordinator of the Endocrine Tumor Committee of La Paz University Hospital
- ♦ Coordinator of the Pituitary Tumor Committee and Sellar Region of La Paz University Hospital
- ♦ Coordinator of the Neuroendocrinology Group of SENDIMAD
- ♦ Member of the National Commission of Endocrinology and Nutrition, Ministry of Health
- ♦ PhD in Medicine and Surgery from the University of Alcalá de Henares

Professors

Dr. Albi Rodríguez, Salomé

- ◆ Assistant, Pediatrics Department, 12 de Octubre University Hospital, Madrid
- ◆ University Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ Doctor in Medicine and Surgery at the Universidad Autónoma de Madrid
- ◆ Specialty in Pediatrics and Specific Areas

Dr. Álvarez Gómez, Esther

- ◆ Area Specialist Physician at the San José Hospital in Teruel
- ◆ Geriatric Specialty Residency at Nuestra Señora de Gracia Hospital
- ◆ Degree in Medicine from the Complutense University of Madrid
- ◆ Master's Degree in Bioethics from the University of La Rioja
- ◆ Master's Degree in Palliative Care at CEU, Universidad Cardenal Herrera

Dr. Anda Apiñániz, Emma

- ◆ Head of the Endocrinology and Nutrition Service of the Navarra Hospital Complex
- ◆ Teaching coordinator of the Endocrinology and Nutrition Service at the Navarra Hospital Complex
- ◆ Degree in Medicine from the University of Navarra
- ◆ PhD in Endocrinology at Navarra Hospital
- ◆ Advanced Master's Degree in Health Management at Menéndez Pelayo International University

Dr. Araujo Castro, Marta

- ◆ Specialist Physician in Endocrinology and Nutrition at the Ramón y Cajal University Hospital
- ◆ Degree in Medicine and Surgery from the University of Santiago de Compostela
- ◆ Master's Degree in Clinical Management of Health Care Units at Menéndez Pelayo International University
- ◆ Degree in Medicine and Surgery from the University of Santiago de Compostela
- ◆ Diploma in the Treatment of Diabetes Mellitus type 2 Future diabetes experts at the Universidad Autónoma de Barcelona

Dr. Ayuela García, Susana

- ◆ Specialist Physician in General and Digestive System Surgery, hepatobiliopancreatic section, La Paz University Hospital, Madrid
- ◆ Assistant Physician of General Surgery, Coloproctology unit, La Paz University Hospital, Madrid
- ◆ Head of Patient Safety, General Surgery Department, La Paz University Hospital, Madrid
- ◆ Member of the Multidisciplinary Committee of Neuroendocrine Tumors, La Paz University Hospital, Madrid
- ◆ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ◆ Academic Master's Degree in Evaluation of Bodily Injury at the Complutense University of Madrid

Dr. Barrio Martínez, Nina Marina

- ◆ Gynecology and Obstetrics Service Fundación Alcorcón University Hospital

Dr. Blanco Carrera, Concepción

- ◆ Supervisor for Endocrinology and Nutrition medical residents at Príncipe de Asturias Hospital
- ◆ Medical specialist of Endocrinology and Nutrition in Area III of Specialized Care
- ◆ Medical specialist in the Endocrinology Service of Albacete General Hospital
- ◆ PhD in Medicine and Surgery from the Autonomous University of Madrid
- ◆ Specialist in Endocrinology and Nutrition through MIR training at Puerta de Hierro Hospital
- ◆ Master's Degree in Clinical Management of Health Care Units at Menéndez Pelayo International University

Dr. Belda Bilbao, Luis

- ◆ Specialist Physician in Internal Medicine El Escorial Hospital San Lorenzo de El Escorial
- ◆ Specialty of Internal Medicine performed in Great Britain
- ◆ Master's Degree in Cardiovascular Diseases from the University of Barcelona
- ◆ Postgraduate Diploma in HIV Infection and Associated Diseases, at the Miguel Hernández University of Elche

Dr. Calvo Urrutia, Marta

- ◆ Assistant Physician of the Women's Health Institute Professor Botella Llusía (San Carlos Clinical Hospital)
- ◆ Coordinator of the Reproduction Unit of the WHI Botella Llusía
- ◆ Degree in Medicine and Surgery from the Autonomous University of Madrid.
- ◆ Specialist in Obstetrics and Gynaecology at the San Carlos Clinical Hospital



- ◆ PhD in Gynecology and Obstetrics (Cum Laude) from the Complutense University of Madrid
- ◆ Master's Degree in Human Reproduction from the University Rey Juan Carlos I

Dr. Carrasco Lara, Pablo

- ◆ Specialist Physician in Endocrinology and Nutrition at San Carlos Clinical University Hospital
- ◆ Specialist in Endocrinology and Nutrition at Hospital La Luz, University Hospital of Getafe, University Hospital of Fuenlabrada and General University Hospital Gregorio Marañón
- ◆ Degree in Medicine from the Faculty of Health Sciences of the University Rey Juan Carlos in Madrid
- ◆ Master's Degree in Integration and Clinical Problem Solving in Medicine from the University of Alcalá, Spain.
- ◆ Personal Master's Degree in Integration and Clinical Problem Solving in Medicine at the University of Alcalá
- ◆ Postgraduate Diploma in Chronic Complications of Diabetes Mellitus at the University of Barcelona.
- ◆ Personal Master's Degree in Clinical Nutrition in Medicine at the CEU-Cardenal Herrera University

Dr. Climent Martínez, Nieves

- ◆ Assistant Physician at the University Hospital Fundación de Alcorcón
- ◆ Gynecology Resident Supervisor at the University Hospital Fundación de Alcorcón
- ◆ Specialist in Gynecology and Obstetrics

Dr. Cuenca Abarca, Ana

- ◆ Assistant Physician of Internal Medicine at El Escorial Hospital
- ◆ Specialist Physician in Internal Medicine at the University Hospital Puerta de Hierro
- ◆ Faculty Associate Clinician at the Francisco de Vitoria University
- ◆ Medical Degree from the University of Castilla-La Mancha 2003 - 2009
- ◆ PhD in Medicine and Surgery from the Autonomous University of Madrid

Dr. Custodio Carretero, Ana

- ◆ Assistant Physician of the Medical Oncology Department, La Paz University Hospital
- ◆ Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ Official Doctoral Program in Internal Medicine at the Complutense University of Madrid
- ◆ Advanced Studies Diploma from the Complutense University of Madrid

Dr. Díaz Pérez, Jose Ángel

- ◆ Specialist Physician in Endocrinology and Nutrition at the San Carlos Clinical Hospital of Madrid
- ◆ Vice President of the Spanish Group of Neuroendocrine and Endocrine Tumors (GETNE)
- ◆ Member of the Tumor Commission of the San Carlos Clinical Hospital of Madrid
- ◆ PhD in Medicine and Surgery from the University of Santiago de Compostela
- ◆ PhD in Internal Medicine from the Complutense University of Madrid.
- ◆ Master's Degree in Clinical Management

Dr. de la Fuente Bitaine, Laura

- ◆ Area Specialist Physician at 12 de Octubre Hospital
- ◆ Coordinator of the Reproduction Unit of the Hospital 12 de Octubre, Madrid
- ◆ Member of the Human Reproduction Unit at the Hospital 12 de Octubre and the Tambre Clinic
- ◆ Co-director and professor of the Master in Human Reproduction of the UCM and the SEF
- ◆ Collaborating Professor at the Complutense University of Madrid.
- ◆ Degree in Medicine and Surgery from the Autonomous University of Madrid.
- ◆ PhD (Cum Laude) of Medicine from the Complutense University of Madrid

Dr. Fajardo Montañana, Carmen

- ◆ Head of the Endocrinology Service of La Ribera University Hospital
- ◆ Associate Editor of the journal Endocrinology, Diabetes & Nutrition (Elsevier)
- ◆ Active member of the Neuroendocrinology Section of the Spanish Society of Endocrinology

- ◆ Member of the Board of Directors of the Spanish Society of Endocrinology and Nutrition
- ◆ Member of the Board of Directors of the Foundation of the Spanish Society of Endocrinology and Nutrition
- ◆ Degree in Medicine and Surgery from the University of Valencia

Dr. Familiar Casado, Cristina

- ◆ Specialist Physician in Endocrinology and Nutrition at San Carlos Clinical University Hospital
- ◆ Member of the Tumor Committee of San Carlos Clinical University Hospital
- ◆ Responsible for the Thyroid Nodule Monographic Consultation
- ◆ Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ Specialist in Endocrinology, Metabolism and Nutrition through MIR training at San Carlos Clinical University Hospital

Dr. Fernández Jaén, Alberto

- ◆ Attending physician specializing in Pediatric Endocrinology and Nutrition at Mostoles University Hospital
- ◆ Attending physician specializing in Pediatric Endocrinology and Nutrition at La Paz University Hospital
- ◆ Degree in Medicine from the University of Barcelona
- ◆ Postgraduate Specialization in Neuroendocrinology at the Oxford Centre for Diabetes, Endocrinology and Metabolism
- ◆ Endocrinologist Team Assistant responsible for educational activities for diabetic patients in the Diabetic Association of Gran Canaria
- ◆ Collaborative instructor of health education activities for diabetic patients

Dr. Fiorante, Silvana

- ◆ Internal Medicine Service at El Escorial Hospital in Madrid
- ◆ Professor in the Faculty of Health Sciences for the Degree in Dietetics and Nutrition at the Catholic University of Avila
- ◆ Degree in Medicine from the National University of La Plata.
- ◆ PhD in Medicine and Surgery from Universidad Complutense de Madrid with Cum Laude honors
- ◆ Master's Degree on Human Immunodeficiency Virus infection by the Ministry of Health, Consumption and Social Welfare at the University Rey Juan Carlos with Cum Laude honors
- ◆ Master's Degree in Clinical Management of Health Care Units at Menéndez Pelayo International University with Cum Laude honors

Dr. García Tobaruela, Almudena

- ◆ Assistant Physician in the Internal Medicine Department of El Escorial Hospital, Madrid
- ◆ Internal Medicine Service Safety Officer
- ◆ Assistant Physician in the Emergency Department of La Paz Hospital, Madrid
- ◆ Degree in Medicine and Surgery from the Autonomous University of Madrid.
- ◆ Specialist Physician in Internal Medicine with training at the La Paz University Hospital in Madrid

Dr. Gargantilla Madera, Pedro

- ◆ Head of the Internal Medicine Department of El Escorial University Hospital
- ◆ Professor at Francisco Vitoria University
- ◆ Science communicator and regular contributor to several media outlets (RNE, Abc digital,

Huffington post, Cinco Noticias)

- ◆ Member of the Association of Doctor, Writers and Artists (ASEMEYA)
- ◆ Master's in Management of Clinical Units

Dr. Hanzu, Felicia Alexandra

- ◆ Senior Specialist in Endocrinology at the Hospital Clinic of Barcelona
- ◆ Associate Professor of Medicine at the University of Barcelona
- ◆ Medical Degree from the Carol Davila University of Medicine and Pharmacy, Bucharest
- ◆ Specialist in Endocrinology at the National Institute of Endocrinology CI Parhon, Bucharest
- ◆ Doctor of International European Degree at the Faculty of Medicine of the University of Barcelona

Dr. Lamas Oliveira, Cristina

- ◆ Specialist Physician in the Endocrinology and Nutrition Service at the Albacete University Hospital Complex
- ◆ Coordinator of the Neuroendocrinology Area of the Spanish Society of Endocrinology and Nutrition (SEEN)
- ◆ Secretary of the Castilian-Manchegan Society of Endocrinology, Nutrition and Diabetes
- ◆ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ◆ Specialist in Endocrinology and Nutrition at the Puerta de Hierro Hospital
- ◆ PhD in Medicine and Surgery with extraordinary doctoral award for the thesis "Cushing's disease: results of surgical treatment and analysis of prognostic factors of cure and recurrence in long-term monitoring"

Dr. López Velasco, Nuria

- ◆ Assistant Gynecologist at the University Hospital Fundación de Alcorcón, in the Assisted Human Reproduction Unit
- ◆ Specialist Gynecologist in Assisted Human Reproduction in GINEFIV
- ◆ Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ Master's Degree in Assisted Human Reproduction from the Complutense University of Madrid
- ◆ Personal Master's Degree in Minimally Invasive Surgery in Gynecology by the CEU

Dr. Martín Cabrejas, Berta María

- ◆ Area Specialist Physician at the University Hospital Fundación de Alcorcón
- ◆ Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ Specialist in Obstetrics and Gynecology via MIR
- ◆ Magister Degree in Human Reproduction from the Complutense University of Madrid
- ◆ Magister Degree in Health Management from the Online University of Madrid

Dr. Martín de Francisco, Elisa

- ◆ Specialist Physician in Geriatrics at El Escorial Hospital in Madrid
- ◆ Specialist Physician in Geriatrics at the Infanta Elena Hospital in Valdemoro
- ◆ Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ MIR in Geriatrics at the Getafe University Hospital

Dr. Mattei, Isabella

- ◆ Assistant Physician in Endocrinology and Nutrition at the Hospital 12 de Octubre in Madrid and at the Fundación Jiménez Díaz Hospital , spending two days a week in general practice
- ◆ Resident Physician in Endocrinology and Nutrition at the 12 de Octubre University Hospital, in Madrid
- ◆ Degree in Medicine and Surgery from the Università degli Studi di Firenze.

Dr. Montoro Lara, Juan

- ◆ Specialist in Internal Medicine at El Escorial University Hospital
- ◆ Clinical Faculty Associate at the Francisco de Vitoria University
- ◆ Clinical Faculty Associate at the Autonomous University of Madrid
- ◆ Master's Degree in Emergency Medical Care
- ◆ Master's Degree in Hyperbaric Medicine
- ◆ Postgraduate Diploma in Clinical Ultrasound

Dr. Ortega Carbonell, Amaya

- ◆ Assistant of Gynecology and Obstetrics at the Fundación Alcorcón University Hospital in Madrid
- ◆ Degree in Medicine from the Complutense University of Madrid

Dr. Pérez Blanco, Carmen

- ◆ Specialist in Endocrinology and Nutrition at El Escorial Hospital
- ◆ Specialist in Endocrinology and Nutrition at the Hospital 12 de Octubre and the Hospital of Getafe
- ◆ Degree in Medicine in Medicine from the Autonomous University Madrid
- ◆ Personal Master's Degree in Integration and Clinical Problem Solving in Medicine at the University of Alcalá



- ◆ Master's Degree in Bases for the Care and Education of People with Diabetes at the University of Barcelona
- ◆ Diploma in the Treatment of Diabetes Mellitus Type 2: future experts in diabetes at the Autonomous University of Barcelona
- ◆ Online Master's Degree in Clinical Nutrition in Medicine at CEU-Cardenal Herrera University

Dr. Riesco Eizaguirre, Garcilaso

- ◆ Head of the Endocrinology and Nutrition Department in Mostoles University Hospital
- ◆ PhD in Medicine from the Autonomous University Madrid
- ◆ Degree in Medicine and Surgery from the University of Alcalá de Henares
- ◆ Master's Degree in Clinical Management of Health Care Units at Menéndez Pelayo International University

Dr. Romero Guadix, Bárbara

- ◆ Area Specialist in Obstetrics and Gynecology at the Virgen de las Nieves University Hospital in Granada
- ◆ Coordinator of the Public Centers Interest Group of the Spanish Fertility Society
- ◆ Author of the Master's Degree in Human Infertility of the Spanish Society of Gynecology and Obstetrics 2021
- ◆ PhD in Medicine and Surgery from the University of Granada
- ◆ Specialist in Obstetrics and Gynecology via EIR 2008

Dr. Torres Rodríguez, Enrique

- ◆ Chief of the Emergency Department at the El Escorial Hospital in Madrid
- ◆ Specialist in Internal Medicine
- ◆ Master's Degree in Healthcare Unit Management

05

Structure and Content

This Advanced Master's Degree in Clinical Endocrinology is composed of 20 specialized modules, and will allow the specialists to delve into issues relevant to this field such as the clinical manifestations and diagnosis of metabolic syndrome, polycystic ovary syndrome and chronic anovulation, gastrointestinal hormones in the control of dietary intake or the indications for the treatment of hyperparathyroidism in patients with MEN 2, among others.



“

TECH has assembled the most comprehensive and advanced knowledge in this program, which has been developed into 20 specialized modules”

Module 1. Hypothalamus, Pituitary Gland and Autoimmune Pathology

- 1.1. Endocrinology
 - 1.1.1. Types of Hormones
 - 1.1.2. Synthesis, Processing and Degradation of Hormones
 - 1.1.3. Hormone Receptors
 - 1.1.4. Regulating Systems
 - 1.1.5. Endocrine Autoimmunity
 - 1.1.6. Genetic Basis of Endocrine Diseases
- 1.2. Endocrine Pathophysiology
 - 1.2.1. Biosynthesis Disorders
 - 1.2.2. Secretion Disorders
 - 1.2.3. Transportation Disorders
 - 1.2.4. Action Disorders
 - 1.2.5. Regulatory Disorders
 - 1.2.6. Autonomous Hormone Production
- 1.3. Metabolism, Hormones and Coenzymes
 - 1.3.1. Nutrients
 - 1.3.2. Glucose Pathways
 - 1.3.3. Lipids
 - 1.3.4. Proteins
 - 1.3.5. Energy Production and Use
 - 1.3.6. Specific Metabolic Particularities
- 1.4. Hypothalamic and Pituitary Physiology
- 1.5. Hypopituitarism
- 1.6. Pineal Gland Pathology
- 1.7. Pituitary Tumor Syndromes
- 1.8. Inadequate ADH Secretion
- 1.9. Central Diabetes Insipidus
- 1.10. Autoimmune Polyglandular Syndromes
 - 1.10.1. Autoimmune Polyglandular Autoimmune Syndrome Type 1
 - 1.10.2. Autoimmune Polyglandular Autoimmune Syndrome Type 2

Module 2. Thyroid Gland, Parathyroid Gland and MEN.

- 2.1. Physiology and Thyroid Function Tests
- 2.2. Goiter and the Euthyroid Patient Syndrome
- 2.3. Hypothyroidism
- 2.4. Hyperthyroidism
- 2.5. Thyroiditis
- 2.6. Thyroid Nodule and Thyroid Cancer
- 2.7. Biology of Mineral Metabolism
 - 2.7.1 Parathyroid Hormone
 - 2.7.2. Vitamin D
 - 2.7.3. Regulation of Mineral Metabolism
 - 2.7.4. Laboratory Evaluation of Mineral Metabolism
- 2.8. Hypoparathyroidism and Pseudohypoparathyroidism
- 2.9. Hyperparathyroidism
 - 2.9.1. Primary
 - 2.9.2. Secondary
- 2.10. Multiple Endocrine Neoplasms
 - 2.10.1. Type 1 MEN
 - 2.10.2. Type 2 MEN

Module 3. Disorders of the Adrenal Glands

- 3.1 Anatomy
- 3.2. Physiology of the Adrenal Glands
- 3.3. Cushing's Syndrome
- 3.4. Adrenal Insufficiency
- 3.5. Hyperaldosteronism
- 3.6. Hypoaldosteronism
- 3.7. Pheochromocytoma
- 3.8. Congenital Adrenal Hyperplasia
- 3.9. Incidentalomas
- 3.10. Tumors and Adrenal Metastases



Module 4. Obesity, Metabolic Syndrome and Dyslipidemia

- 4.1. Epidemiology and Measurement of Obesity
- 4.2. Adipocyte, Etiology and Consequences of Obesity
- 4.3. Epidemiology and Etiology of the Metabolic Syndrome
- 4.4. Pathophysiology of the Metabolic Syndrome
- 4.5. Clinical Manifestations and Diagnosis of the Metabolic Syndrome
 - 4.5.1. Relationship of the Metabolic Syndrome with HTA
 - 4.5.2. Relationship between the Metabolic Syndrome and Heart Failure
- 4.6. Prevention and Treatment of the Metabolic Syndrome
 - 4.6.1. Importance of Lifestyle
 - 4.6.2. Vasculoprotective and Etiopathogenic Treatment
- 4.7. Lipoprotein Metabolism and Classification of Dyslipidemias
- 4.8. Lipid-lowering Drugs and Therapeutic Strategies
- 4.9. Dyslipidemia Management in Different Clinical Situations
 - 4.9.1. Familial Dyslipidemia
 - 4.9.2. Women
 - 4.9.3. Elderly people
 - 4.9.4. Diabetes and the Metabolic Syndrome
 - 4.9.5. Secondary Prevention
- 4.10. Non-pharmacological Methods
 - 4.10.1. Lifestyle
 - 4.10.2. Functional Foods
 - 4.10.3. Medicinal Plants

Module 5. Diabetes Mellitus

- 5.1. Etiology, Classification and Prevalence
- 5.2. Etiopathogenesis, Insulin Resistance and Metabolic and Molecular Pathogenesis
- 5.3. Diabetes Mellitus Type 1
- 5.4. Genetic Basis of Type 2 Diabetes Mellitus
- 5.5. Microvascular Complications
 - 5.5.1. Pathogenesis
 - 5.5.2. Diabetic Retinopathy
 - 5.5.3. Diabetic Nephropathy
 - 5.5.4. Diabetic Neuropathy
- 5.6. Macrovascular Complications
 - 5.6.1. Ischemic Heart Disease
 - 5.6.2. Diabetic Cardiomyopathy
 - 5.6.3. Heart Failure
 - 5.6.4. Stroke
 - 5.6.5. Peripheral Arterial Disease
- 5.7. Oral Antidiabetics
- 5.8. Insulin Therapy
- 5.9. Special Considerations
 - 5.9.1. Lipodystrophic Diabetes Mellitus
 - 5.9.2. Total Parenteral Nutrition
 - 5.9.3. Glucocorticoids
- 5.10. Diabetes and Public Health
 - 5.10.1. Screening Diabetes Mellitus Type 2
 - 5.10.2. Prevention of Type 2 Diabetes Mellitus

Module 6. Endocrinological Emergencies

- 6.1. Thyrotoxic Crisis.
- 6.2. Myxedematous Coma
- 6.3. Non-ketotic Hyperglycemic Hyperosmolar Crisis
- 6.4. Diabetic Ketoacidosis
- 6.5. Acute Adrenal Insufficiency

- 6.6. Hypoglycemia
- 6.7. Pituitary Apoplexy
- 6.8. Hypocalcemia
- 6.9. Hypercalcemia
- 6.10. Pediatric Endocrinologic Emergencies

Module 7. Disorders of Intermediate Metabolism and Bone Metabolism

- 7.1. Hemochromatosis
- 7.2. Wilson's disease
- 7.3. Porphyrias
- 7.4. Disorders of Purine and Pyrimidine Metabolism
- 7.5. Lysosomal Storage Diseases
 - 7.5.1. Pathogenesis.
 - 7.5.2. Tay-Sachs Disease
 - 7.5.3. Fabry's Disease
 - 7.5.4. Gaucher's Disease
 - 7.5.5. Niemann-Pick's Disease
 - 7.5.6. Mucopolysaccharidosis
 - 7.5.7. Pompe's Disease
 - 7.5.8. Lysosomal Acid Lipase Deficiency
- 7.6. Inherited Carbohydrate Metabolism Disorders
 - 7.6.1. Glycogenesis
 - 7.6.2. Galactose Metabolism Alterations
 - 7.6.3. Fructose Metabolism Alterations
- 7.7. Hereditary Membrane Transport Disorders
 - 7.7.1. Cistinuria
 - 7.7.2. Lysinuria
 - 7.7.3. Citrulinemia
 - 7.7.4. Hartnup's Disease
 - 7.7.5. Cystinosis

- 7.8. Osteomalacia, Rickets and Osteogenesis Imperfecta
 - 7.8.1. Bone Remodeling
 - 7.8.2. Osteomalacia
 - 7.8.3. Rickets
 - 7.8.4. Osteogenesis Imperfecta
- 7.9. Osteoporosis
 - 7.9.1. Epidemiology
 - 7.9.2. Pathophysiology
 - 7.9.3. Diagnosis
 - 7.9.4. Treatment
 - 7.9.5. Osteoporosis Secondary to Glucocorticoids
- 7.10. Paget's Disease and Other Bone Dysplasias
 - 7.10.1. Paget's Osteopathy
 - 7.10.2. Sclerosing Bone Disorders
 - 7.10.3. Defective Mineralization
 - 7.10.4. Fibrous Dysplasia
 - 7.10.5. Sd. McCune-Albright

Module 8. Clinical Nutrition and Dietetics

- 8.1. General Principles
 - 8.1.1. Assessment of Nutritional Status
 - 8.1.2. Nutritional Requirements
 - 8.1.3. Food Categories
 - 8.1.4. Malnutrition Markers
- 8.2. Dietetics and Dietetic Therapy
 - 8.2.1. Dietary Recommendations
 - 8.2.2. Characteristics of the Different Types of Diets
 - 8.2.3. Nutritional Requirements
- 8.3. Enteral Nutrition
 - 8.3.1. Methods and Mechanisms of Dosage
 - 8.3.2. Indications, Contraindications and Complications

- 8.4. Parenteral Nutrition
 - 8.4.1. Types
 - 8.4.2. Routes and Mechanisms of Dosage
 - 8.4.3. Indications, Contraindications and Complications
 - 8.4.4. Nutrients in Parenteral Nutrition
 - 8.4.5. Preparation of Mixtures for Parenteral Nutrition
- 8.5. Dietary and Pharmacological Treatment of Obesity
 - 8.5.1. Pre-treatment Assessment
 - 8.5.2. Modifications in Caloric Content
 - 8.5.3. Modification of Dietary Macronutrients
 - 8.5.4. Specific Role in the Control of Obesity
 - 8.5.5. Pharmacological Treatment of Obesity
- 8.6. Diabetes Mellitus
 - 8.6.1. Objectives
 - 8.6.2. Types of Diet
 - 8.6.3. Strategies in Nutrition
 - 8.6.4. Recommended Caloric Intakes
 - 8.6.5. Macronutrient Distribution
 - 8.6.6. Other Nutrients
- 8.7. Nutritional Aspects of Hyperlipemia
 - 8.7.1. Influence of Fatty Acids on Cardiovascular Risk
 - 8.7.2. Effects of Sterols on Cardiovascular Risk
 - 8.7.3. Recommendations to Reduce the Impact of an Atherogenic Diet
 - 8.7.4. Other Nutritional Recommendations
- 8.8. Hydrosaline Metabolism
 - 8.8.1. Sodium Controlled Diet
 - 8.8.2. Potassium Controlled Diet
 - 8.8.3. Diet in Arterial Hypertension

- 8.9. Nutrition in Gastrointestinal Pathologies
 - 8.9.1. Diet in Celiac Disease
 - 8.9.2. Diet and Hepatobiliary Disease
 - 8.9.3. Diet and Inflammatory Bowel Disease
 - 8.9.4. Lactose Intolerance
 - 8.9.5. Probiotics, Prebiotics, Symbiotics and Fiber
- 8.10. Nutrition and Renal Pathology
 - 8.10.1. Malnutrition as a Morbimortality Factor
 - 8.10.2. Nutritional Assessment in the Renal Patient
 - 8.10.3. Nutritional Recommendations
 - 8.10.4. Nutritional Treatment

Module 9. Women and endocrinology

- 9.1. Physiology of the Menstrual Cycle
- 9.2. Amenorrhea
 - 9.2.1. Classification
 - 9.2.2. Primary Amenorrhea
 - 9.2.3. Secondary Amenorrhea
- 9.3. Polycystic Ovary Syndrome and Chronic Anovulation
- 9.4. Hyperandrogenism and Hirsutism
- 9.5. Hyperprolactinemia
- 9.6. Gestational Diabetes
- 9.7. Endocrinology of Pregnancy
 - 9.7.1. Pituitary Hormones
 - 9.7.2. Thyroid hormones
 - 9.7.3. Sex Hormones
 - 9.7.4. Placental Hormones
- 9.8. Hormonal Contraception
- 9.9. Hormones and Reproduction



- 9.10. Climacteric
 - 9.10.1. Hormonal Changes
 - 9.10.2. Clinical Manifestations
 - 9.10.2.1. Vasomotor Symptoms
 - 9.10.2.2. Menstrual Alterations
 - 9.10.2.3. Psychological Sphere
 - 9.10.3. Osteoporosis and Menopause
 - 9.10.4. Cardiovascular Disease and Menopause
 - 9.10.5. Hormone Replacement Therapy

Module 10. Miscellaneous

- 10.1. Gonadal Pathology
 - 10.1.1. Male Hypogonadism
 - 10.1.2. Male Hypergonadism
- 10.2. Endocrinologic Diseases in the Elderly
 - 10.2.1. Endocrinological Changes in Aging
 - 10.2.2. Endocrinopathies in the Elderly
 - 10.2.3. Diabetes Mellitus in Older Adults
 - 10.2.4. Thyroid Diseases in the Elderly
- 10.3. Endocrine Neoplasms of the Pancreas
- 10.4. Carcinoid Syndrome
- 10.5. Paraneoplastic Endocrinopathies
- 10.6. Arterial Hypertension of Endocrine Origin
- 10.7. Gastrointestinal Hormones in the Control of Dietary Intake
 - 10.7.1. Anorexigenic Hormones
 - 10.7.2. Orexigenic Hormones
- 10.8. Central Nervous System and Hormones
 - 10.8.1. Thyroid Hormones

- 10.8.2. Steroids
- 10.8.3. Testosterone
- 10.9. Short Stature: Diagnostic Approach and Therapeutic Basis
- 10.10. Endocrine System and Heart
 - 10.10.1. Pituitary and Cardiovascular System
 - 10.10.2. Cushing's Syndrome and Cardiovascular Disease
 - 10.10.3. Thyroid and Cardiovascular System
 - 10.10.4. Parathyrin and Cardiovascular System
 - 10.10.5. Adrenal Gland and Cardiovascular System

Module 11. Hypothalamic-Pituitary Tumor Pathology

- 11.1. Pathogenesis of Pituitary Tumors
- 11.2. Clinical and Prognostic Classification of Sellar Tumors: List Clinical, Radiologic, Functional and Anatomic Pathology Elements to Characterize the Prognosis of Sellar Lesions
 - 11.2.1. Adenomas
 - 11.2.1.1. Clinical, Functional and Radiological Classification
 - 11.2.1.2. Pathologic Anatomy of Pituitary Adenomas
 - 11.2.2. Non-adenomatous Sellar Tumors: Rathke's Pouch (Cysts, Craniopharyngiomas), Meningiomas
 - 11.2.3. Non-proliferative Lesions: Inflammatory, Hemorrhagic
- 11.3. Imaging Study of Hypothalamic-Pituitary Tumor Pathology
- 11.4. Ophthalmologic Assessment of Hypothalamic-Pituitary Tumor Pathology
- 11.5. Prolactinoma Differential Diagnosis of Hyperprolactinemia
- 11.6. Acromegaly
- 11.7. ACTH-dependent Cushing's Syndrome Cushing's Disease
- 11.8. Non-functioning Pituitary Adenomas and Gonadotropinomas
- 11.9. Less Common Pituitary Adenomas
 - 11.9.1. Thyrotropinomas. Multi-hormonal Adenomas
 - 11.9.2. Aggressive Pituitary Adenomas

- 11.10. Other Lumps of the Sellar Region
 - 11.10.1. Rathke's Pouch Cyst and Craniopharyngioma
 - 11.10.2. Meningioma Pituicytoma
- 11.11. Surgical Treatment of Sellar and Parasellar Lesions
 - 11.11.1. Surgical Treatment
 - 11.11.2. Postoperative Hypothalamic-Pituitary Functional Evaluation
- 11.12. Radiotherapy and Radionuclide Therapy for Sellar and Parasellar Lesions
 - 11.12.1. Radiotherapy
 - 11.12.2. Radionuclide Therapy
 - 11.12.3. Long-term Monitoring after Radiotherapy
- 11.13. Importance of the Tumor Committee and Patient Associations
 - 11.13.1. Multidisciplinary Approach
 - 11.13.2. Role of Patients' Associations Association of Patients Affected by Acromegaly

Module 12. Thyroid Nodule Management. Parathyroid Tumors

- 12.1. Causes of Nodular Thyroid Disease Thyroid Incidentaloma
- 12.2. Assessment of Nodular Thyroid Disease Data that Should Lead us to Suspect Malignancy
 - 12.2.1. Clinical Data, Personal and Family History
 - 12.2.2. Scanning Data Laboratory Data
- 12.3. Ultrasound in the Assessment of Nodular Thyroid Disease
 - 12.3.1. Cervical Ultrasonography
 - 12.3.2. TIRADS Classification. ATA Classification
- 12.4. Thyroid Scan Other Imaging Techniques
- 12.5. Cytological Study of Nodular Thyroid Disease
 - 12.5.1. Fine Needle Aspiration Puncture (FNA) with Ultrasound Monitoring
 - 12.5.2. Bethesda Classification
- 12.6. Hyperthyroidism Caused by a Hyperfunctioning Thyroid Nodule Hyperfunctioning Multi-nodular Goiter Treatment
- 12.7. Usefulness of Molecular Markers What to do with Bethesda III?
- 12.8. Surgical Treatment of Nodular Thyroid Disease
 - 12.8.1. Indications
 - 12.8.2. Types of Treatment

- 12.9. Other treatments
 - 12.9.1. Ethanolization
 - 12.9.2. Laser Thermal Ablation
 - 12.9.3. Radiofrequency Thermal Ablation
- 12.10. Approach to Primary Hyperparathyroidism
 - 12.10.1. Classification
 - 12.10.2. Biochemical Diagnosis
 - 12.10.3. Imaging Tests
 - 12.10.4. Treatment

Module 13. Differentiated Thyroid Carcinoma (DTC)

- 13.1. Molecular Aspects of Differentiated Thyroid Carcinoma Clinical Implications
- 13.2. Pathologic Anatomy of Thyroid Carcinoma Classification
- 13.3. Follicular Neoplasia with Papillary-like Changes (FNFTP)
- 13.4. Papillary Microcarcinoma
 - 13.4.1. Is it Possible to Perform Surveillance Only?
 - 13.4.2. When to Treat?
 - 13.4.3. How to Treat?
- 13.5. Initial Staging 8th Classification Differences with the 7th Classification
- 13.6. Surgical Treatment
 - 13.6.1. Initial Surgical Treatment
 - 13.6.2. Treatment of Relapse
- 13.7. Radioiodine Treatment
 - 13.7.1. When to Treat?
 - 13.7.2. Treatment Dosage
 - 13.7.3. Refractoriness to Radioiodine
- 13.8. Monitoring Dynamic Risk Staging
- 13.9. Treatment of Advanced Unresectable DTC
- 13.10. Importance of the Tumor Committee and Patient Associations
 - 13.10.1. Multidisciplinary Approach
 - 13.10.2. Role of Patients' Associations AECAT

Module 14. Medullary Thyroid Carcinoma Other Thyroid Carcinomas

- 14.1. Medullary Thyroid Carcinoma (MTC)
 - 14.1.1. Introduction. Epidemiology
 - 14.1.2. Classification. Anatomopathological Characteristics
 - 14.1.3. Clinical manifestations
 - 14.1.4. Genetic Study
- 14.2. MTC: Initial Staging Dynamic Risk Staging
- 14.3. Diagnosis of MTC
 - 14.3.1. Laboratory Tests
 - 14.3.2. Imaging Tests
 - 14.3.3. FNA with Ultrasound Control
- 14.4. MTC. Surgical Management
 - 14.4.1. Extent of the Surgery
 - 14.4.2. Surgical Treatment of Recurrence
 - 14.4.3. Surgical Treatment of Metastases
- 14.5. MTC. Radiotherapy Radionuclide Treatment
- 14.6. MTC. Treatment of an Advanced Unresectable Disease
 - 14.6.1. Tyrosine Kinase Inhibitors
 - 14.6.2. Other Treatments
- 14.7. CMT. Follow up Prognosis
- 14.8. Poorly Differentiated Thyroid Carcinoma Anaplastic Carcinoma
- 14.9. Thyroid Lymphoma and Other Rare Malignant Thyroid Tumors Metastasis of Other Tumors

Module 15. Tumors of the Adrenal Cortex

- 15.1. Adrenal Incidentaloma Diagnostic Approximation
- 15.2. ACTH-independent Cushing's Syndrome Caused by Adrenal Adenoma
- 15.3. Primary Hyperaldosteronism Crohn's Disease
- 15.4. Adrenocortical Carcinoma (ACC)
 - 15.4.1. Introduction
 - 15.4.2. Clinical History and Examination
- 15.5. ACC. Genetic Aspects Laboratory Data Hormone Secretion

- 15.6. ACC. Imaging Tests Ultrasound. CT, MRI, PET-CT
- 15.7. ACC. Pathologic Anatomy. Staging. Prognostic Factors
- 15.8. Surgical Management
 - 15.8.1. Surgical Treatment of the Primary Tumor
 - 15.8.2. Surgery and Other Local Treatments for an Advanced Disease
- 15.9. Adjuvants Radiotherapy Treatment of Relapse
- 15.10. Treatment for an Advanced Disease

Module 16. Pheochromocytomas and Paragangliomas

- 16.1. Introduction
 - 16.1.1. Anatomy Recap
 - 16.1.2. Epidemiology
- 16.2. Molecular Bases Genotype-Phenotype Correlation
- 16.3. Clinical Manifestations Forms of Presentation
- 16.4. Laboratory Data
- 16.5. Imaging Tests
- 16.6. Surgical Management
 - 16.6.1. Adrenergic Blockade
 - 16.6.2. Surgery of Pheochromocytomas and Paragangliomas Embolization
- 16.7. Radionuclide Therapy Radiotherapy
- 16.8. Treatment for an Advanced Disease
- 16.9. Prognosis and Monitoring
 - 16.9.1. Monitoring of Carriers for the Various Mutations
 - 16.9.2. Long-Term Monitoring
 - 16.9.3. Prognosis
- 16.10. Importance of the Tumor Committee and Patient Associations
 - 16.10.1. Multidisciplinary Approach
 - 16.10.2. Role of Patients' Associations

Module 17. Multiple Endocrine Neoplasia Syndromes

- 17.1. Multiple Endocrine Neoplasia type 1 (MEN1) Genetics
 - 17.1.1. MEN 1 Genetics
 - 17.1.2. When to Conduct a Genetic Study to Rule Out Mutation in the Menin Gene?
 - 17.1.3. Genetic Counseling in MEN 1 Preimplantation Diagnosis
- 17.2. Clinical Manifestations of the Syndrome MEN 1 Presentation Forms
- 17.3. Laboratory Tests in the Initial Assessment and Subsequent Follow-Up
- 17.4. MEN 1. Imaging Tests in the Initial Assessment and Subsequent Follow-Up
- 17.5. MEN 1. Treatment of Primary Hyperparathyroidism (PHPT) Relapse Management
- 17.6. MEN 1. Pancreatic Neuroendocrine Tumors Surgical Indications
- 17.7. Management of Other Tumors
 - 17.7.1. NER of Atypical Locations: Bronchial and Thymic NERs
 - 17.7.2. Screening, Monitoring and Treatment of Other Neoplasms
- 17.8. Multiple Endocrine Neoplasia Type 2 (MEN 2) MEN2 Genetics
 - 17.8.1. Oncogen RET
 - 17.8.2. Genotype-Phenotype Correlation
 - 17.8.3. Less Common Mutations
- 17.9. MEN 2. Spinal Cord Carcinoma
 - 17.9.1. Assessment and Monitoring After Learning the Carrier Status
 - 17.9.2. Prophylactic Thyroidectomy
- 17.10. MEN2. MEN2.
 - 17.10.1. Assessment and Monitoring After Learning the Carrier Status
 - 17.10.2. Indications for Treatment of Hyperparathyroidism in Patients with MEN 2
 - 17.10.3. Other Manifestations of MEN2
- 17.11. MEN2. Other Manifestations of MEN2
- 17.12. Other Multiple Endocrine Neoplasia Syndromes

Module 18. Gastroenteropancreatic Neuroendocrine Tumors (GEPNET)

- 18.1. Gastroenteropancreatic Neuroendocrine Tumors
 - 18.1.1. Epidemiology
- 18.2. Molecular and Cellular Bases
- 18.3. Pathologic Anatomy/Pathogenesis
 - 18.3.1. Classification Systems
- 18.4. Lung and Thymus NER
- 18.5. Gastric NERs
- 18.6. Intestinal NERs. Appendiceal NER
- 18.7. Non-functioning Pancreatic NERs
- 18.8. Gastrinoma
- 18.9. Insulinoma
- 18.10. Gucagonoma Somatostatinoma Vipoma Other Functioning Tumors

Module 19. GEPNET. Anatomical and Functional Diagnosis. Locoregional Disease Treatment

- 19.1. Carcinoid Syndrome Carcinoid Heart Disease
- 19.2. Syndromes of Ectopic Secretion of ACTH and Other Hormones
- 19.3. Diagnosis and Monitoring of GEPNETs Biological Markers
 - 19.3.1. Usefulness in Diagnosis and Monitoring
- 19.4. Diagnosis and Monitoring of GEPNETs Endoscopy and Echoendoscopy-guided Fine Needle Aspiration Puncture (FNA) in the Diagnosis and Monitoring of GEPNETs
- 19.5. Diagnosis and Monitoring of GEPNETs Imaging Tests I
 - 19.5.1. Ultrasound, Computerized Tomography, Magnetic Resonance Imaging
 - 19.5.2. Response to Treatment Criteria (RECIST, Choi, others, etc.)
- 19.6. Diagnosis and Monitoring of GEPNETs. Other Imaging Tests II: Nuclear Medicine in the Diagnosis and Follow-up of GEPNETs



- 19.7. Surgical Treatment of Lung NERs
- 19.8. Surgical Treatment of Gastric NERs
- 19.9. Surgical Treatment of Intestinal NERs
- 19.10. Surgical Treatment of Pancreatic NERs
 - 19.10.1. Treatment of Incidentally Discovered Non-Functioning Pancreatic NERs: Surgery/Monitoring
- 19.11. Surgical Treatment of G3 Tumors Surgical Treatment of MINEN

Module 20. Gastroenteropancreatic Neuroendocrine Tumors. Treatment for an Advanced Disease

- 20.1. Surgical Treatment of an Advanced Disease
 - 20.1.1. Indication for Surgical Treatment of the Primary Tumor
 - 20.1.2. Surgical Treatment of Liver Metastases and Other Metastases
- 20.2. Locoregional Treatments
 - 20.2.1. Embolization
 - 20.2.2. Radiofrequency
 - 20.2.3. Other Locoregional Treatments
- 20.3. Biological Treatments: Somatostatin Analogues and Others
- 20.4. Chemotherapy and Targeted Therapies Role of Immunotherapy
- 20.5. Teragnosis Radionuclide Treatment
- 20.6. Treatment Sequencing
- 20.7. Nutritional Management of the Patient with GEPNET
- 20.8. Importance of the Tumor Committee and Patient Associations
 - 20.8.1. Multidisciplinary Approach
 - 20.8.2. Role of Patients' Associations NET Spain

06

Methodology

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

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





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

At TECH we use the Case Method

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

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

“

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.

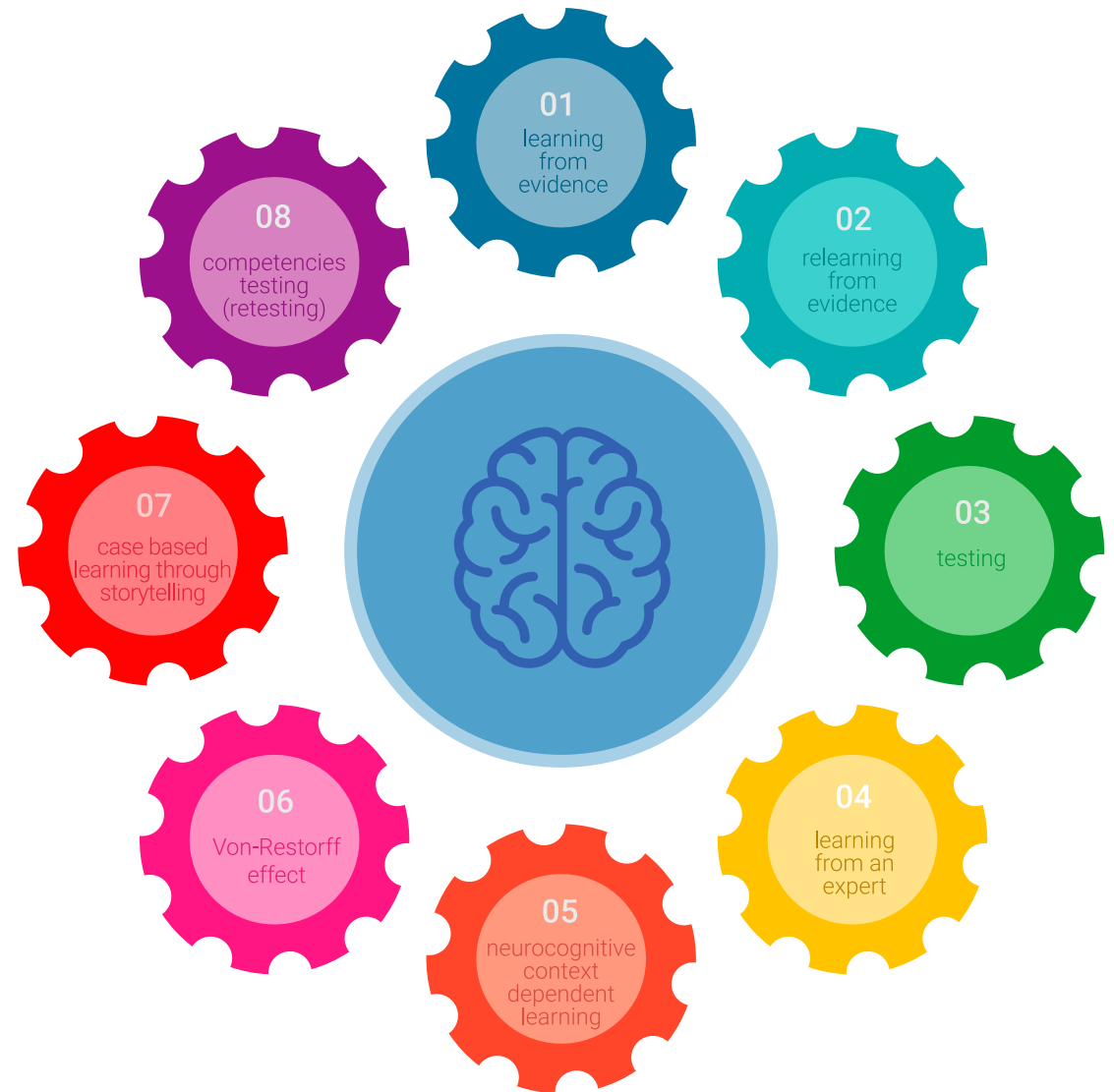


Relearning Methodology

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.

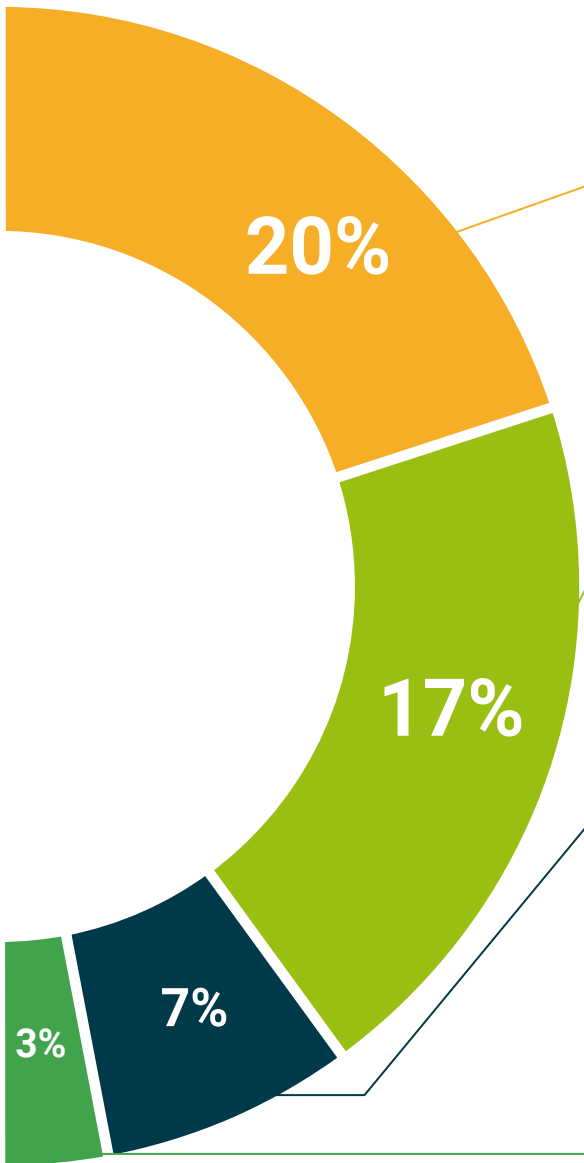
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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.



07 Certificate

This Advanced Master's Degree in Clinical Endocrinology guarantees, in addition to the most rigorous and update training, access to a Advanced Master's Degree issued by TECH Technological University.





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

This **Advanced Master's Degree in Clinical Endocrinology** This Professional Master's Degree in Updated Pediatric Dentistry contains the most complete and updated scientific program on the market.

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

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Advanced Masters Degree, and will meet the requirements commonly demanded by labor exchanges, competitive examinations, and professional from career evaluation committees.

Title: **Advanced Master's Degree in Clinical Endocrinology**
Official N° of hours: **3,000 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.

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



**Advanced Master's
Degree**
Clinical Endocrinology

- » Modality: **online**
- » Duration: **2 years**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Advanced Master's Degree Clinical Endocrinology

