Professional Master's Degree

Radiation Oncology

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Professional Master's Degree

Radiation Oncology

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Credits: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/medicine/professional-master-degree/master-radiation-oncology

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01

Introduction

The specialist field of Radiation Oncology is defined as a branch of clinical medicine that uses ionizing radiation, either on its own or in combination with other forms of therapy for the treatment of cancer and other non-neoplastic diseases. Considering the incidence and prevalence of the diseases covered by this area of expertise, it is one of the most in-demand areas in the field of oncology, as well as one of the areas with the most technological advances year after year.

Improve your knowledge of Radiation Oncology through this program, where you will find the best teaching material with real clinical cases. Learn about the latest advances in the field to be able to conduct excellent medical practice"

Given the growing number of publications in this field, it is difficult to keep up to date with the best scientific evidence continuously over time. The objective of this Professional Master's Degree is to fill the gap for professionals interested in the area, seeking to update and improve clinical practice and encourage research into the topics that are covered.

The aforementioned technological advances, although decisive, are not in themselves the sole focus of Radiation Oncology. Technology is a complement to medicine and, above all, a tool for cancer treatment, and must be accompanied by careful clinical assessment based on clinical and biological knowledge of cancer.

As a clinician, the radiation oncologist's role revolves around patient contact, but requires theoretical and practical knowledge and skills for the prescription and application of radiotherapy treatment. Hence, updating this knowledge is key to gaining a better view of each individual patient.

The medical sciences, and therefore oncology, are constantly growing bodies of knowledge thanks to the information obtained through basic and translational research; the latter being a powerful flow of knowledge coming mainly from molecular biology to the clinic, changing our understanding of cancer, not only its diagnosis but treatment of the disease at all stages, with the ultimate goal of improving medical care. This Professional Master's Degree offers the opportunity to complement specialist knowledge with a detailed and updated review of the most relevant technological and conceptual advances in the field.

This **Professional Master's Degree in Radiation Oncology** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- More than 75 clinical cases presented by experts in Radiation Oncology
- Graphic, schematic, and practical contents which provide scientific and practical information on the disciplines that are essential for professional practice
- Diagnostic-therapeutic developments in the assessment, diagnosis, and intervention for Radiation Oncology
- Practical exercises where a self-evaluation process can be carried out to improve learning
- Clinical and diagnostic imaging tests iconography
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- A special emphasis on evidence-based medicine and research methodologies in Radiation Oncology
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and assignments for individual reflection
- Content that is accessible from any fixed or portable device with an internet connection

Update your knowledge through the Professional Master's Degree in Radiation Oncology"

This Professional Master's Degree is the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge of Radiation Oncology, you will obtain a qualification from TECH Global University"

Increase your confidence in decision-making by updating your knowledge through this Professional Master's Degree.

Make the most of this opportunity to learn about the latest advances in Radiation Oncology and improve patient care.

The teaching staff of the program includes professionals belonging to the field of Radiation Oncology who contribute their professional experience into this course, as well as renowned specialists from leading scientific societies.

Thanks to its multimedia content developed with the latest educational technology, it will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed so students learn from real situations.

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

02

Objectives

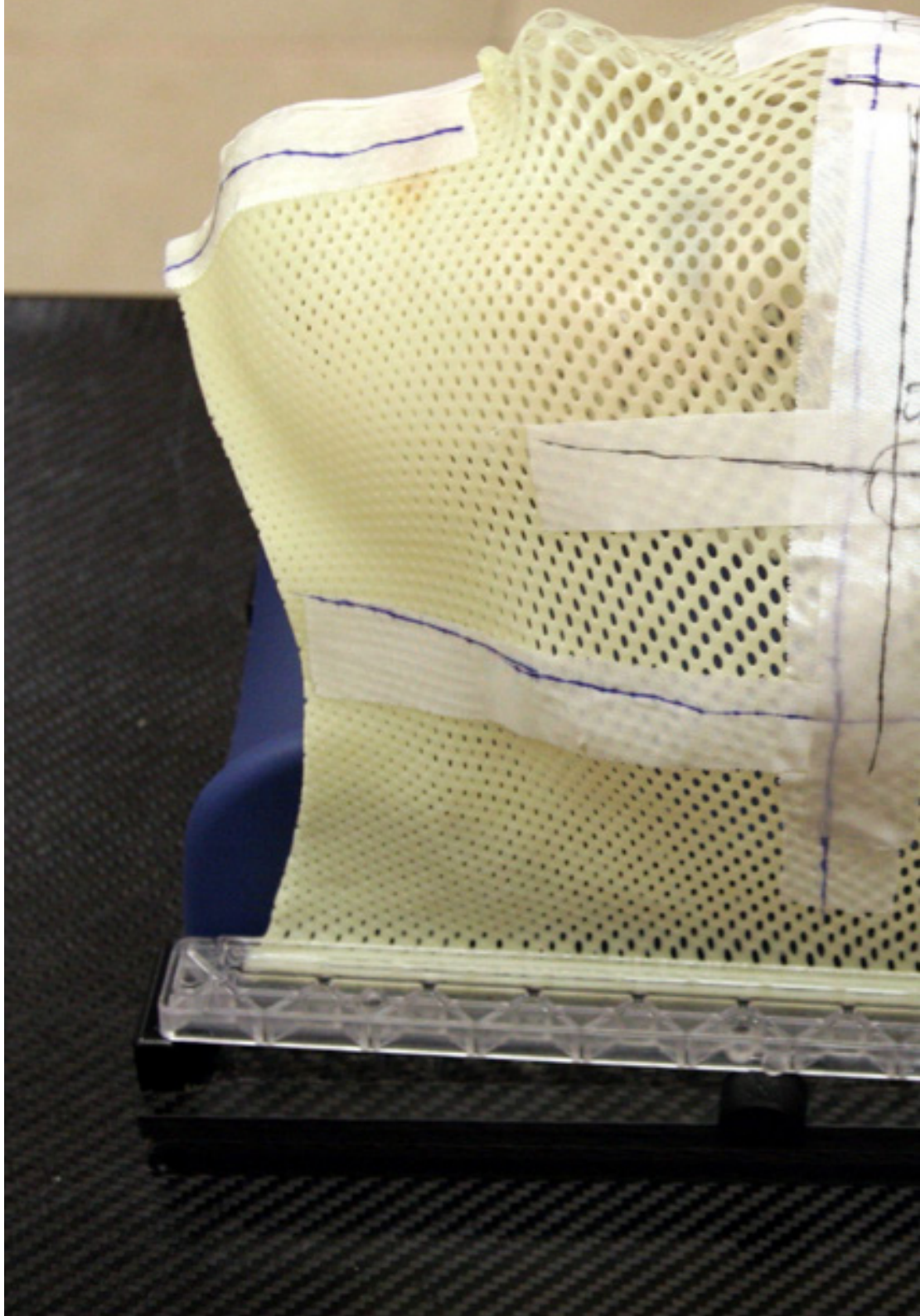
The Professional Master's Degree in Radiation Oncology is aimed at facilitating medical practice dedicated to the treatment of Oncological problems with Radiotherapy. For this purpose, a series of theoretical modules full of practical exercises have been arranged in an orderly and complete manner, which will become the professional's guide when conducting their daily work. It is, therefore, an authentic educational immersion that will lay the foundations for the student's professional growth.

This Professional Master's Degree is designed for you to update your knowledge in Radiation Oncology, with the use of the latest educational technology, to contribute with quality and safety to decision-making, diagnosis, treatment and patient care"

General Objective

- Develop a holistic and up-to-date vision of Radiation Oncology and all its related areas, allowing the student to acquire useful knowledge and, at the same time, foster interest in further study and exploration of its practical application

Take the first step to get up to date on the latest developments in Radiation Oncology"



Specific Objectives

Module 1. Principles of Radiotherapy Treatment: Radiobiology

- Acquire an overarching view of the different types of radiotherapeutic treatments available and their future development

Module 2. Update on Radiotherapy for Central Nervous System Tumors (Adults)

- Review the different types of cancer that warrant radiotherapeutic management and show the specific issues for each tumor.

Module 3. Update on Radiotherapy Treatment of ENT Tumors

- Learn the basics of radiotherapy, as well as the different techniques available and their efficacy in order to know the place of each in the management of different ENT tumors.

Module 4. Update on Radiotherapy for Thoracic Tumors: (Pulmonary, Pleural, Cardiac)

- Be aware of the different types of lung cancer, their diagnosis and treatment

Module 5. Update on Radiotherapy for Breast Tumors

- Analyze how the advances of the last decades in both diagnosis and treatment of cancer have managed to increase survival

Module 6. Update on Radiotherapy for Digestive Tumors

- Gain up-to-date knowledge of hepatobiliary tumors and their effects on the digestive system

Module 7. Update on Radiotherapy for Gynecologic Tumors

- Learn about radiotherapeutic advances that allow differential diagnosis, enable precise definition of the resection field, and provide information on prognosis and follow-up after treatment of the different types of gynecological cancers

Module 8. Update on Radiotherapy for Prostate and Other Urologic Tumors

- Identify the conditions of a high-risk situation with respect to prostate tumors

Module 9. Update on Radiotherapy for Low Incidence and Miscellaneous Tumors

- Know all the treatment techniques and approaches to hematological tumors

Module 10. Pain and Nutrition in Radiation Oncology

- Understand the causes and consequences of malnutrition in Oncology patients, as well as nutritional risk factors

03

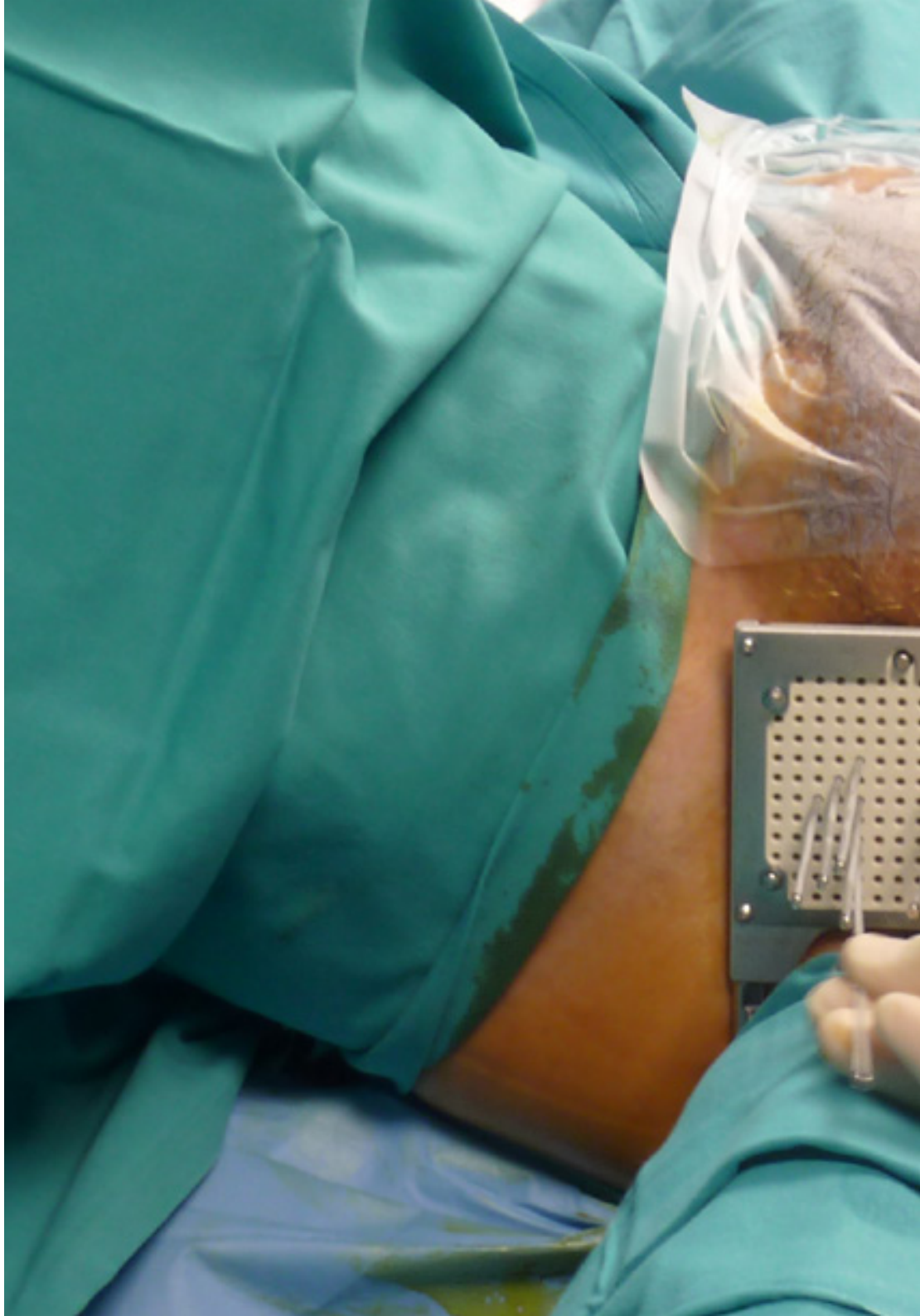
Skills

After passing the assessments on the Professional Master's Degree in Radiation Oncology, the physician will have acquired the professional skills required for excellent and up-to-date practice based on the latest scientific evidence. Accordingly, they will be able to position themselves in a growing sector with the security that comes from having the most complete and innovative knowledge in the academic market. A unique growth opportunity designed especially for the best physicians in the industry.

With this program you will be able to master the new diagnostic and therapeutic procedures in Radiation Oncology"

General Skills

- Possess and understand 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 area 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
- Communicate conclusions and the latest knowledge and rationale behind them to specialist and non-specialist audiences in a clear and unambiguous manner
- Acquire the learning skills that will enable them to continue studying in a manner that will be largely self-directed or autonomous



Specific Skills

- Identify the main techniques of radiation oncology
- Gain advanced knowledge for the treatment of oncology with radiotherapy
- Analyze the role of radiotherapy and its value for oncology

Make the most of this opportunity and take the next step to catch up on the latest developments in the management of Radiation Oncology"

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Course Management

The program includes in its teaching staff leading specialists in Radiation Oncology and other related areas, who contribute their years of experience at the forefront of the profession to this academic program. In addition, other renowned specialists participate in its design and creation, completing the program in a transversal and interdisciplinary way, adding even more value for the student.

Learn about the latest advances in Radiation Oncology procedures from leading professionals"

International Guest Director

Awarded by the Royal College of Radiologists of the United Kingdom for his BCRM presentation, Christopher Nutting is a prestigious **Oncologist** specialized in the areas of **Radiotherapy** and **Chemotherapy.** He has an extensive professional background of more than 30 years, where he has been part of reference health institutions such as the Royal Marsden Hospital or the Institute of Cancer Research in London.

In his firm commitment to optimize the quality of life of his patients, he contributed to the installation of **Magnetic Resonance Imaging** machines for the first time in Great Britain, incorporating a scanner and Linear Accelerator to locate tumors with greater precision. In addition, his clinical research has contributed to the development of several advances in the oncological field. His most outstanding contribution is **Intensity-Modulated Radiation Therapy,** a technique that improves the efficacy of cancer treatments by directing radiation to a specific target so as not to damage nearby healthy tissue.

In turn, he has performed more than 350 clinical studies and scientific publications that have facilitated the understanding of malignant tumors. For example, its **"PARSPOT"** trial provided relevant clinical data on the efficacy of Linear Accelerator Intensity Modulated Radiation Therapy in terms of local carcinoma control and patient survival. Thanks to these results, the UK Department of Health established practices to optimize both the accuracy and effectiveness of Radiotherapy in the treatment of **Head and Neck Cancer.**

He is a regular speaker at **Scientific Congresses,** where he shares his solid knowledge in subjects such as Radiotherapy Technology or innovative therapies for the approach of people with Dysphagia. In this way, he helps medical professionals to stay at the forefront of advances in these fields in order to provide excellent services.

Dr. Nutting, Christopher

- Medical Director and Oncology Consultant at The Royal Marsden Hospital in London, United Kingdom
- Chairman of the Oncology Section at the Royal Society of Medicine, London, United Kingdom
- Clinical Head of Head and Neck Cancer at the Department of Health and Social Care, United Kingdom
- Consultant Oncologist at The Harley Street Clinic in London, United Kingdom
- Chairman of the National Cancer Research Institute in London, United Kingdom
- President of the Association of British Oncology in London, United Kingdom
- Senior Research Fellow at the National Institute for Health and Care Research, United Kingdom
- PhD in Medicine and Cellular Pathology from the University of London
- Member of: UK College of Physicians, UK College of Radiologists

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

Management

Dr. Morera López, Rosa María

- Head of the Radiation Oncology Service at La Paz University Hospital since 2017
- Doctor of Medicine from the Complutense University Madrid
- Specialist in Radiation Oncology
- Master's Degree in Health Services Management and Administration
- Implementation of the HDR Breast Brachytherapy technique in the Radiation Oncology Department of the G.U.H Ciudad Real in 2013
- Implantation of the HDR Prostate Brachytherapy technique in the Radiation Oncology Department of the G.U.H Ciudad Real in 2013
- Implementation of the Tomotherapy Unit in the Radiation Oncology Department of the G.U.H Ciudad Real in 2014
- Honorary Collaborating Professor in the subject of Radiology and Physical Therapeutics taught in the 3rd year of the Degree of Medicine at the Faculty of Medicine of the UCLM in Ciudad Real
- Associate Professor in the Onco-Hematology course taught in the 4th year of the Medicine Degree at the Faculty of Medicine of the UCLM in Ciudad Real
- Participation as Principal Investigator and collaborator in a large number of research projects
- Editor of several dozen articles in high-impact scientific journals

Dr. Rodríguez Rodríguez, Isabel

- Specialist in Radiation Oncology La Paz University Hospital. Madrid
- Degree in Medicine. Specialist in Radiotherapy
- Clinical Research Coordinator. Biomedic Foundation of the Ramón y Cajal Hospital until 2007
- Member of the American Brachytherapy Society
- Member of the European School of Oncology
- Member of the European Society for Therapeutic Radiology and Oncology
- Founding member of the Latin American Society of Breast Imaging
- Participation as a collaborating researcher in many research projects
- Editor of several dozen articles in high-impact scientific journals

Dr. Belinchón Olmeda, Belén

- Specialist in Radiation Oncology La Paz University Hospital. Madrid
- Specialist in Radiation Oncology Ruber International Hospital Madrid
- Doctorate in Medicine from the Autonomous University Madrid
- Participation as a collaborating researcher in many research projects
- Editor of several dozen articles in high-impact scientific journals
- Teaching collaborator for residents of Radiation Oncology La Paz University Hospital. Madrid
- Member of the Multidisciplinary Unit of Cardio-Onco-Hematology (U.H La Paz)
- Member of the Sarcoma Group of the Spanish Society of Radiation Oncology (SEOR)
- Member of the Spanish Group of Breast Radiation Oncology (GEORM)

Professors

Dr. Celada Álvarez, Francisco Javier
- Specialist physician - resident tutor
- Radiation Oncology Service, La Fe Valencia University and Polytechnic Hospital

Dr. Conde Moreno, Antonio José
- Head of Radiation Oncology Section La Fe Polytechnic University Hospital, Valencia

Dr. Gómez Camaño, Antonio
- Head of Radiation Oncology Service Clinical University Hospital of Santiago de Compostela

Dr. Lozano Martín, Eva María
- Head of the Radiation Oncology Service at from Ciudad Real General University Hospital

Dr. Palacios Eito, Amalia
- Head of Radiation Oncology Service Reina Sofia University Hospital, Córdoba

Dr. Romero Fernández, Jesús
- Head of Radiation Oncology Service Puerta de Hierro Majadahonda University Hospital

Dr. Rodríguez Pérez, Aurora

- Degree in Medicine and Surgery
- Head of Radiation Oncology Service Ruber International Hospital Madrid, Spain

Dr. Rubio Rodríguez, Carmen

- Head of Radiation Oncology Service University Hospital H.M. Sanchinarro, Madrid

Dr. Samper Ots, Pilar María

- Head of Radiation Oncology Service Rey Juan Carlos Hospital, Móstoles

Dr. Vallejo Ocaña, Carmen

- Head of the Radiation Oncology Department at the Ramón y Cajal University Hospital in Madrid
- Degree in Medicine and Surgery

TECH's objective? Helping you to achieve your professional growth"

05

Structure and Content

The syllabus has been designed by a team of professionals from leading hospitals and universities, who, aware of the current importance of professional education to be able to intervene in the diagnosis and treatment of cancer through the use of radiotherapy, have put together the most complete and innovative compendium of contents on the market. All of this reinforces TECH's commitment to new educational methodologies and high-quality teaching.

This Professional Master's Degree in Radiation Oncology contains the most complete and up-to-date scientific program on the market"

Module 1. Principles of Radiotherapy: Radiobiology

1.1. Biological Effects of Ionizing Radiation
  1.1.1. DNA Damage
  1.1.2. Non-Clonal Effects
1.2. Dose Fractionation
  1.2.1. Linear-Quadratic Model
  1.2.2. Time Factor in Radiotherapy
  1.2.3. Altered Subdivisions
1.3. Oxygen Effect and Tumor Hypoxia
1.4. Radiobiology of Brachytherapy
1.5. Effects of Irradiation on Healthy Tissues
1.6. Combination of Irradiation with Drugs
1.7. Predictive Assays of Response to Radiotherapy
1.8. Radiobiology of Re-Irradiation
1.9. Effects of Irradiation on the Embryo and Fetus
1.10. Radiation-Induced Carcinogenesis

Module 2. Update on Radiotherapy for Central Nervous System Tumors (Adults)

2.1. Low-Grade Gliomas
2.2. High-Grade Gliomas
2.3. Benign Brain Tumors
  2.3.1. Meningiomas
  2.3.2. Vestibular Schwannoma
  2.3.3. Neurinoma
2.4. Pituitary Tumors
  2.4.1. Non-Functioning Adenomas
  2.4.2. Prolactinoma
  2.4.3. GH-Producing Adenoma
  2.4.4. Cushing's Disease
  2.4.5. GnRH TSH Secreting Adenomas
  2.4.6. Pituitary Carcinomas
2.5. Spinal Cord Tumors
  2.5.1. Astrocytoma
  2.5.2. Ependymoma
  2.5.3. Meningioma
  2.5.4. Chordoma
  2.5.5. Chondrosarcoma
  2.5.6. Miscellaneous Spinal Tumors
  2.5.7. Spinal Cord Compression
  2.5.8. Medulloblastoma
  2.5.9. Craniopharyngioma
2.6. Orbital, Ocular and Optic Nerve Tumors
  2.6.1. Rhabdomyosarcoma
  2.6.2. Pineal Gland Tumors
  2.6.3. Orbital Lymphoma
  2.6.4. Ocular Melanoma
  2.6.5. Ocular Metastases
  2.6.5. Optic Nerve Glioma
  2.6.6. Optic Nerve Meningioma
2.7. Primary cerebral Lymphoma
2.8. Cerebral Metastases
2.9. Arteriovenous Malformations

Module 3. Update on Radiotherapy for ENT Tumors

3.1. Oral Cavity
  3.1.1. Lip
  3.1.2. Tongue
  3.1.3. Floor of Mouth
  3.1.4. Gum
  3.1.5. Hard Palate
  3.1.6. Retromolar Trigone
  3.1.7. Jugal Mucosa

3.2. Oropharynx
- 3.2.1. Soft Palate
- 3.2.2. Tonsils
- 3.2.3. Oropharyngeal Wall
- 3.2.4. Base of the Tongue

3.3. Nasopharynx

3.4. Larynx and Hypopharynx
- 3.4.1. Larynx.
  - 3.4.1.1. Glottis
  - 3.4.1.2. Supraglottis
  - 3.4.1.3. Subglottis
- 3.4.2. Hypopharynx
  - 3.4.2.1. Pyriform Sinus
  - 3.4.2.2. Hypopharyngeal Wall
  - 3.4.2.3. Post Cricoid Carcinoma
- 3.4.3. Epidermoid Carcinoma Variants
  - 3.4.3.1. Verrucous Carcinoma
  - 3.4.3.2. Sarcomatoid Carcinoma
  - 3.4.3.3. Neuroendocrine Carcinoma

3.5. Nasal and Paranasal Sinuses
- 3.5.1. Nasal Vestibule
- 3.5.2. Nasal Cavity and Ethmoid Sinus
- 3.5.3. Maxillary Sinus

3.6. Salivary Glands

3.7. Thyroid
- 3.7.1. Papillary Carcinoma
- 3.7.2. Follicular Carcinoma
- 3.7.3. Spinal Cord Carcinoma
- 3.7.4. Anaplastic Carcinoma
- 3.7.5. Primary Thyroid Lymphoma

3.8. Cervical Lymph Node Metastases of Unknown Origin

Module 4. Update on Radiotherapy for Thoracic Tumors

4.1. Non-Small Cell Lung Cancer
- 4.1.1. General Information on Non-Small Cell Lung Cancer
- 4.1.2. Early-Stage Radiotherapy
- 4.1.3. Radical Radiotherapy in Locally Advanced Stages
- 4.1.4. Postoperative Radiotherapy
- 4.1.5. Palliative Radiotherapy

4.2. Small Cell Lung Cancer
- 4.2.1. General Information on Small Cell Lung Cancer
- 4.2.2. Radiotherapy for Disease Limited to the Thorax
- 4.2.3. Radiotherapy in Extended Disease
- 4.2.4. Prophylactic Cranial Irradiation
- 4.2.5. Palliative Radiotherapy

4.3. Uncommon Thoracic Tumors
- 4.3.1. Thymic Tumors
  - 4.3.1.1. General Information on Thymic Tumors
  - 4.3.1.2. Radiotherapy for Thymic Carcinoma
  - 4.3.1.3. Radiotherapy for Thymomas
- 4.3.2. Carcinoid Lung Tumors
  - 4.3.2.1. General Information on Carcinoid Lung Tumors
  - 4.3.2.2. Radiotherapy for Carcinoid Lung Tumors
- 4.3.3. Mesothelioma
  - 4.3.3.1. General Information on Mesotheliomas
  - 4.3.3.2. Radiotherapy for Mesotheliomas (Adjuvant, Radical, Palliative)

4.4. Primary Cardiac Tumors
- 4.4.1. General Information on Cardiac Tumors
- 4.4.2. Radiotherapy for Cardiac Tumors

4.5. Pulmonary Metastases
- 4.5.1. General Information on Pulmonary Metastases
- 4.5.2. Definition of Oligometastatic Lung Status
- 4.5.3. Radiotherapy for Pulmonary Oligometastases

Module 5. Update on Radiotherapy for Breast Tumors

5.1. Introduction to Infiltrating Breast Cancer
- 5.1.1. Etiology
- 5.1.2. Epidemiology
- 5.1.3. Advantages of Screening: Overdiagnosis and Cost Overruns
- 5.1.4. Clinical and Pathological Staging
- 5.1.5. Radiological Diagnosis
- 5.1.6. Histological Diagnosis: Molecular Subtypes
- 5.1.7. Prognosis

5.2. General Information on Radiotherapy for Breast Cancer
- 5.2.1. Simulation Process: Positioning and Immobilization Systems
- 5.2.2. Image Acquisition and Volume Delimitation
- 5.2.3. Techniques: 3D-CRT, Evidence of IMRT/VMAT Use in Breast Cancer
- 5.2.4. Dosage, Fractionation and Constraints
- 5.2.5. Breath Hold
- 5.2.6. Image-Guided Radiation Therapy (IGRT)
- 5.2.7. Radiotherapy in the Presence of Cardiac Devices

5.3. Indications for Radiotherapy on the Breast after Conservative Treatment for Infiltrating Breast Cancer
- 5.3.1. Exclusive Preoperative Radiotherapy
- 5.3.2. Adjuvant Radiotherapy after Conservative Surgery and/or Primary Systemic Therapy
- 5.3.3. Evidence in Subdivisions
- 5.3.4. Is Conservative Treatment Better than a Mastectomy?
- 5.3.5. Radiotherapy according to Molecular Subtype?

5.4. Indications for Radiotherapy after Mastectomy for Infiltrating Breast Cancer
- 5.4.1. Post-Mastectomy Radiotherapy According to Type of Surgery
- 5.4.2. Post-Mastectomy Radiotherapy in N0 Cancer: Radiotherapy According to Molecular Subtype?
- 5.4.3. Post-Mastectomy Radiotherapy in Complete Response after Primary Systemic Treatment
- 5.4.4. Rib Wall Hypofractionation
- 5.4.5. Inflammatory Carcinoma

5.5. Radiotherapy and Post-Mastectomy Breast Reconstruction
- 5.5.1. Types of Surgery (Radical Mastectomy, Skin Sparing, CAP Preservation, etc.)
- 5.5.2. Types of Reconstruction and Advantages/Disadvantages of RT before or after RT
- 5.5.3. Hypofractionation in Patients Following Breast Reconstruction Surgery

5.6. Axilla Management for the Radiation Oncologist: Radiotherapy Indication in Chains
- 5.6.1. Nodal Staging in Diagnosis and Sentinel Node Detection Methods
- 5.6.2. RT after Lymphadenectomy and after Positive Sentinel Gland at the Time of Surgery
- 5.6.3. RT after Sentinel Node before/after Primary Systemic Therapy
- 5.6.4. Hypofractionation in Chains
- 5.6.5. Risk of Plexopathy

5.7. Boost: Indications and Radiotherapy Techniques
- 5.7.1. Justification for the Implementation of Boost
- 5.7.2. Indications after Conservative Surgery, Oncoplastic Surgery and Mastectomy
- 5.7.3. External Radiotherapy Techniques: Simultaneous Integrated Boost (SIB)
- 5.7.4. Brachytherapy
- 5.7.5. Intraoperative Radiotherapy (IORT)

5.8. Partial Breast Irradiation: Indications and Radiotherapy Techniques
- 5.8.1. Justification for Performing Magnetic Particle Imaging (MPI)
- 5.8.2. Preoperative Radiotherapy
- 5.8.3. External RT: 3D-CRT. Intensity-Modulated Radiation Therapy (IMRT). SBRT
- 5.8.4. Brachytherapy
- 5.8.5. Intraoperative Radiotherapy (IORT)

5.9. Radiotherapy in Non-Invasive Carcinoma
- 5.9.1. Introduction
  - 5.9.1.1. Etiology
  - 5.9.1.2. Epidemiology
  - 5.9.1.3. Advantages of Screening
- 5.9.2. Indications after Conservative Surgery and Evidence after Mastectomy
- 5.9.3. Genetic Platform in Ductal Carcinoma In Situ (DCIS)

5.10. Radiotherapy and Systemic Treatment
- 5.10.1. Concomitant Radiotherapy/Chemotherapy
  - 5.10.1.1. Neoadjuvant
  - 5.10.1.2. Inoperable
  - 5.10.1.3. Adjuvant
- 5.10.2. Sequence with Systemic Treatment. Is it Possible to Administer Radiotherapy Prior to Chemotherapy after Surgery?
- 5.10.3. Radiotherapy and Hormonal Therapy (Tamoxifen, Aromatase Inhibitors): Evidence for their Sequential Administration: Is Concomitance Better?
- 5.10.4. Chemotherapy Followed by Radiotherapy without Surgery?
- 5.10.5. Association between Radiotherapy and Anti-Her2 Teatment (Trastuzumab and Pertuzumab)
- 5.10.6. Possible Toxicities of the Association

5.11. Evaluation of the Response: Monitoring Treatment of Locoregional Recurrences: Re-Irradiation

5.12. Locoregional Radiotherapy in Metastatic Breast Cancer: Treatment of Oligometastases. Stereotactic Body Radiotherapy (SBRT). Radiotherapy and Immunotherapy.

5.13. Male Breast Cancer and Other Breast Tumors: Paget's Disease; Phyllodes; Primary Lymphoma

Module 6. Update on Radiotherapy for Digestive Tumors

6.1. Esophageal Tumors
- 6.1.1. General Information on Esophageal Tumors
- 6.1.2. Radical Treatment of Cervical Esophageal Cancer
- 6.1.3. Radical Treatment of Thoracic Esophageal Cancer
- 6.1.4. Adjuvant Treatment of Thoracic Esophageal Cancer
- 6.1.5. Palliative Radiotherapy

6.2. Gastric and Gastroesophageal Junction Tumors
- 6.2.1. General Information about Gastric and Gastroesophageal Junction Cancer
- 6.2.2. Neoadjuvant Radiochemotherapy
- 6.2.3. Adjuvant Radiochemotherapy
- 6.2.4. Role of Radiotherapy in the Context of Perioperative Chemotherapy
- 6.2.5. Radical Radiochemotherapy
- 6.2.6. Palliative Radiotherapy

6.3. Pancreatic Tumors
- 6.3.1. Overview of Pancreatic Cancer
- 6.3.2. Role of Radiotherapy in Resectable Tumors
- 6.3.3. Role of Radiotherapy in Potentially Resectable Tumors (Borderline)
- 6.3.4. Role of Radiotherapy in Unresectable Tumors
- 6.3.5. Role of Radiotherapy in Inoperable Tumors
- 6.3.6. Palliative Radiotherapy

6.4. Hepatobiliary Tumors
- 6.4.1. General Information on Hepatobiliary Tumors
- 6.4.2. Hepatocellular Carcinoma
- 6.4.3. Gallbladder Cancer
- 6.4.4. Cholangiocarcinoma
- 6.4.5. Liver Metastases

6.5. Colorectal Cancer
- 6.5.1. General Information on Colorectal Tumors
- 6.5.2. Neoadjuvant Treatment in Rectal Cancer
- 6.5.3. Adjuvant Treatment in Rectal Cancer
- 6.5.4. Radical Treatment in Rectal Cancer
- 6.5.5. Radiotherapy in Recurrences: Re-Irradiation
- 6.5.6. Role of Radiotherapy in Colon Cancer
- 6.5.7. Palliative Radiotherapy

6.6. Anal Canal and Perianal Skin Cancer
- 6.6.1. Overview of Anal Canal and Perianal Skin Cancer
- 6.6.2. Role of Radiotherapy in Early Tumors and Carcinoma In Situ
- 6.6.3. Radical Treatment of Locally Advanced Tumors
- 6.6.4. Palliative Radiotherapy

Module 7. Update on Radiotherapy for Gynecologic Tumors

7.1. Endometrial Cancer
- 7.1.1. Epidemiological Aspects
- 7.1.2. Risk Factors
- 7.1.3. Anatomy Recap
- 7.1.4. Histological Type
- 7.1.5. Dissemination Pathways
- 7.1.6. Classification
- 7.1.7. Prognostic Factors
- 7.1.8. Surgical Management
- 7.1.9. Adjuvant Early-Stage Radiotherapy
- 7.1.10. Advanced Disease
- 7.1.11. Local, Regional, Distant Recurrence
- 7.1.12. Monitoring

7.2. Uterine Sarcomas
- 7.2.1. Epidemiological Aspects
- 7.2.2. Risk Factors
- 7.2.3. Anatomy Recap
- 7.2.4. Histological Type
- 7.2.5. Dissemination Pathways
- 7.2.6. Classification
- 7.2.7. Prognostic Factors
- 7.2.8. Surgical Management
- 7.2.9. Adjuvant Early-Stage Radiotherapy
- 7.2.10. Advanced Disease
- 7.2.11. Local, Regional, Distant Recurrence
- 7.2.12. Monitoring

7.3. Cervical Cancer
- 7.3.1. Epidemiological Aspects
- 7.3.2. Risk Factors
- 7.3.3. Anatomy Recap
- 7.3.4. Histological Type
- 7.3.5. Dissemination Pathways
- 7.3.6. Classification
- 7.3.7. Prognostic Factors
- 7.3.8. Surgical Management
- 7.3.9. Adjuvant Early-Stage Radiotherapy
- 7.3.10. Advanced Disease
- 7.3.11. Local, Regional, Distant Recurrence
- 7.3.12. Monitoring

7.4. Vulvar Cancer
- 7.4.1. Epidemiological Aspects
- 7.4.2. Risk Factors
- 7.4.3. Anatomy Recap
- 7.4.4. Histological Type
- 7.4.5. Dissemination Pathways
- 7.4.6. Classification
- 7.4.7. Prognostic Factors
- 7.4.8. Surgical Management
- 7.4.9. Adjuvant Early-Stage Radiotherapy
- 7.4.10. Advanced Disease
- 7.4.11. Local, Regional, Distant Recurrence
- 7.4.12. Monitoring

7.5. Vaginal Cancer
- 7.5.1. Epidemiological Aspects
- 7.5.2. Risk Factors
- 7.5.3. Anatomy Recap
- 7.5.4. Histological Type
- 7.5.5. Dissemination Pathways
- 7.5.6. Classification
- 7.5.7. Prognostic Factors
- 7.5.8. Surgical Management
- 7.5.9. Adjuvant Early-Stage Radiotherapy
- 7.5.10. Advanced Disease
- 7.5.11. Local, Regional, Distant Recurrence
- 7.5.12. Monitoring

7.6. Fallopian Tube and Ovarian Cancer
- 7.6.1. Epidemiological Aspects
- 7.6.2. Risk Factors
- 7.6.3. Anatomy Recap.
- 7.6.4. Histological Type
- 7.6.5. Dissemination Pathways
- 7.6.6. Classification
- 7.6.7. Prognostic Factors
- 7.6.8. Surgical Management
- 7.6.9. Adjuvant Early-Stage Radiotherapy
- 7.6.10. Advanced Disease
- 7.6.11. Local, Regional, Distant Recurrence
- 7.6.12. Monitoring

Module 8. Update on Radiotherapy for Prostate and Other Urologic Tumors

8.1. Prostate Cancer
- 8.1.1. Low-Risk
- 8.1.2. Intermediate Risk
  - 8.1.2.1. Definition of Intermediate Risk Prostate Cancer
  - 8.1.2.2. Subclassification of Intermediate Risk Prostate Cancer
    - 8.1.2.2.1. Importance of Gleason 7
  - 8.1.2.3. Diagnosis and Extension Study
  - 8.1.2.4. Treatment
    - 8.1.2.4.1. Active Surveillance
    - 8.1.2.4.2. Radical Prostatectomy
    - 8.1.2.4.3. Radiotherapy: Techniques and Requirements
      - 8.1.2.4.3.1. Role of External Radiation Therapy
      - 8.1.2.4.3.2. The Role of Brachytherapy
      - 8.1.2.4.3.3. The Role of Stereotactic Body Radiotherapy SBRT
      - 8.1.2.4.3.4. Combined Treatments
    - 8.1.2.4.4. Hormone Therapy: When and How Much?
    - 8.1.2.4.5. The Best Option for Each Patient
  - 8.1.2.5. Monitoring
  - 8.1.2.6. Conclusions
- 8.1.3. High-Risk
- 8.1.4. Local and/or Distant Relapse Treatment
  - 8.1.4.1. Treatment of Local Relapse
    - 8.1.4.1.1. After Prostatectomy
    - 8.1.4.1.2. After Radiotherapy
      - 8.1.4.1.2.1. Rescue Surgery
      - 8.1.4.1.2.2. Rescue Cryotherapy
      - 8.1.4.1.2.3. Rescue Brachytherapy
      - 8.1.4.1.2.4. High-Intensity Focused Ultrasound (HIFU)
      - 8.1.4.1.2.5. Intermittent Hormone Rescue
  - 8.1.4.2. Treatment of Distant Relapse
    - 8.1.4.2.1. Metastatic Patient
    - 8.1.4.2.2. Oligorecurrent Patient
      - 8.1.4.2.2.1. Hormonal Treatment
      - 8.1.4.2.2.2. Surgical Management
      - 8.1.4.2.2.3. SBRT Treatment

8.2. Preoperative and Postoperative Radiotherapy in Bladder Cancer
- 8.2.1. Introduction
- 8.2.2. Preoperative Radiotherapy
  - 8.2.2.1. Bibliographic Review
  - 8.2.2.2. Indications
- 8.2.3. Postoperative Radiotherapy
  - 8.2.3.1. Bibliographic Review
  - 8.2.3.2. Indications
- 8.2.4. Organ Conservative Treatment

8.3. Testicular Tumors
- 8.3.1. Introduction
- 8.3.2. Histological Type
- 8.3.3. TNM Classification and Prognostic Groups
- 8.3.4. Germinal Tumors: Treatment According to Stage and Prognostic Group
  - 8.3.4.1. Seminoma
  - 8.3.4.2. Non-Seminoma
- 8.3.5. Chemotherapy and Radiotherapy Toxicity
- 8.3.6. Secondary Neoplasms
- 8.3.7. Non-Germ Cell Tumors

8.4. Renal, Ureteral, and Urethral Tumors
- 8.4.1. Renal Tumors
  - 8.4.1.1. Clinical Presentation
  - 8.4.1.2. Diagnosis
  - 8.4.1.3. Localized Disease Treatment
  - 8.4.1.4. Advanced Disease Treatment
- 8.4.2. Urethral Tumors
  - 8.4.2.1. Clinical Presentation: Men vs. Women
  - 8.4.2.2. Diagnosis
  - 8.4.2.3. Treatment
- 8.4.3. Ureter and Renal Pelvis Tumors
  - 8.4.3.1. Risk Factors
  - 8.4.3.2. Presentation: Primary Tumor–Metastasis
  - 8.4.3.3. Symptoms/Clinical
  - 8.4.3.4. Diagnosis
  - 8.4.3.5. Localized Disease Treatment
  - 8.4.3.6. Advanced Disease Treatment

8.5. Penile Cancer
- 8.5.1. Adjuvant Treatment
- 8.5.2. Radical Treatment

8.6. Treatment of Adrenal Metastases
- 8.6.1. Introduction
- 8.6.2. Surgery
- 8.6.3. SBRT

Module 9. Update on Radiotherapy for Low Incidence and Miscellaneous Tumors

9.1. Orbital and Ocular Tumors
- 9.1.1. Orbital Tumors
  - 9.1.1.1. Rhabdomyosarcoma
  - 9.1.1.2. Lacrimal Gland Tumors
  - 9.1.1.3. Orbital Metastases
  - 9.1.1.4. Orbital Pseudotumor
  - 9.1.1.5. Graves-Basedow Ophthalmopathy
- 9.1.2. Tumors and Ocular Pathology
  - 9.1.2.1. Choroidal Melanoma
  - 9.1.2.2. Choroidal Metastasis
  - 9.1.2.3. Primary Ocular Lymphoma
  - 9.1.2.4. Pterygium
  - 9.1.2.5. Macular Degeneration
  - 9.1.2.6. Choroidal Hemangioma

9.2. Cutaneous Tumors
- 9.2.1. Melanoma
- 9.2.2. Non-Melanoma Skin Tumors
  - 9.2.2.1. Basal Cell Carcinoma
  - 9.2.2.2. Squamous Cell Carcinoma
  - 9.2.2.3. Merkel Cells Carcinoma
  - 9.2.2.4. Adnexal Carcinomas

9.3. Soft Tissue Sarcomas and Bone Tumors
- 9.3.1. Soft Tissue Sarcomas of the Extremities and Trunk
- 9.3.2. Retroperitoneal and Pelvic Sarcomas
- 9.3.3. Head and Neck Sarcomas
- 9.3.4. Dermatofibrosarcoma Protuberans
- 9.3.5. Desmoid Tumor
- 9.3.6. Bone Sarcomas
  - 9.3.6.1. Ewing Sarcoma
  - 9.3.6.2. Osteosarcoma
  - 9.3.6.3. Chondrosarcoma
  - 9.3.6.4. Chordoma

9.4. Hematological Tumors and Associated Techniques
- 9.4.1. Hodgkin's Lymphoma
- 9.4.2. Non-Hodgkin's Lymphoma
- 9.4.3. Multiple Myeloma
- 9.4.4. Plasmacytoma
- 9.4.5. Mycosis Fungoides
- 9.4.6. Kaposi's Sarcoma
- 9.4.7. Total Body Irradiation, Total Nodal Irradiation

9.5. Pediatric Tumors
- 9.5.1. Central Nervous System Tumors
- 9.5.2. Soft Tissue Sarcomas
- 9.5.3. Bone Sarcomas
- 9.5.4. Wilms Tumor
- 9.5.5. Retinoblastoma
- 9.5.6. Neuroblastoma
- 9.5.7. Leukemias and Lymphomas

9.6. Benign Pathology
- 9.6.1. Benign Joint and Tendon Diseases
- 9.6.2. Benign Connective and Skin Diseases
  - 9.6.2.1. Keloids
  - 9.6.2.2. Plantar Fasciitis
  - 9.6.2.3. Gynecomastia
- 9.6.3. Benign Bone Tissue Diseases
  - 9.6.3.1. Heterotopic Ossification
  - 9.6.3.2. Vertebral Hemangiomas
  - 9.6.3.3. Pigmented Villonodular Synovitis
  - 9.6.3.4. Aneurysmal Bone Cyst

Module 10. Pain and Nutrition in Radiation Oncology

10.1. General Information on Oncologic Pain
- 10.1.1. Epidemiology
- 10.1.2. Prevalence
- 10.1.3. Impact of Pain
- 10.1.4. Multidimensional Concept of Cancer Pain

10.2. Characterization of Pain
- 10.2.1. Types of Oncologic Pain
- 10.2.2. Evaluation of Oncologic Pain
- 10.2.3. Prognosis of Pain
- 10.2.4. Classification
- 10.2.5. Diagnostic Algorithm

10.3. General Principles of Pharmacological Treatment

10.4. General Principles of Radiotherapy
- 10.4.1. External Radiotherapy
- 10.4.2. Dosages and Fractions

10.5. Bisphosphonates

10.6. Radiopharmaceuticals in the Management of Metastatic Bone Pain

10.7. Pain in Long-Term Survivors

10.8. Nutrition and Cancer
- 10.8.1. Concept of Malnutrition
- 10.8.2. Prevalence of Malnutrition
- 10.8.3. Causes and Consequences of Malnutrition in Oncology Patients
- 10.8.4. Mortality and Survival
- 10.8.5. Nutritional Risk Factors in Oncology Patients
- 10.8.6. Objectives of Nutritional Support

10.9. Cachexia

10.10. Initial Nutritional Assessment in a Radiation Oncology Service
- 10.10.1. Diagnostic Algorithm
- 10.10.2. Specific Treatment
- 10.10.3. General Dietary Recommendations
- 10.10.4. Specific Individualized Recommendations

10.11. Nutritional Assessment During Monitoring in a Radiation Oncology Service

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.

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:

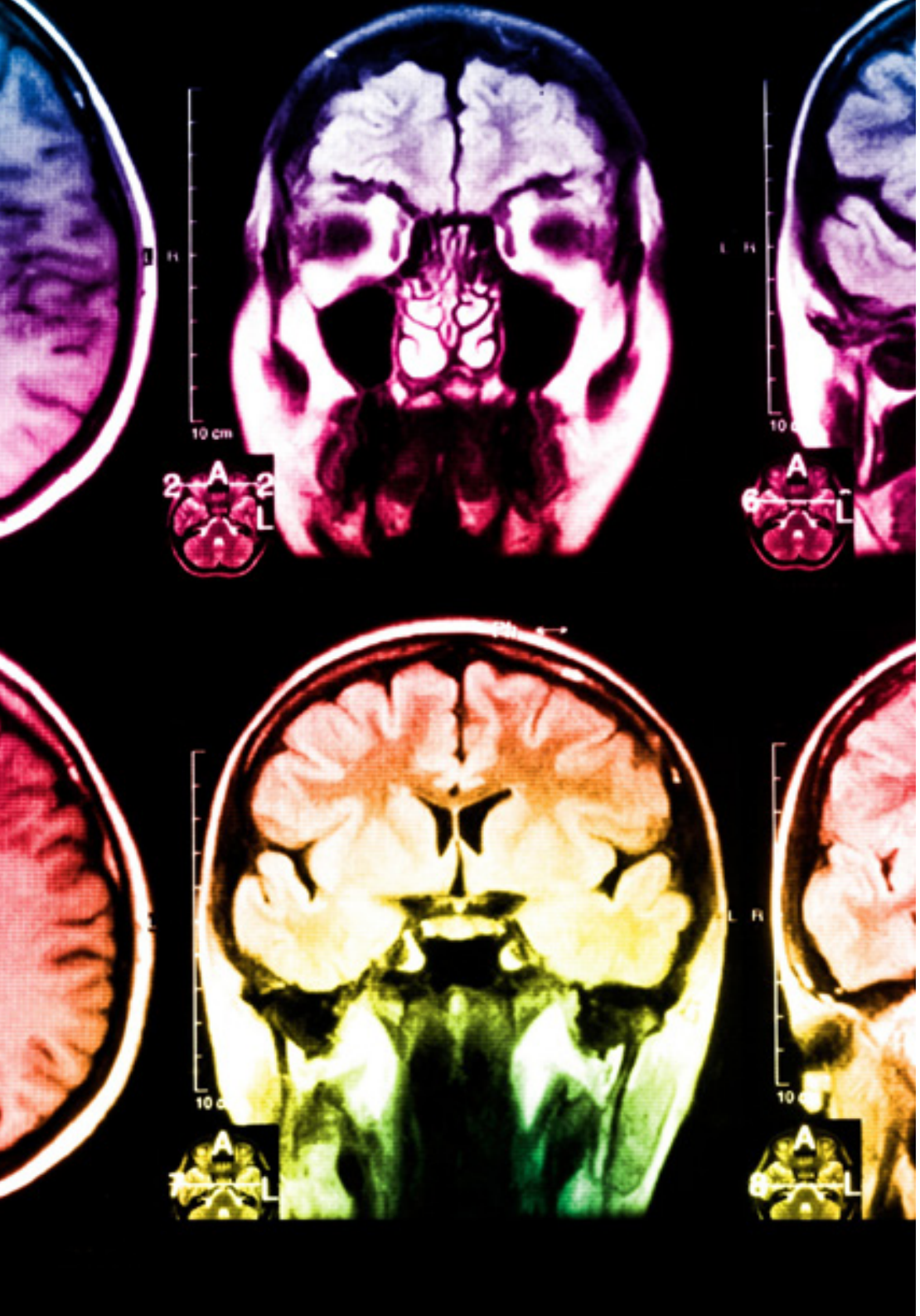
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better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

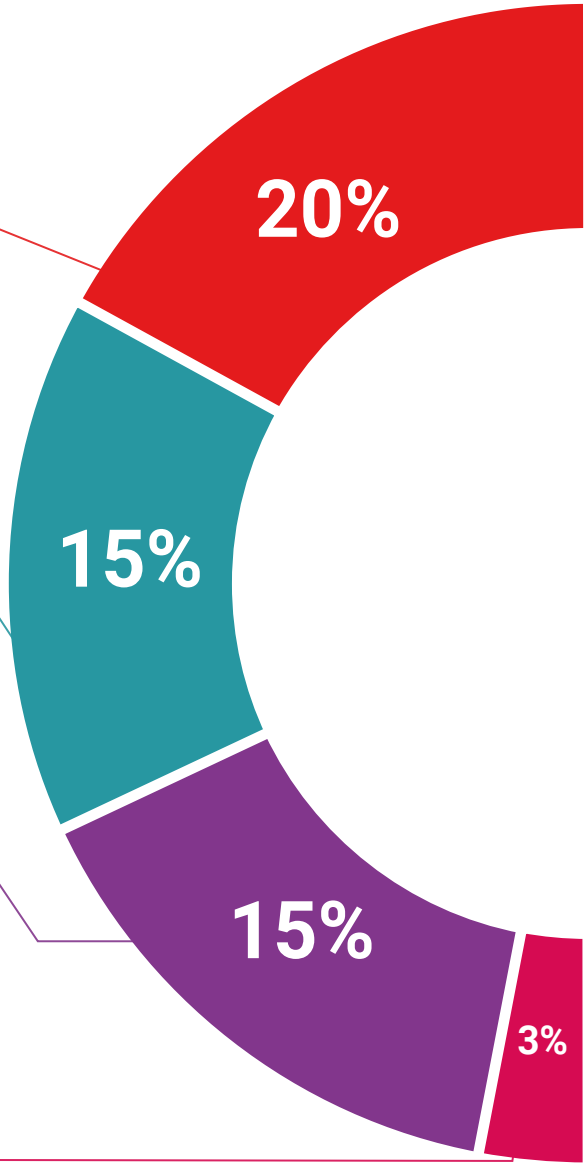
Interactive Summaries

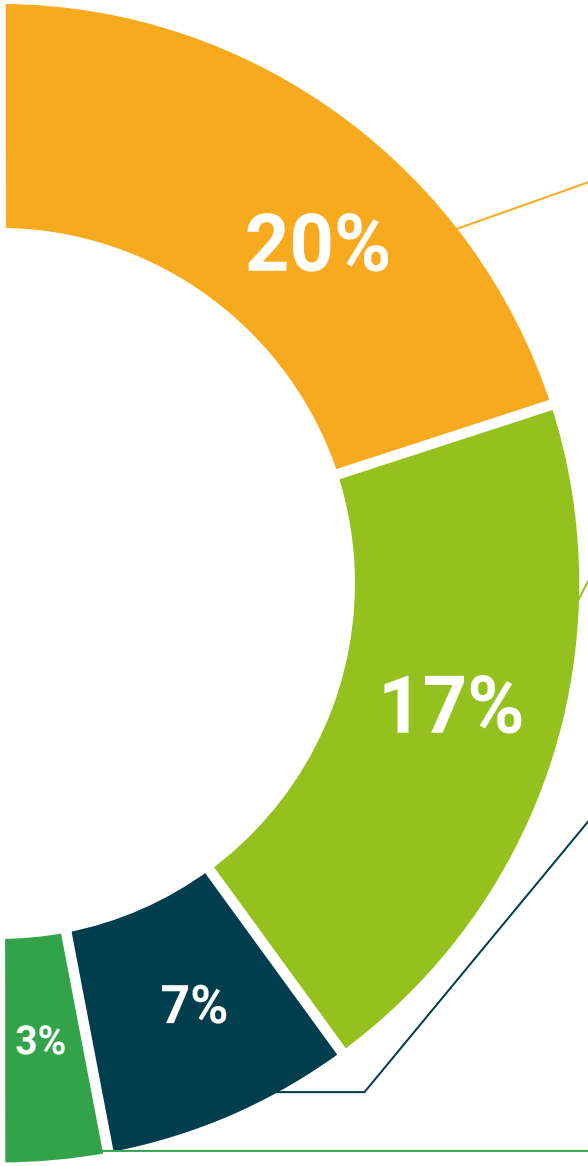
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

The Professional Master's Degree in Radiation Oncology guarantees you, in addition to the most rigorous and updated training, access to a Professional Master's Degree issued by TECH Global University.

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

This private qualification will allow you to obtain a **Professional Master's Degree diploma in Radiation Oncology** endorsed by TECH Global University, the world's largest online university.

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

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

Title: **Professional Master's Degree in Radiation Oncology**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Professional Master's Degree in Radiation Oncology

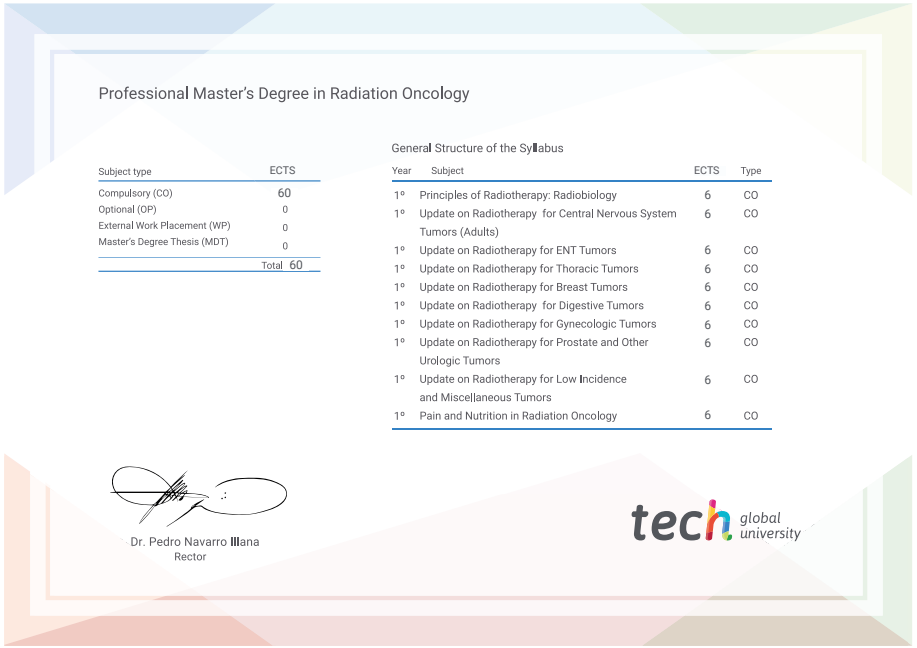
This is a private qualification of 1,800 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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

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

Dr. Pedro Navarro Illana
Dean

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


Professional Master's Degree in Radiation Oncology

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

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Principles of Radiotherapy: Radiobiology	6	CO
1º	Update on Radiotherapy for Central Nervous System Tumors (Adults)	6	CO
1º	Update on Radiotherapy for ENT Tumors	6	CO
1º	Update on Radiotherapy for Thoracic Tumors	6	CO
1º	Update on Radiotherapy for Breast Tumors	6	CO
1º	Update on Radiotherapy for Digestive Tumors	6	CO
1º	Update on Radiotherapy for Gynecologic Tumors	6	CO
1º	Update on Radiotherapy for Prostate and Other Urologic Tumors	6	CO
1º	Update on Radiotherapy for Low Incidence and Miscellaneous Tumors	6	CO
1º	Pain and Nutrition in Radiation Oncology	6	CO

Dr. Pedro Navarro Illana
Rector

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

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Professional Master's Degree

Radiation Oncology

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Credits: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Professional Master's Degree

Radiation Oncology

Endorsed by:

GETTHI

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