



# Postgraduate Diploma

# HPV and Primary Prevention

Course Modality: Online

Duration: 6 months.

Certificate: TECH Technological University

16 ECTS Credits

Teaching Hours: 400 hours.

We bsite: www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-vph-primary-prevention

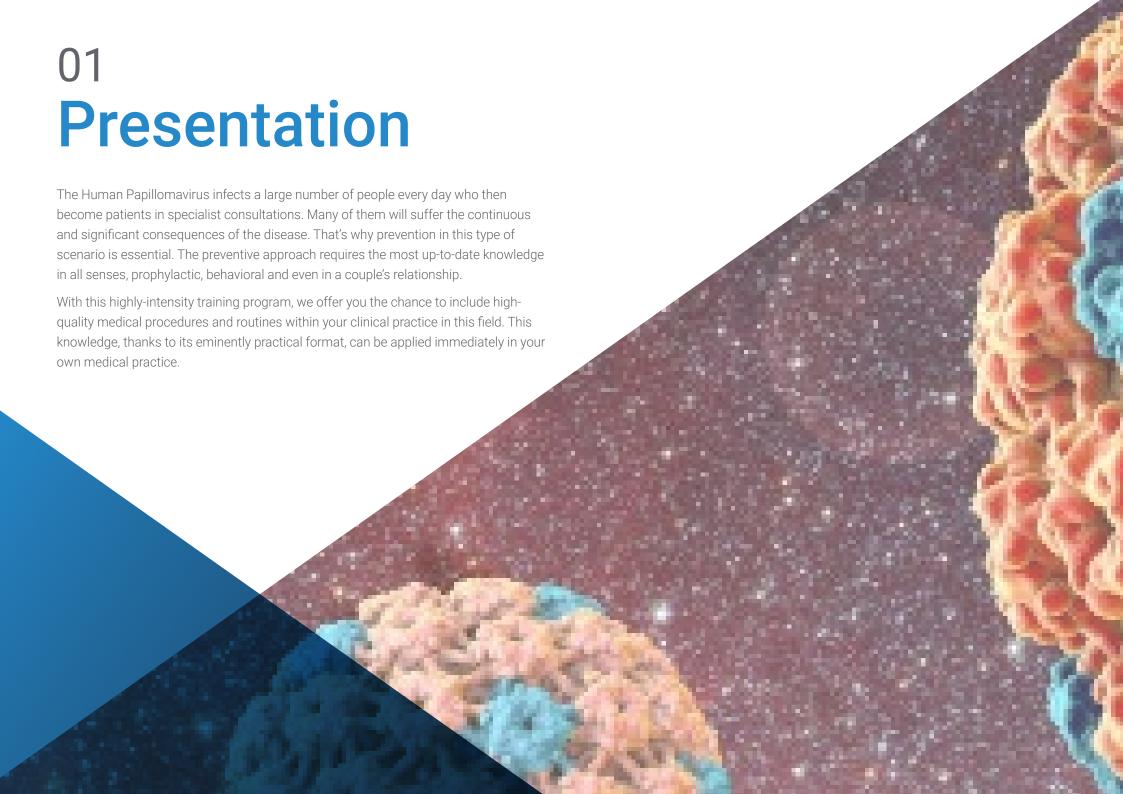
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Certificate

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# tech 06 | Introduction

During this comprehensive Postgraduate Diploma, the student will have the opportunity to acquire the necessary basic knowledge to face situations that arise in patients suspected of having contracted HPV. From the moment of diagnosis and the development of the guidelines that the specialist must follow, to the information on procedures or attitudes to eradicate in this medical practice, the student will learn to integrate new techniques and the most advanced procedures in this discipline into their work.

What distinguishes this Postgraduate Diploma from others is its eminent practical vision. This approach has been implemented in all the teaching materials that the student will use during their training. Our goal: to enable you to start applying what you have learned immediately in your work.



specialized expert course"

This **Postgraduate Diploma in the HPV and Primary Prevention** offers you the characteristics of a high-level scientific, teaching, and technological course. These are some of its most notable features:

- Latest technology in online teaching software
- Highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- Practical cases presented by practising experts
- State-of-the-art interactive video systems
- Teaching supported by telepractice
- Continuous updating and recycling systems
- · Self-regulating learning: full compatibility with other occupations
- Practical exercises for self-evaluation and learning verification
- Support groups and educational synergies: questions to the expert, debate and knowledge forums
- · Communication with the teacher and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection
- Supplementary documentation databases are permanently available, even after the course



This Postgraduate Diploma may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge in the Human Papillomavirus and Primary Prevention, you will obtain a qualification from TECH University"

Our teaching staff is composed of medical professionals and practising specialists. In this way, we ensure that we provide you with the most innovative training we are aiming for. A multidisciplinary team of professors with training and experience in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will bring their practical knowledge derived from their own experience to the course: one of the differential qualities of this Postgraduate Diploma.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Diploma. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. In this way, you will be able to study with a range of easy-to-use and versatile multimedia tools that will give you the necessary skills you need for your specialization.

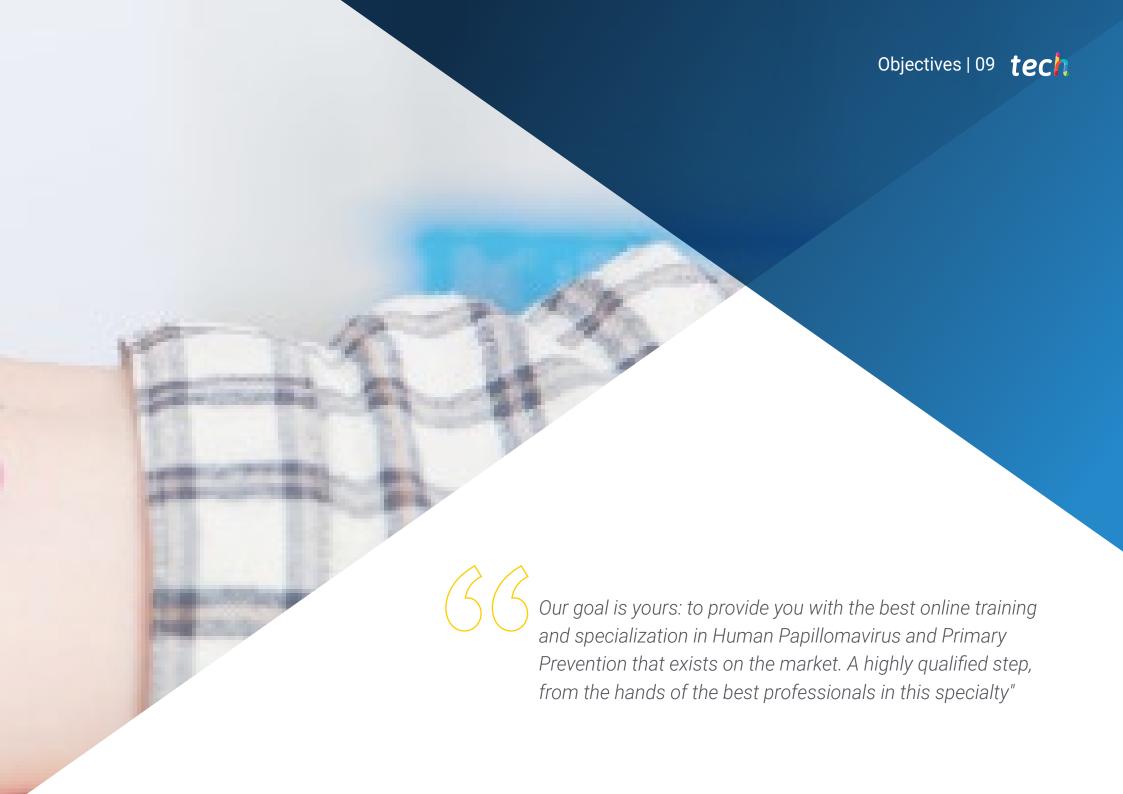
The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: With the help of an innovative interactive video system, and learning from an expert, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

The most outstanding aspect of our educational formula is the possibility of hands-on learning, even while learning remotely: a challenge that we have achieved and that provides our students with the best results.

Observing the expert in the process of performing the task, triggers brain mechanisms similar to those activated when performing the same activity: this is the principle of the high efficiency of our "learning from an expert."



TECH Technological University aims to train highly qualified professionals for the workplace. An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is focused on helping medical professionals reach a much higher level of expertise and control. A goal that, in just six months, you will be able to achieve with a highly intensive and precise course.



# tech 10 | Objectives



## **General Objectives**

- Gain a broad understanding of HPV infections and the burden of disease that it generates
- Perform a correct evaluation of the screening, diagnosis and management of lesions caused by HPV, as well as learning how to identify them through a colposcopy
- Know the current strategies for primary and secondary prevention, as well as tertiary prevention associated with the development of vaccine treatments







### **Specific Objectives**

#### Module 1: The Human Papillomavirus: Characteristics and Epidemiology

- Learn the structure of the HPV genome and their specific proteins
- Know the different viral genotypes and their different biological action
- Analyze the different techniques for detecting the virus
- Study the clinical applications of the different techniques
- Analyze the prevalence of HPV according to population and age
- Analyze the population variations of HPV and the burden of disease generated

#### Module 2: Pathogenesis of HPV: Intraepithelial neoplasia

- Study the dissemination routes of the virus and its transmisson
- Analyze how the immune system clears the virus
- Understand how HPV evades the host immune system
- Study the role of vaginal microbiota in the acquisition, progression and development of HPV
- Understand how intraepithelial neoplasia develops throught the viral infection
- Study how cancer or even relapse can develop from intraepithelial neoplasia
- Know the terminology associated with HPV lesions and its international consensus through the LAST project and its terminology

#### Module 3: Primary Prevention: Preventative Vaccines for Cervical Cancer

- Study the types of preventative vaccines for HPV and their differences
- Analyze the immunogenicity, efficacy and effectiveness of each vaccine
- Study the effect of preventative vaccines in special populations such as those with AIDS and immunosuppressed people
- Study the affects of vaccines in situations not represented in the initial clinical trials, such as elderly, women who have undergone conization and in males

#### Module 4: Therapeutic Vaccines for Cervical Cancer (Dr. José A. Vidart)

- Understand the biological effect and purpose of therapeutic vaccines
- Analyze the "target" viral points which serve as a bullseye for vaccines
- Learn how to design vaccine treatment and which types of vaccines are being tested
- Analyze phase II vaccines against low and high grade lesions
- · Analyze the effect of immunotherapy against cervical cancer
- Have a vision of the future of HPV infections and their possible solutions using the immune system





## Management



## Coronando Martín, Pluvio

- Director of the José Botella Llusiá Women's Health Clinic of San Carlos Clinical Hospital in Madrid
- Associate Professor at the Faculty of Medicine of the Complutense University of Madrid.
- Academic Correspondent of the Royal Academy of Medicine of Spain.



## Serrano Cogollor, Luis

• HM Gabinete Velázguez. HM Hospitals.





## **Teaching Staff**

Dr. Ballesteros, Juan

Dr. Bellón del Amo, Mónica

Dr. De la Fuente, Jesús

Dr. De Santiago, Javier

Dr. Gallego, Inmaculada

Dr. García Santos, Javier

Dr. Hernández Aguado, Juan José

Dr. Ruipérez

Dr. Ramirez, Mar

Dr. Sendagorta, Elena

Dr. Serrano, Luis

Dr. Vidart, José A.





## tech 18 | Structure and Content

#### Module 1. The Human Papillomavirus: Characteristics and Epidemiology

- 1.1. Structure and Composition of HPV
  - 1.1.1. General Description
  - 1.1.2. Capsid
  - 1.1.3. Genome
- 1.2. Genetic Map of HPV and its Biological Functions
  - 1.2.1. Long Control Region
  - 1.2.2. Early Gene Expression
  - 1.2.3. Late Gene Expression
  - 1.2.4. Replicative Cycle
- 1.3. Genotypes and their Clinical Importance
  - 1.3.1. Concept of High and Low Risk
  - 1.3.2. Low Risk Genotypes
  - 1.3.3. High Risk Genotypes
  - 1.3.4. Geographic Variations
- 1.4. HPV Detection Techniques
  - 1.4.1. HPV Detection Techniques
  - 1.4.2. DNA-VPH Detection Technique with Hybrid Capture
  - 1.4.3. DNA-VPH Detection Technique with Partial Genotyping
  - 1.4.4. DNA-VPH Detection Technique with Complete Genotyping
  - 1.4.5. RNA Detection Techniques
  - 1.4.6. FDA Validation for Screening and Diagnosis
- 1.5. Distribution of Genotypes in the World and in Our Environment
  - 1.5.1. Epidemiology in Relation to the Burden of Disease
  - 1.5.2. Geographic Variations
  - 1.5.3. Genotype Distribution in Spain
- 1.6. Prevalence According to Age
  - 1.6.1. In Women
  - 1.6.2. In Men
- 1.7. Disease Burden of HPV
  - 1.7.1. Pathology Associated with Genital Infection in Women (cervix, vagina, vulva.)
  - 1.7.2. Pathology Associated with Genital Infection in Men (scrotum, penis and glans)

- 1.7.3. Pathology Associated with Anal Infection
- 1.7.4. Pathology Associated with Oropharynx Infection
- 1.7.5. Pathology Associated with Other Areas

# **Module 2.** Pathogenesis of HPV and Immune Response: Intraepithelial neoplasia.

- 2.1. Infection Routes
  - 2.1.1. Sexual Contact
  - 2.1.2. Objects
  - 2.1.3. In the Medical Consultation
  - 2.1.4. Role of Condoms
  - 2.1.5. Vertical Transmission
  - 2.1.6. Protection of Surgeons During Vaporization
- 2.2. Effect on the Immune System on HPV
  - 2.2.1. Innate Immunity and Adaptive Immunity
  - 2.2.2. General and Local Antibody Response
  - 2.2.3. Inhibition of the Immune Response
  - 2.2.4. Cellular Immunity Against the Lesion
  - 2.2.5. Immunosenescence
- 2.3. Viral Production and Genome Integration
  - 2.3.1. Difference Between High and Low Risk Viruses
  - 2.3.2. Early and Late Gene Expression
  - 2.3.3. Viral Persistence and Ouiescence
  - 2.3.4. Viral Clearance According to Age and Genotype
- 2.4. Role of Vaginal Microbiota
  - 2.4.1. Definition of the Status Types of Bacteria Communities
  - 2.4.2. Relationship Between Lesions and Different Types of Status
  - 2.4.3. Role of Lactobacilli on Immunity
- 2.5. Development of Cervical Intraepithelial Neoplasia and Genital Warts
  - 2.5.1. Dysregulation of Cellular Mechanisms by Viral Proteins
  - 2.5.2. Progression
  - 2.5.3. Regression
  - 2.5.4. Relapse

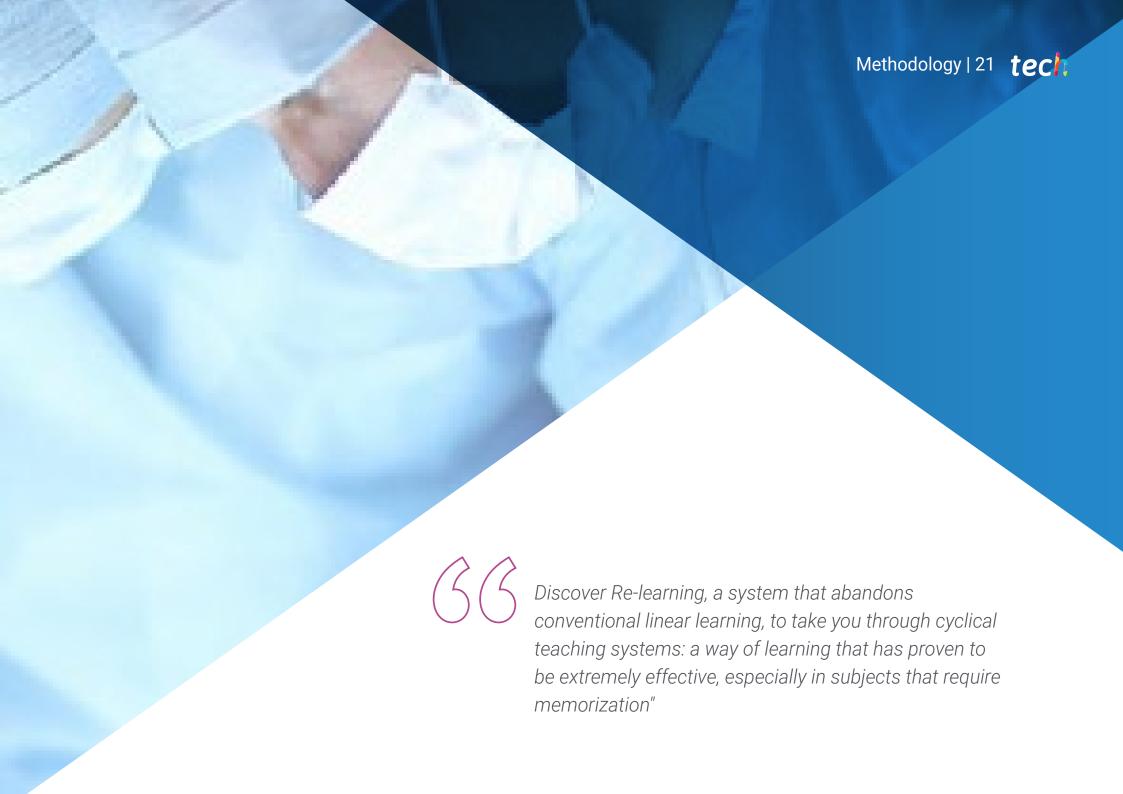
#### Module 3. Primary Prevention: Preventative Vaccines for Cervical Cancer

- 3.1. Characteristics of Available Vaccines
  - 3.1.1. Divalent Vaccine
  - 3.1.2. Tetravalent Vaccine
  - 3.1.3. Nonavalent Vaccine
  - 3.1.4. New Vaccines
- 3.2. Immunogenicity
  - 3.2.1. Seroconversion and Antibody Level
  - 3.2.2. Correlation Between Antibody Level and Efficacy
  - 3.2.3. Differences Between the Available Vaccines and Possible Relevance
  - 3.2.4. Estimation of the Protection Duration
- 3.3. Vaccine Efficacy and Effectiveness
  - 3.3.1. Long-term Efficacy Studies
  - 3.3.2 Medium-term Effectiveness Studies
- 3.4. Immunization in Special Groups
  - 3.4.1 HIV+ Patients
  - 3.4.2. Transplant Patients
  - 3.4.3. Immunosuppressed Patients
  - 344 Men
  - 3.4.5. Patients with HPV Lesions and/ or Treated Patients
- 3.5. Safety of the Vaccine Against HPV
  - 3.5.1. Safety Profile
  - 3.5.2. Most Frequent Adverse Events
  - 3.5.3. Pharmacovigilance
- 3.6. Current Status of Vaccination in the World and in Spain
  - 3.6.1. Worlwide Vaccine Coverage
  - 3.6.2. Spain Vaccine Coverage
  - 3.6.3. Perspectives of Erradicating the Burden of Disease

#### Module 4. Therapeutic Vaccines for Cervical Cancer

- 4.1. Biological Basis of Therapeutic Vaccines
  - 4.1.1. Concept of Therapeutic Vaccines
  - 4.1.2. Cytotoxicity Analysis of the Immune System
  - 4.1.3. Target Antigens
- 4.2. Types of Therapeutic Vaccines
  - 4.2.1. Based on Proteins and Peptides
  - 4.2.2. Based on DNA
  - 4.2.3. Based on Nanoparticles
  - 4.2.4. Based on Cells
    - 4.2.4.1. Activated Dendritic Cells
    - 4.2.4.2. Processed Tumor Cells
  - 4.2.5. Based on Bacterial Vectors and Living Viruses
- 4.3. Vaccines Against Low Grade Lesions
  - 4.3.1. Design of Vaccine Against ASUS-LSIL
  - 4.3.2. Clinical Trials and Results
  - 4.3.3. Safety
- 4.4. Vaccines Against High Grade Lesions
  - 4.4.1. Design of Vaccine Against ASUS-LSIL
  - 4.4.2. Clinical Trials and Results
- 4.5. Vaccines Against Cancer
  - 4.5.1. Design of Vaccine Against ASUS-LSIL
  - 4.5.2 Clinical Trials and Results
  - 4.5.3. Immunotherapy
- 4.6. Safety of Therpaeutic Vaccines
  - 4.6.1. Safety Profile
  - 4.6.2. Most Frequent Adverse Events
  - 4.6.3. Vaccine Failure
- 4.7. Future of Therpaeutic Vaccines
  - 4.7.1. New Models
  - 4.7.2. New Target Antigens
  - 4.7.3. Other Ways of Stimulating the Immune System Against HPV





# tech 22 | Methodology

#### At TECH we use the Case Method

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you can 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 potential 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:

- Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
- 2. The learning process has a clear focus on 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.



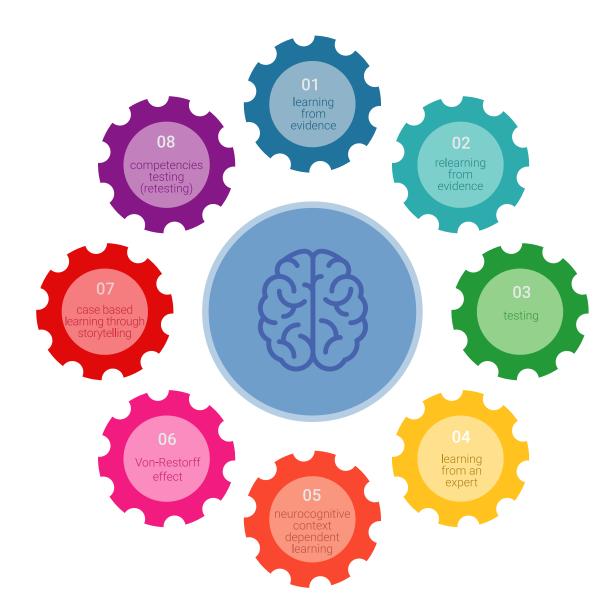
# tech 24 | Methodology

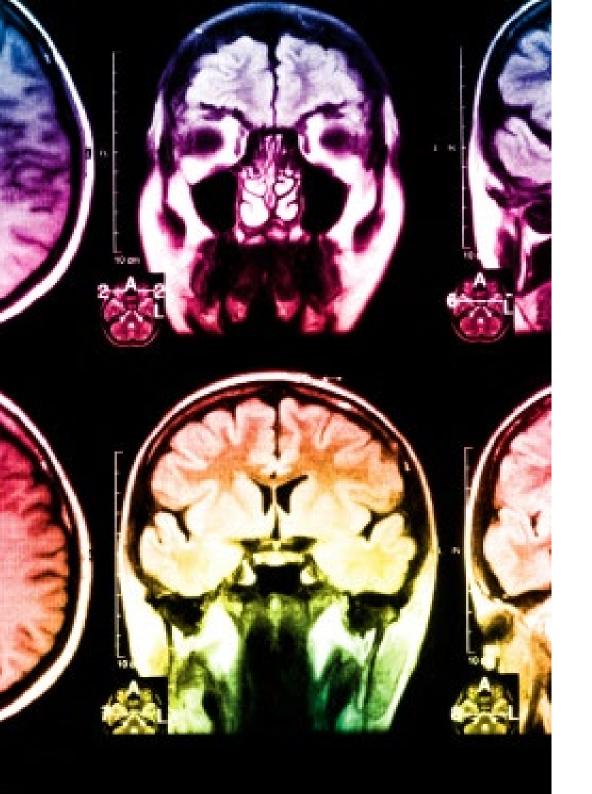
### **Re-Learning Methodology**

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

The physician will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-theart software to facilitate immersive learning.





## Methodology | 25 tech

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

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning will allow you to learn with less effort and better performance, involving you more in your training, 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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

In this program you will have access to the best educational material, prepared with you in mind:



#### **Study Material**

All the teaching materials are specifically created for the course by specialists who teach on the course so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### **Latest Techniques and Procedures on Video**

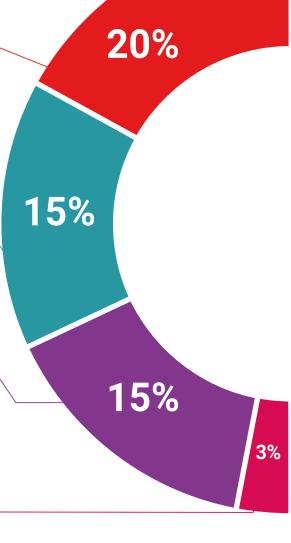
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **Interactive Summaries**

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

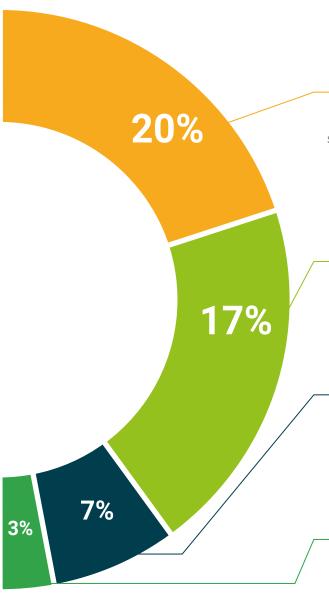
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".





#### **Additional Reading**

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.



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

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### **Testing & Re-Testing**

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.





#### **Quick Action Guides**

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.







# tech 30 | Certificate

This **Postgraduate Diploma in HPV and Primary Prevention** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Diploma** issued by **TECH Technological University** via tracked delivery.

Title: Postgraduate Diploma in HPV and Primary Prevention

ECTS: **16** 

Official Number of Hours: 400 hours



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



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**HPV** and Primary Prevention

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