

Postgraduate Diploma

Pathophysiology, Etiopathogenesis and Epidemiology of Obesity



Postgraduate Diploma

Pathophysiology, Etiopathogenesis and Epidemiology of Obesity

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-pathophysiology-etopathogenesis-epidemiology-obesity

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01

Introduction

In recent years there has been an exponential growth in the prevalence of obesity worldwide, both in the adult population and in children. This course will provide an in-depth study of the pathophysiology, etiopathogenesis and epidemiology of obesity by prestigious professionals.



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*Improve the quality of care for your patients
with this innovative training in Obesity”*

Obesity, the true epidemic of the 21st century until the arrival of COVID-19, represents a major global health problem. The WHO estimates that it could affect 650 million people worldwide, with a mortality rate of some 2.8 million people each year.

It is a heterogeneous syndrome whose pathophysiology and etiopathogenesis (genetics, epigenetics, new hormonal control mechanisms, nutrigenomics, microbiomics, etc.) are continuously advancing. These advances are allowing us to better understand the factors that affect the processes involved in energy homeostasis and in the development of obesity.

Obesity is a permanent focus of concern due to the ever increasing number of cases and the related comorbidities. These lead to a significant increase in death, especially from cardiovascular illnesses and cancer. Furthermore, the various medical and surgical treatments available and the exponential increase in health care costs related to obesity also makes it a focus of attention.

With this in mind, preventing obesity is essential. Through the use of a multidisciplinary approach, the aim is to implement lifestyle changes, especially physical activity and dietary patterns, and should be introduced as early on in the process as possible.

Professionals must know how to correctly diagnose obesity and its complications and propose appropriate treatment strategies and its complications and propose appropriate treatment strategies in the three fundamental areas of action: nutrition, physical exercise and attitudes towards food to which we must add, in patients in whom it is indicated, drugs and bariatric surgery.

In the last decade, there have been enormous advances in the understanding of obesity. This has brought Precision Medicine to the forefront of treatment, requiring the professional to be adequately prepared to provide new therapeutic responses. The enormous development of new technologies such as health apps, brought about by COVID-19, allows patient empowerment and decision support.

The **Postgraduate Diploma in Pathophysiology, Etiopathogenesis and Epidemiology of Obesity** contains the scientific most complete and up-to-date educational program on the market. The most important features of the program include:

- ◆ Practical cases presented by experts in Obesity
- ◆ The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ The latest information on Obesity
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ A special emphasis on innovative methodologies in Obesity
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work
- ◆ Content that is accessible from any fixed or portable device with an internet connection



This training is the best option you can find to specialize in Pathophysiology, Etiopathogenesis and Epidemiology of Obesity”

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This Postgraduate Diploma is the best investment you can make when choosing a gain program for two reasons: in addition to updating your knowledge in Obesity, you will obtain a degree endorsed by TECH Global University"

Its teaching staff includes professionals belonging to the field of psychology, who bring to this training the experience of their work, in addition to recognized specialists from prestigious reference societies and 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 immersive training programmed to train in real situations.

This program is designed around Problem Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the Postgraduate Diploma. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in Obesity with extensive medical experience.

Step up and join the team. You will find the best educational material to enhance your studies.

This 100% online Postgraduate Diploma will allow you to combine your studies with your professional work while increasing your knowledge in this field.



02

Objectives

The Postgraduate Diploma in Pathophysiology, Etiopathogenesis and Epidemiology of Obesity is aimed at facilitating the medical professional's performance , with the latest advances and most innovative treatments in the sector.





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This is your opportunity to learn about the latest treatments in Obesity”



General Objectives

- ◆ Update the physician's knowledge on new trends in human nutrition in both health and pathological situations through evidencebased medicine
- ◆ Promote work strategies based on the practical knowledge of the new trends in nutrition and its application to child and adult pathologies, where nutrition plays a fundamental role in treatment
- ◆ Encourage the acquisition of technical skills and abilities, through a powerful audiovisual system, and the possibility of development through online simulation workshops and/or specific training
- ◆ Encourage professional stimulation through continuous education and research



Take advantage of the opportunity and take the step to get up-to-date on the latest developments in Obesity Studies"





Specific Objectives

Module 1. Physiology of Appetite and Weight Control Pathophysiology

- ◆ Gain a deeper understanding of the basic principles of energy balance
- ◆ Acquire skills in the calculation of the energy balance
- ◆ Analyze the different methods for assessing nutritional status
- ◆ Review new pathways (hormonal, metabolic, etc. regulate neuroendocrine function, energy homeostasis and metabolism in humans
- ◆ Analyze the subcutaneous adipose tissue and the role of dysfunctional adipose tissue in the development of obesity
- ◆ Explain the role of the intestinal microbiota and its implications in diseases
- ◆ Revise the basis of a balanced diet

Module 2. Etiopathogenesis of Obesity

- ◆ Understand in depth the genetic factors affecting monogenic and polygenic obesity
- ◆ Gain understanding of how epigenetics may influence the development of obesity
- ◆ List the different causes of secondary obesity in relation to endocrinopathies and drugs
- ◆ Analyze the advances in nutritional genomics both in nutrigenetics as well as in nutrigenomics
- ◆ Identify the relationship between environmental factors and the development of obesity
- ◆ Revise and gain understanding of the different endocrine disruptors and their role as obesogenic agents
- ◆ Explain the connection between obesity and economic status
- ◆ Study how changes in the circadian rhythm influence the expression of enzymes and hormones involved in metabolism
- ◆ Revise the risk of loss of muscle mass and the subsequent development of sarcopenia in relation to obesity

Module 3. History Definition. Diagnosis and Classification Epidemiology

- ◆ Gain an in-depth understanding of obesity as a clinical condition and its historical evolution.
- ◆ Interpret and integrate anthropometric data
- ◆ Understand and be capable of interpreting the impact-based obesity classifications (ABCD) and the Edmonton system
- ◆ Understand the epidemiology of childhood obesity, adult obesity and the complications associated with it
- ◆ Identify that this is more like a clinical syndrome that requires an exhaustive phenotypic characterization
- ◆ Correctly evaluate a patient with obesity throughout different periods of their life
- ◆ Interpret the existence of the so-called metabolically healthy obese

03

Course Management

The program's teaching staff includes leading experts in Obesity who contribute their vast work experience to this training program. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.





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Leading professionals in the field have come together to teach you the latest advances in Obesity”

Management



Dr. Puigdevall Gallego, Víctor

- ♦ Doctor of Medicine and Surgery
- ♦ Specialist in Endocrinology and Nutrition
- ♦ Soria Hospital Complex
- ♦ Associate Professor in Valladolid University (academic courses 2005-2021)

Professors

Dr. Laudo Pardo, Consuelo

- ♦ Doctor of Medicine and Surgery
- ♦ Specialist in Family and Community Medicine
- ♦ Full-time Associate Professor and Assistant Professor at the University of Valladolid (academic years 1989-2016)

Ms. Serrano Valles, Cristina

- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Endocrinology and Nutrition
- ♦ Clinical University Hospital of Valladolid



04

Structure and Content

The structure of the content has been designed by leading professionals in the Obesity Sector, with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied, and diagnosed, and with extensive knowledge of new technologies applied to anesthesiology.





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This Postgraduate Diploma contains the most complete and up-to-date scientific program on the market”

Module 1. Physiology of Appetite and Weight Control Pathophysiology

- 1.1. Energy Balance
- 1.2. Adequate Energy Intake: Estimation of Energy Expenditure
 - 1.2.1. Basal Metabolism
 - 1.2.2. Voluntary and Involuntary Physical Activity
 - 1.2.3. Total Energy Expenditure
- 1.3. Nutritional Assessment
 - 1.3.1. Dietary Survey
- 1.4. Gastrointestinal Hormones in the Regulation of Body Weight
 - 1.4.1. Ghrelin
 - 1.4.2. Obestatin
 - 1.4.3. Cholecystokinin
 - 1.4.4. GLP-1 and others
- 1.5. Leptin in Body Weight Regulation
- 1.6. Metabolic Signals and Weight Control
 - 1.6.1. Blood Sugar Levels
 - 1.6.2. Fats
- 1.7. Hypothalamic Control of Food Intake
- 1.8. Adipose Tissue as an Endocrine Organ
 - 1.8.1. Adipogenesis
 - 1.8.2. Function of Fat Cells in Obesity
- 1.9. Gut Microbiota and its Influence on the Development of Obesity
- 1.10. Healthy Nutrition



This training will allow you to advance in your career in a seamless way”





Module 2. Etiopathogenesis of Obesity

- 2.1. Genetic Factors in Obesity
 - 2.1.1. Monogenic Obesity
 - 2.1.2. Polygenic Obesity
- 2.2. Epigenetics of Obesity
- 2.3. Secondary Obesity
 - 2.3.1. Endocrinopathy
 - 2.3.2. Drugs
- 2.4. Nutritional Genomics
 - 2.4.1. Nutrigenetics
 - 2.4.2. Nutrigenomics
- 2.5. Environmental Factors and Obesity (i): Changes in Eating Pattern
- 2.6. Environmental Factors and Obesity (ii): Changes in Physical Activity
- 2.7. Endocrine Disruptors: Obesogens
- 2.8. Socioeconomic Status and Obesity. Environment and Obesity
- 2.9. Chronodisruption and Obesity
- 2.10. Sarcopenic Obesity

Module 3. History Definition. Diagnosis and Classification Epidemiology

- 3.1. Definition. Obesity Through Time
- 3.2. Microbiological
 - 3.2.1. Body Mass Index
 - 3.2.2. Waist Circumference
 - 3.2.3. Body Composition
- 3.3. Classification Based on Impact of Disease
 - 3.3.1. ABCD
 - 3.3.2. *Edmonton Obesity Staging System*
- 3.4. Epidemiology of Childhood Obesity
- 3.5. Epidemiology of Adult Obesity
- 3.6. Phenotypic Characterization of Obese Patients
 - 3.6.1. Body composition
 - 3.6.2. Energy Expenditure
 - 3.6.3. Associated Comorbidities
 - 3.6.4. Compulsive Score
- 3.7. Epidemiology of the Complications
- 3.8. Obesity in Different Stages of Life
- 3.9. Metabolically Healthy Obese People
- 3.10. New Technologies in the Treatment of Obesity

05 Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: *Re-learning*.

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 Re-learning, 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.

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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.



Re-learning Methodology

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

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 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 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.

Re-learning 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 multimedia content presentation training Exclusive system 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 your goals.



Classes

There is scientific evidence on the usefulness of learning by observing experts: The system termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.



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.



06 Certificate

The Postgraduate Diploma in Pathophysiology, Etiopathogenesis and Epidemiology of Obesity guarantees, in addition to the most rigorous and updated training, access to a Postgraduate Diploma issued by TECH Global University.



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*Successfully complete this training
and receive your diploma without
travel or laborious paperwork”*

This program will allow you to obtain your **Postgraduate Diploma in Pathophysiology, Etiopathogenesis and Epidemiology of Obesity** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Postgraduate Diploma in Pathophysiology, Etiopathogenesis and Epidemiology of Obesity**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**



*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.

health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge presentation
online development languages
virtual classroom



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