

# Postgraduate Diploma

## Microbiota in Neonatology and Pediatrics for Nutritionists





## Postgraduate Diploma

### Microbiota in Neonatology and Pediatrics for Nutritionists

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

Website: [www.techtute.com/us/nutrition/postgraduate-diploma/postgraduate-diploma-microbiota-neonatology-pediatrics-nutritionists](http://www.techtute.com/us/nutrition/postgraduate-diploma/postgraduate-diploma-microbiota-neonatology-pediatrics-nutritionists)

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# 01

# Introduction

Scientific research in the field of microbiota has been booming in recent decades, aimed both at the study of its characteristics and its impact on our health. The study of human microbiota opens the door to the knowledge of multiple diseases, especially the so-called functional diseases, with the microbiome being researchers' main workhorse. Aware of this, TECH professionals have designed this Postgraduate Diploma that aims to train nutritionists to be able to understand the functioning of the Microbiome in Neonates and Pediatric patients. All this will make them much more competent professionals, prepared to design food plans much more adapted to the needs of these groups.



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*The study of the human Microbiota of pediatric patients increases the competencies of nutritionists, enabling them to practice with patients of different ages"*

Numerous pieces of scientific evidence have implicated the intestinal microbiome and its metabolic potential in various pathological conditions in recent years, giving rise to new therapeutic strategies to control and regulate this ecosystem. The study of this ecosystem is a field that is rapidly advancing scientifically, and it is universally accepted that to achieve an adequate state of health it is also necessary to have a "healthy" Microbiota.

Our microbiota undergoes changes as a consequence of the influence of multiple factors, diet, lifestyle, pharmacological treatments.... generating alterations in this bacterial ecosystem and the abnormal interaction that the organism could have with it, is related to certain processes: allergic, acute and chronic intestinal diseases, obesity and metabolic syndrome, neurological diseases, dermatitis and other alterations in the dermis, and even some types of cancer.

In this sense, this Postgraduate Diploma in Microbiota in Neonatology and Pediatrics for Nutritionists, gives the ease of access to information and the interest aroused among the general population on issues related to the Microbiota, its Eubiosis and Dysbiosis, problems related to them, Probiotics and Prebiotics with the growing market launch of new products with very specific strains for very specific problems and diseases ... etc..

All this makes it necessary for nutrition professionals to be up to date with all the scientific advances in this regard, in order to offer pediatric patients a diet adapted to their needs, guiding them to recover and maintain this bacterial Eubiosis to recover a good state of health, in addition to collaborating in a positive way with the recommended medical treatment.

This **Postgraduate Diploma in Microbiota in Neonatology and Pediatrics for Nutritionists** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- Development of practical cases presented by experts in Microbiota in Neonatology and Pediatrics. 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.
- New developments on Microbiota in Neonatology and Pediatrics.
- It contains practical exercises where the self-evaluation process can be carried out to improve learning.
- Special emphasis on innovative methodologies in Microbiota in Neonatology and Pediatrics.
- All this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- Content that is accessible from any fixed or portable device with an Internet connection.

“*Improve your knowledge in Human Microbiota in children and adolescents through this program, where you will find the best didactic material with real cases*”

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*This Postgraduate Diploma is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Microbiota in Neonatology and Pediatrics, you will obtain a certificate from one of the most reputable educational institutions: TECH”*

The program includes, in its teaching staff, professionals from the fields of medicine and nursing, who bring to this training the experience of their work, as well as 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 academic year. The professional will be assisted by an innovative interactive video system created by renowned and experienced experts in sports nutrition.

*The Postgraduate Diploma allows you to exercise through simulated environments, which provide immersive learning programmed to train for real situations.*

*This 100% online course will allow you to combine your studies with your professional work while expanding your knowledge in this field.*



# 02 Objectives

The main objective of the program is the development of theoretical and practical learning, so that the professional can master in a practical and rigorous way the study of Microbiotics in the daily practice of your profession. In this sense, the Postgraduate Diploma in Microbiota in Neonatology and Pediatrics for Nutritionists responds to the continuous demand of professionals for quality training in this area, which serves as a means to adapt food plans according to the needs of pediatric patients, thus guiding them to maintain or recover their health.





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*This Postgraduate Diploma is designed for you to update your knowledge in Microbiota in Neonatology and Pediatrics, with the use of the latest educational technology, to contribute with quality and safety to decision making in this new field"*



## General Objective

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- This Postgraduate Diploma meets a need of today's society, a quality and up-to-date training that allows the use of microbiological therapy as a preventive or therapeutic tool for the maintenance of health.
- Offer a comprehensive and broad view of the current state of the field of human Microbiota, in its broadest sense, the importance of the balance of this Microbiota as a direct effect on our health, with the multiple factors that influence it positively and negatively.
- Argue with the backing of scientific evidence how the Microbiota and its interaction with many non-digestive, autoimmune pathologies or its relationship with the dysregulation of the immune system, the prevention of diseases, and as a support to other medical treatments is currently being given a high degree of importance.
- Promote work strategies based on the integral approach of the patient as a reference model, not only focusing on the symptomatology of the specific pathology, but also looking at its interaction with the Microbiota and how it may be influencing it.
- Encourage professional stimulation through ongoing education and research.





## Specific Objectives

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- Know the relationship between the Microbiota and the Microbiome and their most accurate definitions.
  - Understand in depth the concepts of symbiosis, commensalism, mutualism and parasitism.
  - Delve into the different types of Human Microbiota and know their generalities.
  - Delve into the aspects that trigger the balance and imbalance of the Microbiota.
  - Know the mother-infant Symbiosis.
  - Understand the factors influencing the Intestinal Microbiota of the mother in the gestational stage and at the time of delivery.
  - Understand the influence of the type of delivery on the Microbiota of the neonatal.
  - Understand the influence of the type of breastfeeding on the infant's Microbiota.
  - Know the clinical applications of Probiotics and Prebiotics in the pediatric patient.
  - Understand the Influence of Antibiotic and other Psychotropic treatment on the Infant's Microbiota.
  - Delve into the current lines of research on the subject.
  - Delve into Probiotics, their definition, history and mechanisms of action.
  - Delve into Prebiotics, their definition, types of prebiotics and mechanisms of action.
  - Know the clinical applications of probiotics and prebiotics in Gastroenterology.
  - Know the Clinical Applications of Endocrinology and Cardiovascular Disorders.
  - Understand the clinical applications of probiotics and prebiotics in Urology.
  - Understand the clinical applications of probiotics and prebiotics in Gynecology.
  - Know the clinical applications of Probiotics and prebiotics in Immunology: Autoimmunity, Pneumology, Dermatology, Vaccines.
- Know the clinical applications of probiotics and prebiotics in nutritional diseases. Know the clinical applications of probiotics and prebiotics in neurological diseases, mental health and elderly.
  - Understand the clinical applications of Probiotics and Prebiotics in critically ill cancer patients.
  - Understand the use of dairy products as a natural source of Probiotics and Prebiotics.
  - Delve into the safety and legislation in the use of Probiotics.

# 04

# Course Management

The program's teaching staff includes leading specialists in Human Microbiota and other related areas, who bring their years of work experience to this training program. In addition, other specialists of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary manner. All this, with the aim of providing nutritionists with the most complete information and contents of the educational panorama so that they can practice their profession with greater guarantees of success and care for Neonates and Pediatric patients with a deeper knowledge of the functioning of their Microbiota.



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*Learn from reference professionals, the latest advances in procedures in the field of Microbiotics in Neonates and Pediatric patients"*

## International Guest Director

Dr. Harry Sokol is internationally recognized in the field of Gastroenterology for his research on the gut microbiota. With more than 2 decades of experience, he has established himself as a true scientific authority thanks to his numerous studies on the role of microorganisms in the human body and their impact on chronic inflammatory bowel diseases. In particular, his work has revolutionized medical understanding of this organ, often referred to as the “second brain.”

Among Dr. Sokol’s contributions, he and his team have opened a new line of advances on the bacterium *Faecalibacterium prausnitzii*. In turn, these studies have led to crucial discoveries about its anti-inflammatory effects, opening the door to revolutionary treatments.

In addition, the expert is distinguished by his commitment to the dissemination of knowledge, whether by teaching academic programs at the Sorbonne University or by publishing works such as the comic book *The Extraordinary Powers of the Belly*. His scientific publications appear continuously in world-renowned journals and he is invited to specialized congresses. At the same time, he carries out his clinical work at the Saint-Antoine Hospital (AP-HP/University Hospital Federation IMPEC/Sorbonne University), one of the most renowned hospitals in Europe.

On the other hand, Dr. Sokol began his medical studies at Paris Cité University, showing early on a strong interest in health research. A chance meeting with the eminent Professor Philippe Marteau led him to Gastroenterology and the enigmas of the Intestinal Microbiota. Throughout his career, he also broadened his horizons by training in the United States, at Harvard University, where he shared experiences with leading scientists. Upon his return to France, he founded his own team where he researches on Fecal Transplantation, offering state-of-the-art therapeutic innovations.



## Dr. Sokol, Harry

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- Director of Microbiota, Gut and Inflammation at Sorbonne University, Paris, France
- Specialist Physician at the Gastroenterology Department of the Saint-Antoine Hospital (AP-HP), Paris, France
- Group Leader at the Institut Micalis (INRA)
- Coordinator of the Center of Microbiome Medicine of Paris FHU
- Founder of the pharmaceutical company Exeliom Biosciences (Nextbiotix)
- President of the Fecal Microbiota Transplantation Group
- Medical Specialist in different hospitals in Paris
- Doctorate in Microbiology at the Université Paris-Sud
- Postdoctoral Fellowship at the Massachusetts General Hospital, Harvard University Medical School
- Degree in Medicine, Hepatology and Gastroenterology at Université Paris Cité

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

## Management



### Dr. Fernández Montalvo, Mª Ángeles

- Degree in Biochemistry from the University of Valencia.
- Specialist Degree in Nutrition, Dietetics and Diet Therapy.
- Expert in Microbiological Food Analysis.
- Expert in Nutrition, Food, and Cancer. Prevention and Treatment.
- Expert in Vegetarian, Clinical and Sports Nutrition.
- Specialist in food intolerances and the study of the intestinal Microbiota.
- Numerous courses on Intestinal Microbiota, methods of analysis and applications.
- Diploma in Natural and Orthomolecular Medicine.
- Expert in the current use of Nutricosmetics and Nutraceuticals in general.
- Expert in point-of-sale management in Pharmacies and Parapharmacies.
- Member of the Spanish Society of Probiotics and Prebiotics (SEPyP).
- Member of the Spanish Society of Dietetics (SEDCA)
- Member of the Spanish Society of Nutrition (SEÑ).



## Professors

### **Dr. Lombó Burgos, Felipe**

- ♦ Doctor in Biology from the University of Oviedo.
- ♦ Professor at the university.

### **Dr. López López, Aranzazu**

- ♦ Ph.D. in Biological Sciences
- ♦ Researcher in oral microbiology at FISABIO foundation.
- ♦ Public Health Research Center of Valencia.

### **Dr. Méndez García, Celia**

- ♦ PhD in Microbiology from the University of Oviedo
- ♦ Research at Novartis Laboratories (Boston)

### **Dr. Gonzalez Rodríguez, Silvia P**

- ♦ PhD in Medicine and Surgery from the University of Alcalá de Henares. Gynecology Specialist.
- ♦ Medical Subdirector, Research Coordinator and Clinical Chief of the Menopause and Osteoporosis Unit at the Velázquez Medical Cabinet (Madrid).

### **Dr. Álvarez García, Verónica**

- ♦ Degree in Medicine.
- ♦ Digestive system specialist at the Central Hospital of Asturias (HUCA).

### **Dr. Solís Sánchez, Gonzalo**

- ♦ Neonatologist of the Central University Hospital of Asturias (HUCA).
- ♦ Researcher, Associate Professor of the University of Oviedo.

### **Dr. Suárez Rodríguez, Marta**

- ♦ Neonatologist of the Central University Hospital of Asturias (HUCA).
- ♦ Researcher and Professor of the Master's Degree in Early Care and the Master's Degree in Critical Care Nutrition at the University of Oviedo and other training courses.

### **Dr. Díaz Martín, Juan José**

- ♦ Pediatric gastroenterologist at the Central Hospital of Asturias (HUCA).
- ♦ Member of the Spanish Society of Pediatric Gastroenterology, Hepatology and Nutrition.
- ♦ Associate Professor of Pediatrics at the University of Oviedo

### **Dr. Fernández Madera, Juan José**

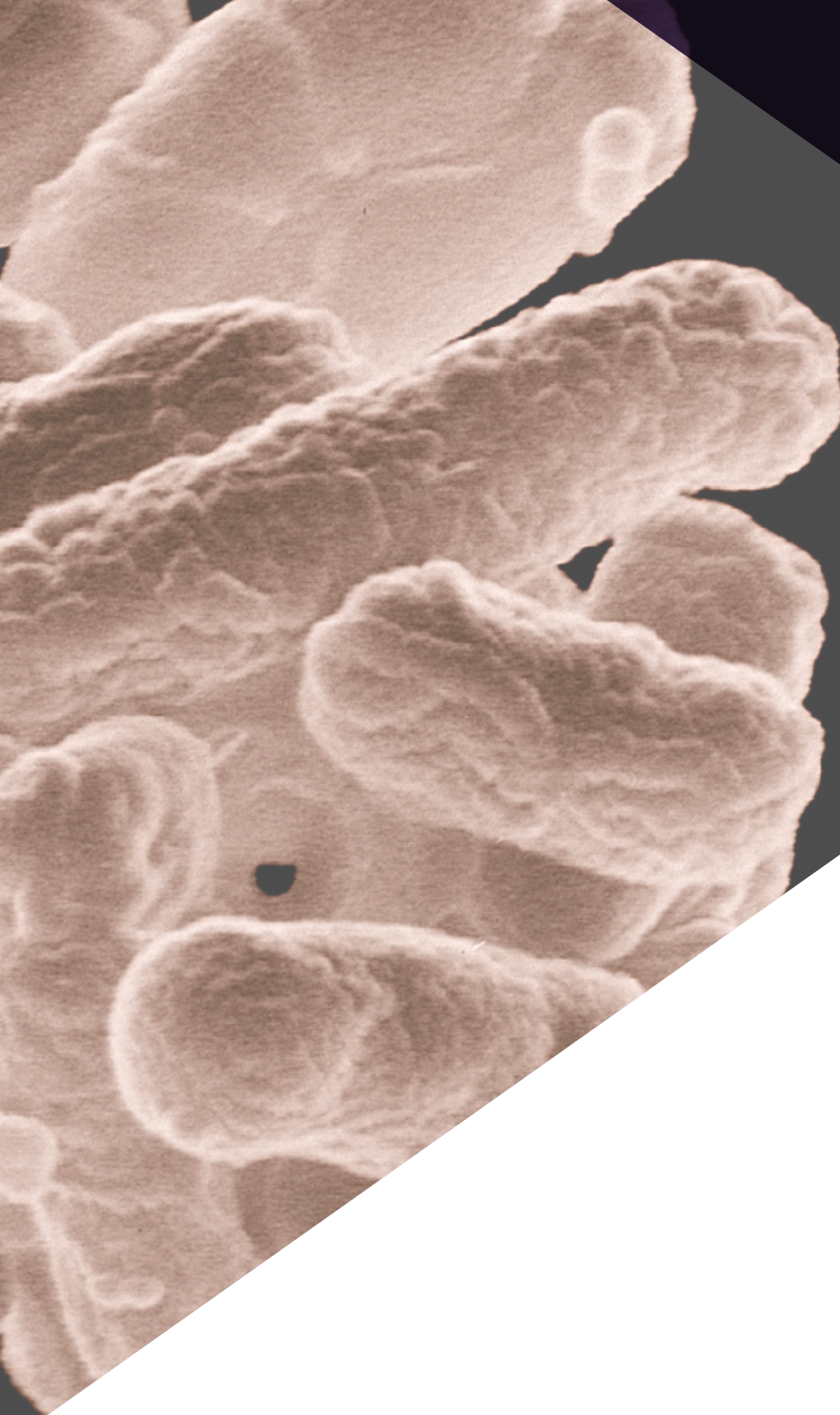
- ♦ Degree in Medicine.
- ♦ Specialist in Allergology and Clinical Immunology.
- ♦ Specialist in Sports Medicine.

05

# Structure and Content

The structure of the contents has been designed by a team of professionals from the best hospitals and universities in the country, aware of the relevance of current training to prevent, detect and intervene in those pathologies related to alterations in the human Microbiota, and committed to quality teaching through new educational technologies. All this, with the objective of training nutritionists much more competent and prepared to design food plans that help and favor the microbiome of pediatric patients.





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*This Postgraduate Diploma in Microbiota in Neonatology and Pediatrics for Nutritionists contains the most complete and up-to-date scientific program on the market”*

## Module 1. Microbiota. Microbiome. Metagenomics

- 1.1. Definition and Relationship between Them.
- 1.2. Composition of the Microbiota: Genera, Species, and Strains.
  - 1.2.1. Characteristics and Main Functions.
  - 1.2.2. Groups of Microorganisms that Interact with Humans: Bacteria, Fungi, Viruses, and Protozoa.
  - 1.2.3. Key Concepts; symbiosis, Commensalism, Mutualism, Parasitism.
  - 1.2.4. Autochthonous Microbiota.
- 1.3. Different Human Microbiota. General Overview of Eubiosis and Dysbiosis.
  - 1.3.1. Gastrointestinal Microbiota.
  - 1.3.2. Oral Microbiota.
  - 1.3.3. Skin Microbiota.
  - 1.3.4. Respiratory Tract Microbiota.
  - 1.3.5. Urinary Tract Microbiota.
  - 1.3.6. Reproductive System Microbiota.
- 1.4. Factors that Influence Microbiota Balance and Imbalance.
  - 1.4.1. Diet and Lifestyle. Gut-Brain Axis.
  - 1.4.2. Antibiotic Therapy.
  - 1.4.3. Epigenetic-Microbiota Interaction. Endocrine Disruptors.
  - 1.4.4. Probiotics, Prebiotics, Symbiotics. Concepts and Overviews.
  - 1.4.5. Fecal Transplant and Latest Advances.

## Module 2. Microbiota in Neonatology and Pediatrics for Nutritionists

- 2.1. Mother-Child Symbiosis.
- 2.2. Influencing Factors on the Gut Microbiota of the Mother during Pregnancy and during Birth. Influence of the Type of Delivery on the Microbiota of the Newborn.
- 2.3. Type and Duration of Breastfeeding, Influence on the Baby's Microbiota.
  - 2.3.1. Breast Milk: Composition of the Breast Milk Microbiota. Importance of Breastfeeding in the Newborn's Microbiota.
  - 2.3.2. Artificial Breastfeeding. Use of Probiotics and Prebiotics in Infant Milk Formulas.



- 2.4. Clinical Applications of Probiotics and Prebiotics in Pediatric Patients.
  - 2.4.1. Digestive Diseases: Functional Digestive Disorders, Diarrhea, Necrotizing Enterocolitis. Intolerances.
  - 2.4.2. Non-Digestive Diseases: Respiratory and ENT, Atopic Diseases, Metabolic Diseases. Allergies.
- 2.5. Influence of Antibiotic and other Psychotropic Treatment on the Microbiota of the Infant.
- 2.6. Current Lines of Research.

### Module 3. Probiotics, Prebiotics, Microbiota, and Health

- 3.1. Probiotics: Definition, History, Mechanisms of Action.
- 3.2. Prebiotics: Definition, Types of Prebiotics (Starch, Inulin, FOS Oligosaccharides), Mechanisms of Action.
- 3.3. Clinical Applications of Probiotics and Prebiotics in Gastroenterology
- 3.4. Clinical Applications of Endocrinology and Cardiovascular Disorders.
- 3.5. Clinical Applications of Probiotics and Prebiotics in Urology
- 3.6. Clinical Applications of Probiotics and Prebiotics in Gynecology
- 3.7. Clinical Applications of Probiotics and Prebiotics in Immunology. Autoimmunity, Pneumology, Dermatology, Vaccines.
- 3.8. Clinical Applications of Probiotics and Prebiotics in Nutritional Diseases. Obesity and Eating Disorders. Metabolism, Malnutrition, and Malabsorption of Nutrients.
- 3.9. Clinical Applications of Probiotics and Prebiotics in Neurological Diseases. Mental Health. Old Age.
- 3.10. Clinical Applications of Probiotics and Prebiotics in Critically Ill Patients. Cancer
- 3.11. Dairy Products as a Natural Source of Probiotics and Prebiotics. Fermented Milk
- 3.12. Safety and Legislation in the Use of Probiotics.



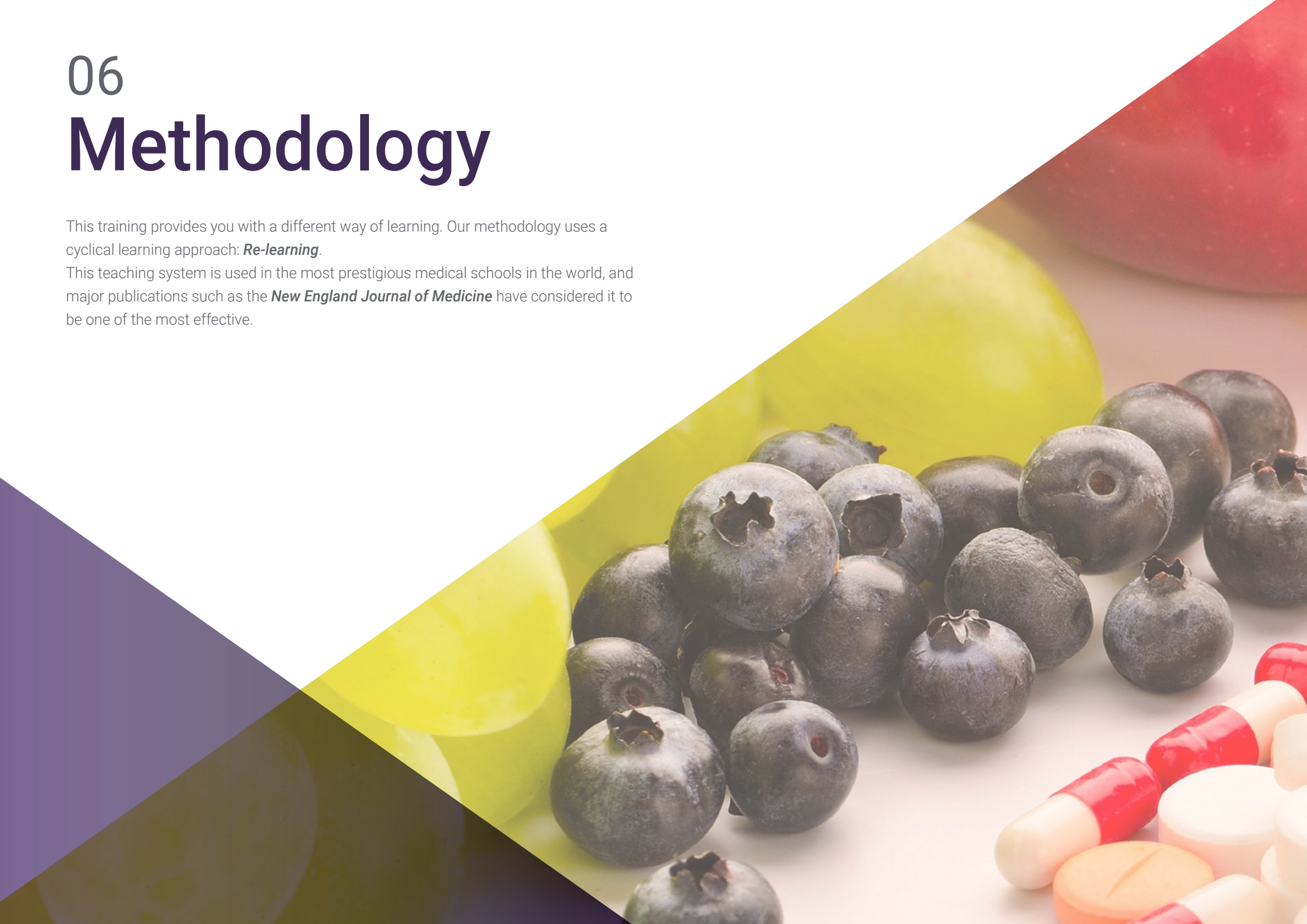
*A unique, key and decisive training experience to boost your professional development”*

06

# Methodology

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

This teaching system is used 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

In a given clinical 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 an abundance of scientific evidence on the effectiveness of the method. Nutritionists learn better, faster, and more sustainably over time.

*With TECH, nutritionists 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 of professional nutritional 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. Nutritionists 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 is solidly focused on practical skills that allow the nutritionist to better integrate the knowledge into clinical practice.
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.

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 nutritionist will learn through real cases and by solving 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 Spanish-speaking online university (Columbia University).

With this methodology we have have trained more than 45,000 nutritionists with unprecedented success, in all clinical specialties regardless of the workload. 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 teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really 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.



### Nutrition Techniques and Procedures on Video

We introduce you to the latest techniques, the latest educational advances, and the forefront of current nutritional procedures and 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

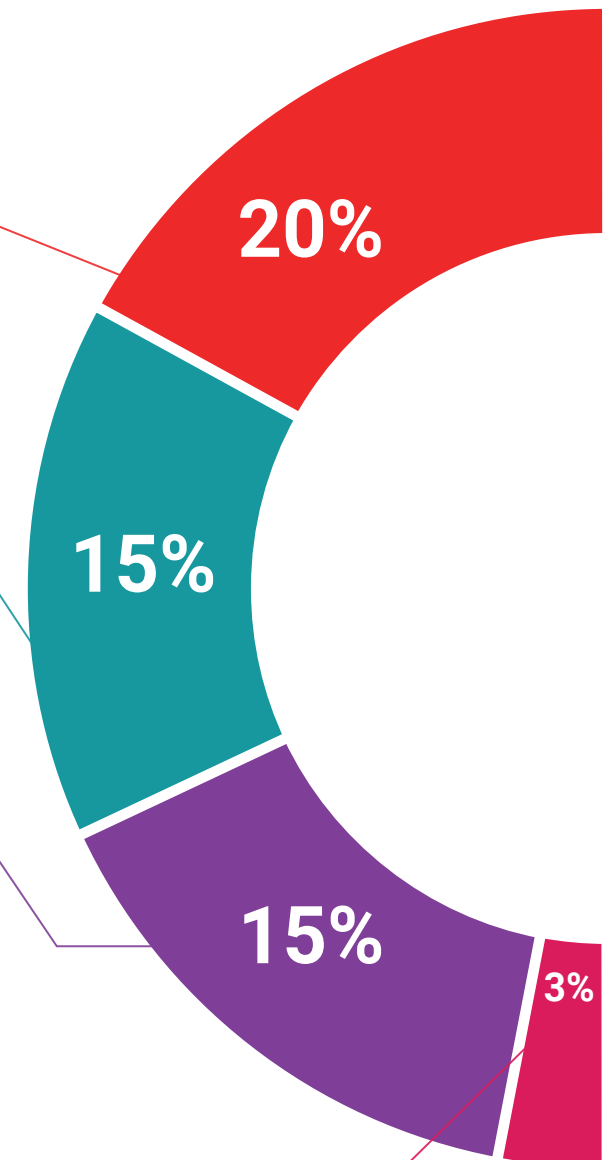
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.  
Learning from an expert strengthens knowledge and memory, and generates confidence in our difficult future decisions.



**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.



06

# Certificate

The Postgraduate Diploma in Neonatology and Pediatrics Microbiota for Nutritionists guarantees, in addition to the most rigorous and up-to-date training, access to a certificate issued by **TECH Global University**.



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

This program will allow you to obtain your **Postgraduate Diploma in Microbiota in Neonatology and Pediatrics for Nutritionists** 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 Microbiota in Neonatology and Pediatrics for Nutritionists**

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.



future

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education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

**tech** global  
university

personalized service innovation

knowledge present

Postgraduate Diploma  
Microbiota in Neonatology  
and Pediatrics for Nutritionists

online tr  
velopment languages

virtual classroom

- » Modality: online
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- » Schedule: at your own pace
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## Microbiota in Neonatology and Pediatrics for Nutritionists

