

Postgraduate Diploma

HBOT in Physical and Neurological
Healing, Pain and Rehabilitation



Postgraduate Diploma

HBOT in Physical and Neurological Healing, Pain and Rehabilitation

- » 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-hbot-physical-neurological-healing-pain-rehabilitation

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01

Introduction

The benefits of Hyperbaric Medicine for certain pathologies are not yet fully known by health professionals, although there is currently a resurgence in the use of hyperbaric oxygenation treatment (HBOT) as an adjuvant tool in different medical specialties.





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Medical professionals should be introduced to learning about hyperbaric oxygenation treatments, which bring improvements to healthcare"

The creation of new generation hyperbaric chambers which are easier to use, more affordable and easier to install in public and private health institutions, has led different professionals to incorporate this tool into their daily practice.

The Postgraduate Diploma in HBOT in Physical and Neurological Healing, Pain and Rehabilitation will allow the health professional to delve into the use of these mechanisms. The program provides solid and up-to-date training in hyperbaric oxygen therapy. This will allow the health professional to develop the skills necessary to identify and adequately solve different cases of pathologies or therapeutic practices, for which hyperbaric oxygenation can be effective and efficient.

HBOT plays a major role in contributing to the healing process at different stages of healing. Therefore, evidence-based medicine in necrotizing infections, diabetic foot, chronic wounds, vascular ulcers, vasculitis, post-surgical wounds, grafts and flaps, burns and clinical cases of different complex wounds such as pyoderma gangrenosum and others are described.

Therefore, the experience in these wounds with medium pressure chambers and the experimental evidence of the physiological effects triggered at these pressures are presented, which could support the fact of the good evolution experienced with HBOT in the treatment of wounds, with lower pressures than those described in the literature.

In addition, a new concept of Hyperbaric Medicine consists in the application in analgesia in different pathologies that have a chronic pain component. Therefore, evidence is presented in different neurosensitive syndromes, pathologies with chronic pain and fibromyalgia. The effect of hyperbaric oxygen on neuropathic pain is also explained through experimental evidence. On the other hand, the basis and evidence of HBOT on anti-inflammatory effect, ischemia reperfusion injury and antioxidant effect are shown.

This **Postgraduate Diploma in HBOT in Physical and Neurological Healing, Pain and Rehabilitation** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Hyperbaric Medicine
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ New developments in Hyperbaric Medicine
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Special emphasis on innovative methodologies in Hyperbaric Medicine
- ♦ 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



Specializing in hyperbaric oxygenation treatments is the best option to solve problems of scarring, pain and physical and neurological rehabilitation"

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This Postgraduate Diploma is the best investment you can make when selecting a refresher program, for two reasons: in addition to updating your knowledge in HBOT in Physical and Neurological Healing, Pain and Rehabilitation, you will obtain a qualification endorsed by TECH Technological University"

It includes in its teaching staff professionals belonging to the field of Hyperbaric Medicine, who pour into this training the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the specialist must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative system of interactive videos made by renowned and experienced experts in HBOT in Physical and Neurological Healing, Pain and Rehabilitation.

This program comes with the best educational material, providing you with a contextual approach that will facilitate your learning.

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



02

Objectives

The Postgraduate Diploma in HBOT in Physical and Neurological Healing, Pain and Rehabilitation is aimed at providing knowledge on the fundamentals and applications of hyperbaric oxygenation treatment and exposing the scientific evidence in the different specialties in the field of health.



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It is the best option to learn about the latest advances in Hyperbaric Medicine”



General Objectives

- Promote the usefulness of hyperbaric oxygenation treatment in different medical specialties
- Enable health professionals on the foundations, mechanisms of action, indications, contraindications and applications of hyperbaric oxygen
- Delve into the plethora of evidence published and the recommendations and indications of the different scientific societies related to Hyperbaric Medicine
- Recognize the potential applications of hyperbaric oxygen in different clinical cases and the benefits that can be achieved with the treatment, as well as performing the indication and detection of the contraindications





Specific Objectives

Module 1. HBOT in Wound Healing Process and Infectious Pathology

- ♦ Present the scientific evidence of HBOT on different types of complex wounds and burns
- ♦ Get qualified in the role of HBOT in wound healing process
- ♦ Update on the evidence of the physiological therapeutic effects of HBOT in wound healing and medium pressure in wound healing and medium pressure
- ♦ Demonstrate the experience in these applications with a presentation of clinical cases

Module 2. HBOT in Pain, Rheumatic Diseases and the Medical Clinic

- ♦ Describe the effect and scientific evidence of HBOT on altitude sickness
- ♦ Demonstrate the mechanism of hyperbaric oxygen on analgesia and experimental evidence
- ♦ Get qualified on the application of HBOT in rheumatic diseases and neurosensitive syndromes
- ♦ Discuss the probable application in the prevention of metabolic pathologies, with inflammatory component or ischemia - reperfusion injury
- ♦ Present the experience of HBOT in clinical cases of chronic pain, intoxications and clinical medicine

Module 3. HBOT in Physical and Neurological Rehabilitation

- ♦ Present the scientific evidence on the neurological indications of HBOT
- ♦ Describe the effect of HBOT on physical rehabilitation
- ♦ Get qualified on the indications of HBOT in sport injuries and trauma pathologies
- ♦ Describe the effect of HBOT on recovery and performance in sport
- ♦ Discuss the role of hypoxia in the development of neurodegenerative diseases and present the evidence of HBOT on Parkinson's and Alzheimer's
- ♦ Present the experience of clinical cases treated with HBOT



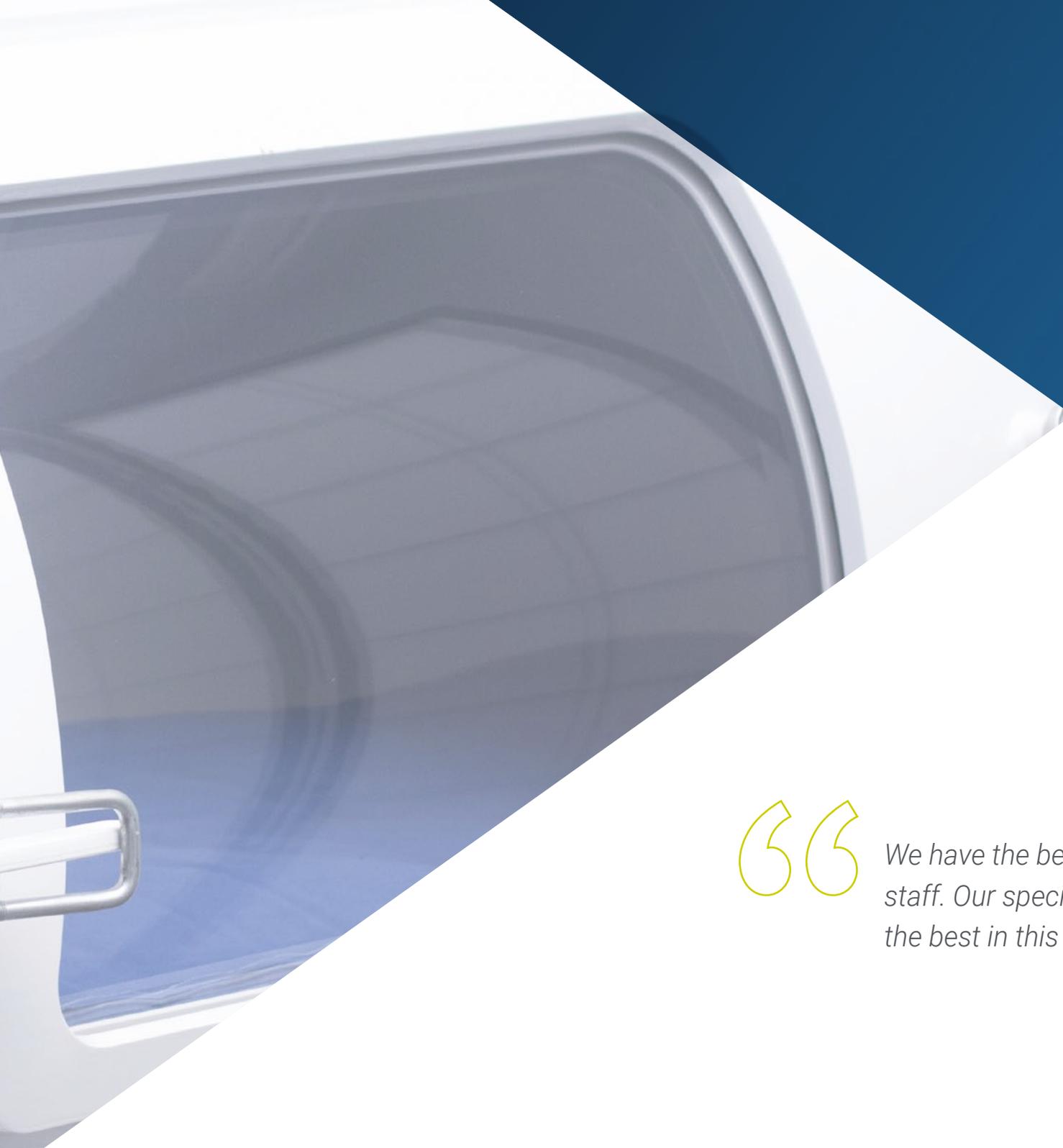
An intensive Postgraduate Diploma that will allow you to become an expert in HBOT in Physical and Neurological Healing, Pain and Rehabilitation in a short period of time and with the greatest flexibility”

03

Course Management

The program's teaching staff includes leading experts in Hyperbaric Medicine who contribute their vast work experience to this educational 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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We have the best medical and teaching staff. Our specialists will help you to be the best in this field of medicine"

International Guest Director

Dr. Peter Lindholm is an eminence in Hyperbaric Medicine and the approach to Respiratory Disorders. His research has been focused on the Pathophysiology of Lung Diving, exploring topics such as Hypoxia and loss of consciousness.

Specifically, this expert has analyzed in depth the effects of the medical condition known as Lungsqueeze, frequent in divers. Among his most important contributions in this area is a detailed review of how glossopharyngeal breathing can extend lung capacity beyond normal limits. In addition, he described the first case series linking glossopharyngeal insufflation with cerebral gas embolism.

At the same time, he has been a pioneer in proposing the term Tracheal Squeeze as an alternative to pulmonary edema in divers who bleed after deep dives. On the other hand, the specialist has shown that exercise and fasting before diving increase the risk of loss of consciousness, similar to hyperventilation. In this way, he has developed an innovative method to use Magnetic Resonance Imaging in the diagnosis of Pulmonary Embolism. In the same way, he has delved into new techniques for measuring hyperbaric oxygen therapy.

Dr. Lindholm also serves as Director of the Endowed Gurneee Chair of Diving and Hyperbaric Medicine Research in the Department of Emergency Medicine at the University of California, San Diego, United States. Likewise, this renowned expert spent several years at Karolinska University Hospital. In that institution he worked as Director of Thoracic Radiology. He also has vast experience in diagnosis by means of clinical imaging based on radiation, and has even given lectures on the subject at the prestigious Karolinska Institute in Sweden. He is also a regular speaker at international conferences and has numerous scientific publications.



Dr. Lindholm, Peter

- Chair of Hyperpathic Medicine and Diving at the University of California, San Diego, United States
- Director of Thoracic Radiology at the Karolinska University Hospital
- Professor of Physiology and Pharmacology at Karolinska Institute in Sweden
- Reviewer for international scientific journals such as American Journal of Physiology and JAMA
- Medical Residency in Radiology at the Karolinska University Hospital
- Doctor of Science and Physiology, Karolinska Institute, Sweden

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

Management



Dr. Cannellotto, Mariana

- ♦ Specialist in Hyperbaric Medicine
- ♦ Medical Director from BioBarica - Hyperbaric Systems
- ♦ Clinical Physician at C.E.S.SRL
- ♦ President of Argentina Association of Hyperbaric Medicine and Research
- ♦ President of Ihmera



Ms. Jordá Vargas, Liliana

- ♦ Clinical Biochemistry and Microbiology Expert
- ♦ Scientific Director from BioBarica - Hyperbaric Systems
- ♦ Microbiologist at CRAI Norte
- ♦ Bacteriologist at Vélez Sarsfield Hospital
- ♦ Scientific Director of AAMHEI and AEMHEI
- ♦ Degree in Biochemistry from the National University of Córdoba
- ♦ Biochemistry and Clinical Microbiology, University Institute CEMIC



Professors

Dr. Verdini, Fabrizio

- ◆ Clinical Doctor at BioBarica Hyperbaric Systems
- ◆ Director of Health Programs at Camp La Llanada
- ◆ General Practitioner at Doctor Armando Mata Sanchez Hospital
- ◆ Doctor of Medicine from the University of Carabobo
- ◆ Master's Degree in Hyperbaric Medicine from the CEU Cardenal Herrera University
- ◆ Master's Degree of Business Administration healthcare, Polytechnic University of Puerto Rico

Dr. Ramallo, Rubén Leonardo

- ◆ Attending Physician Specialist in Medical Clinic at the General Hospital of Acute Diseases
- ◆ Physician in Hyperbaric Medicine. Biobarica - Hyperbaric Systems
- ◆ Medical Surgeon School of Medical Sciences, National University of Córdoba, Argentina
- ◆ Specialist in Internal Medicine. Residency in Internal Medicine, Córdoba Hospital
- ◆ Master's Degree in Psychoimmunoneuroendocrinology. Favaloro University
- ◆ Director of the AAMHEI Medical Clinic Commission

Dr. Emilia Fraga, Pilar María

- ◆ Director of the Scientific and Clinical Research Division at Biobarica
- ◆ Food evaluator at the National Food Institute
- ◆ Professor of Anatomy and Physiology at ADEF
- ◆ Degree in Biochemistry from Arturo Jauretche National University

05

Structure and Content

The structure of the contents has been designed by a team of professionals from leading hospitals and universities, aware of the relevance of keeping up to date to intervene in the treatment and monitoring of the patient through the use of Integrative Medicine and Health and committed to quality teaching through new educational technologies.



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This Postgraduate Diploma in HBOT in Physical and Neurological Healing, Pain and Rehabilitation contains the most complete and up-to-date scientific program on the market"

Module 1. HBOT in Wound Healing Process and Infectious Pathology

- 1.1. HBOT in Healing Physiology
- 1.2. Medium Pressure and Wound Healing
 - 1.2.1. Effective Angiogenesis
 - 1.2.2. Equivalent Osteogenesis
 - 1.2.3. Anti-Inflammatory Effect in Medium Pressure
- 1.3. Necrotizing Infections
- 1.4. HBOT in Chronic Ulcers and Diabetic Foot
- 1.5. Burns
- 1.6. Injuries from Radiofrequency Lesions and Hyperbaric Oxygen
- 1.7. HBOT in Crush Syndrome
- 1.8. Vasculitis and HBOT
- 1.9. HBOT in Pyoderma Gangrenosum
- 1.10. Evidence of HBOT in Other Injuries and Dermatological Conditions

Module 2. HBOT in Pain, Rheumatic Diseases and the Medical Clinic

- 2.1. HBOT in Altitude Sickness
- 2.2. Mechanisms of Action in Analgesia: Neuropathic Pain and Hyperbaric Oxygen
- 2.3. Arthropathies and Collagenopathies
- 2.4. HBOT in Dysfunctional Neurosensitive Syndromes
- 2.5. Fibromyalgia and Hyperbaric Oxygen
- 2.6. HBOT in Ischemia Reperfusion Injury
- 2.7. Tinnitus and Sudden Onset Deafness
- 2.8. Inflammatory Bowel Diseases and Hyperbaric Oxygen
- 2.9. HBOT in Fertility
- 2.10. Hyperbaric Oxygen in the Metabolism of Diabetes and Severe Anemia





Module 3. HBOT in Physical and Neurological Rehabilitation

- 3.1. HBOT in Recovery and Performance in Sport
- 3.2. Hyperbaric Oxygen and Sporting Injuries
- 3.3. Brain Trauma and Post-Concussion Syndrome
- 3.4. Stroke Recovery and Hyperbaric Oxygen
- 3.5. Brain Paralysis and HBOT
- 3.6. Autism
- 3.7. Ischemic Encephalopathies
- 3.8. HBOT in Parkinson's
- 3.9. HBOT in Alzheimer's
- 3.10. HBOT in Trauma (Avascular Necrosis, Bone Edema, Fractures and Osteomyelitis)

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This program will allow you to advance in your career comfortably”

06

Methodology

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

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





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

At TECH we use the Case Method

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

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



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

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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.



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

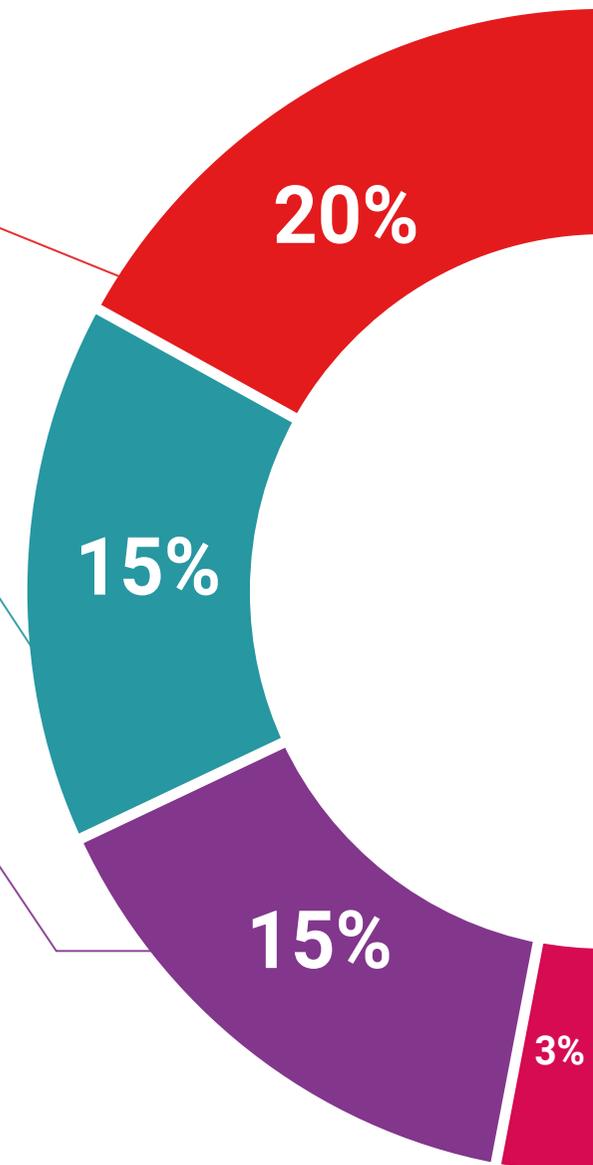
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.



05

Certificate

The Postgraduate Diploma in HBOT in Physical and Neurological Healing, Pain and Rehabilitation guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.



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Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This program will allow you to obtain your **Postgraduate Diploma in HBOT in Physical and Neurological Healing, Pain and Rehabilitation** 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 HBOT in Physical and Neurological Healing, Pain and Rehabilitation**

ECTS: 18

Official N° of Hours: 450 h.



*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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