

Professional Master's Degree Hyperbaric Medicine

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Professional Master's Degree Hyperbaric Medicine

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

Website: www.techtitute.com/us/physiotherapy/professional-master-degree/master-hyperbaric-medicine

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01

Introduction

The use of hyperbaric oxygenation treatments (HBOT) during physiotherapy sessions offers a solution to patients with various conditions. This is the reason why this type of procedure is becoming more and more popular nowadays and is increasingly demanded by people who come for rehabilitation. In this context, and being fully aware of the importance of education in this field, TECH professionals have designed this comprehensive program that will delve into the concepts and uses of hyperbaric medicine oriented to physiotherapy sessions. All of this, with the objective of enabling professionals who are much more competent and prepared to offer the best solutions to their patients.



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*This Professional Master's Degree
will help you to understand the
characteristics of hyperbaric therapy
oriented to physiotherapeutic sessions"*

Although Hyperbaric Medicine is more than 200 years old, its multiple applications and indications are not known by many health professionals. The Professional Master's Degree in Hyperbaric Medicine will allow the professional to delve deeper into the use of hyperbaric chambers. It will also provide you with the skills to manage a Hyperbaric Medicine center from a physiotherapeutic point of view, providing a working tool for your future professional development.

The program provides solid and up-to-date education in hyperbaric oxygen therapy, which will allow the physiotherapy professional to develop competencies and skills necessary to identify and adequately solve different cases of pathologies or therapeutic practices for which hyperbaric oxygenation can be effective and efficient. Its broad approach in different specialties allows considering the incorporation of this therapeutic tool in different applications, improving professional practice and optimizing physiotherapeutic treatments based on the fundamentals and effects of HBOT.

Through the teaching team's experience in HBOT, modern concepts of Hyperbaric Medicine in physiotherapy are explained, while considering the current reality of the specialty. Through an online program with theoretical contents, videos on specific topics, interactive classes, presentation of clinical cases and tutored self-assessment questionnaires, the professional will recognize and know how to implement the benefits of hyperbaric chamber treatment for conditions of various origins. In addition, you will learn the limitations and applications of the different chambers on the market today, detect the contraindications of this treatment and be able to assess the response to it based on the effects reported in the literature. All this designed so that the physiotherapist learns to work with these techniques in the most effective way possible and offering the best solutions to their patients.

In addition, in-depth knowledge of the rationale and therapeutic effects will allow the practitioner to develop clinical studies or case studies to define and discover new future applications of HBOT. Therefore, the physiotherapist will have the skills to actively participate in the use and expansion of this specialty as a therapeutic means in their sessions.

This **Professional Master's Degree in Hyperbaric Medicine** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ 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
- ◆ News on Hyperbaric Medicine in the field of physiotherapy
- ◆ Practical exercises where the process of self-assessment can be used 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



Do not miss this opportunity to expand your knowledge as a physical therapist and take your career to the next level"

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This Professional Master's Degree is undoubtedly the best investment you can make in the selection of an educational program because, in addition to offering you the most updated contents in the sector, it is endorsed by TECH Global University"

It includes in its teaching staff professionals belonging to the field of Hyperbaric Medicine and physiotherapy, who pour into this program the experience of their work, in addition to recognized specialists from prestigious 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 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 interactive video system created by renowned and experienced experts in Hyperbaric Medicine with extensive experience.

This training has the best educational material, which will allow a contextual study that will facilitate learning.

This 100% online program will allow you to balance your studies with your professional work, at the same time that you increase your knowledge.



02 Objectives

This educational program is oriented to enable and delve into the fundamentals and applications of hyperbaric oxygenation treatment to various conditions treated by the physiotherapy professional. In this sense, during the program, the correct use will be discussed in depth and the professional will be prepared to be able to put these treatments into practice in their sessions. This way, you will become a much more competent and prepared professional to work as a physiotherapist in both public and private health institutions.



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Our goal is to provide you with the best education in the market. This way, you will learn to work in the field of Hyperbaric Medicine successfully and increase your skills as a physiotherapist”



General Objectives

- ◆ Disseminate the usefulness of hyperbaric oxygenation treatment in physiotherapeutic treatments
- ◆ Prepare physiotherapy professionals in the fundamentals, mechanisms of action, indications, contraindications and applications of hyperbaric oxygen
- ◆ Study the degree of evidence published and the recommendations and indications of the different scientific societies related to Hyperbaric Medicine in the field of physiotherapy
- ◆ 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



Learn Hyperbaric Medicine in just a few months and differentiate yourself from the rest by giving a boost to your education"





Specific Objectives

Module 1. Introduction to Hyperbaric Medicine

- ◆ Delve into the history of Hyperbaric Medicine and the operation and differences in the types of hyperbaric chambers that exist today
- ◆ Describe the current state of new indications and applications based on the development of evidence, the evolution of the different models and types of hyperbaric chambers, and the origin of scientific societies related to the specialty
- ◆ Develop the concept of oxygen toxicity, contraindications and adverse effects related to the discoveries of its mechanism of action (e.g., The Bert Effect)
- ◆ Present the new concept of Hyperbaric Medicine for physiotherapy, which includes treatment with lower pressures, its indications, limitations and potential future applications

Module 2. Fundamentals of Hyperbaric Oxygen Therapy (HBOT)

- ◆ Training on the fundamentals of Hyperbaric Oxygen Therapy (HBOT) and mechanisms used to achieve hyperoxia
- ◆ Present the intervening physical laws and the Krogh mathematical model which substantiates the effect of the treatment at different pressures
- ◆ Describe the differences between the volumetric and solumetric effect of HBOT and its limitations in the treatment of different diseases
- ◆ Present the types of hypoxia described and the scenarios of hypoxia-related disorders in different conditions

Module 3. Physiological Therapeutic Effects of HBOT

- ♦ Training on the effects of hyperoxia on a mitochondrial level and the physiological benefits it triggers
- ♦ Describe the importance of mitochondrial reactivation with HBOT and its potential effect on different related pathologies with mitochondrial dysfunction
- ♦ Present the physiological effects that are triggered with HBOT and the production of reactive oxygen species
- ♦ Relate these physiological effects with different indications of HBOT
- ♦ Training in the analysis of different clinical cases which can benefit from the therapeutic effects of HBOT

Module 4. HBOT in the Wound Healing Process and Infectious Pathology

- ♦ Present the scientific evidence of HBOT in different types of complex wounds and their treatment from physiotherapy
- ♦ Study the role of HBOT in wound healing
- ♦ Up-to-date information on the evidence of the physiological therapeutic effects of HBOT on wound healing and medium pressure
- ♦ Demonstrate the experience in these applications with a presentation of clinical cases

Module 5. HBOT in Pain, Rheumatic Diseases and Clinical Medicine

- ♦ Describe the effect and scientific evidence of HBOT on altitude sickness
- ♦ Demonstrate the mechanism of hyperbaric oxygen on analgesia and experimental evidence
- ♦ Study 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 6. HBOT in Physical and Neurological Rehabilitation

- ♦ Present the scientific evidence on the neurological indications of HBOT
- ♦ Describe the effect of HBOT on physical rehabilitation
- ♦ Study the indications of HBOT in sporting injuries and trauma
- ♦ 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

Module 7. HBOT in Oncology

- ♦ Describe the applications and experience in cases of clinical oncology
- ♦ Present the scientific evidence on the use of HBOT as a coadjuvant of oncological treatment
- ♦ Describe the effects of HBOT on the different radiotoxicities
- ♦ Training in the oncological safety of HBOT (angiogenesis and tumor growth)
- ♦ Present the experimental evidence of the safety and efficiency of HBOT in oncologic pathology

Module 8. HBOT in Toxicology

- ♦ Present the evidence and the application of HBOT in intoxication from gases
- ♦ Discuss the indication of HBOT in pressures lower than those described in the literature, considering the importance of speed in establishing HBOT in the case of carbon monoxide poisoning
- ♦ Present evidence on intoxication and injuries from venomous animal bites (Loxoscelism, snake bites)

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RECIRCULADOR

Module 9. HBOT in Dysbaric Illness

- ◆ Present the scientific evidence on decompression sickness in divers
- ◆ Introduce the concept of dysbaric illnesses and Diving Medicine
- ◆ Discuss the need for the volumetric effect of HBOT and the use of high-pressure chambers
- ◆ Describe the evidence of the effect of HBOT in iatrogenic embolism
- ◆ Introduce the concepts of work safety with high pressure chambers
- ◆ Present the requirements and regulations for the installation of the different hyperbaric chambers

Module 10. Indications and Contraindications of HBOT

- ◆ Study HBOT indications validated by the different societies of Hyperbaric Medicine and emerging indications based on the physiological therapeutic effects of HBOT
- ◆ Describe the adverse events that are expected from HBOT with different treatment pressures
- ◆ Present the contraindications of HBOT
- ◆ Discuss different clinical cases based on the integration of validated applications and the potential future applications of HBOT

03 Skills

After successfully passing the assessments of the Professional Master's Degree in Hyperbaric Medicine, the professional will have acquired the professional skills required for a quality therapeutic practice in the field of the use of this type of treatment for rehabilitative purposes. This way, the student will become a much more competent physiotherapist. This will be achieved by developing up-to-date knowledge in the field of study using the most innovative educational methodology in the sector.





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At the end of the program, you will possess the essential skills that will enable you to successfully apply hyperbaric medicine to patients who seek your physiotherapy services”



General Skills

- ◆ Identify and resolve cases of pathologies in which hyperbaric oxygenation treatments can reduce the risk of morbidity and mortality, or considerably improve the patient's quality of life
- ◆ Recognize the benefits of hyperbaric chamber treatment on pathologies of diverse origins
- ◆ Actively participate in the use and expansion of the specialty in the field of public and private physiotherapy



Take the step and join the world's largest online university"





Specific Skills

- ◆ Recognize the different hyperbaric chambers which have existed throughout history
- ◆ Identify the origin of the scientific societies of this speciality
- ◆ Recognize the adverse effects of the treatments and know how to deal with them
- ◆ Know how to apply Hyperbaric Oxygen Therapy (HBOT)
- ◆ Identify the disorders associated with hypoxia and know how to deal with them
- ◆ Know in detail therapeutic physiological effects obtained from the generation of hyperoxia
- ◆ Develop the critical sense to understand the mechanisms of action in different proven and potential clinical applications
- ◆ Be able to identify the effects of HBOT that intervene in wound healing
- ◆ Know the new treatment alternatives in the different types of wounds
- ◆ Know the fundamentals of the driving mechanism of hyperbaric oxygen in pain
- ◆ Know how to apply hyperbaric oxygen in different pathologies which come with chronic pain and therefore improve the patient's quality of life
- ◆ Know the basis of the contribution of hyperbaric oxygen in the improvement of neuroplasticity in different cases of neurological rehabilitation
- ◆ Be capable of using hyperbaric oxygen for injury recovery and for improving performance in sport, following the optimal conditions for establishing the treatment
- ◆ Know the evidence, experience and future indications of the application of HBOT in clinical oncology
- ◆ Understand the role of HBOT in improving the oncology patient's quality of life and in managing radio induced lesions
- ◆ Know how to apply the driving mechanism of hyperbaric oxygen in the intoxication of gases
- ◆ Know the treatment options currently available on the market and their applications and limitations in the rapid onset of acute intoxication
- ◆ Use hyperbaric oxygen for the recovery of neurological lesions post intoxication
- ◆ Know in depth about Underwater Medicine and the need for high pressure chamber treatment in dysbaric illnesses
- ◆ Understand work safety in hyperbaric chamber procedures
- ◆ Know the legal requirements necessary for the operation of hyperbaric chambers
- ◆ Integrate the concepts related to Hyperbaric Medicine
- ◆ Know in detail the respective approved indications
- ◆ Be capable of applying the concepts of the physiological effects of HBOT on different conditions
- ◆ Perform indications in different clinical cases, assess the contraindications and make decisions in response to the different adverse effects that can occur during treatment

04

Course Management

The educational program includes experts in Hyperbaric Medicine in its teaching staff, as well as prestigious physiotherapists who contribute their extensive work experience to this program. In addition, other renowned specialists participate in its design and development, completing the program in an interdisciplinary way and providing the physiotherapists with a series of transversal skills that are crucial in their professional development and consolidation.





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TECH offers you the best professionals in the field of hyperbaric medicine and physiotherapy. Do not miss this opportunity to learn from the best”

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 Gurnee 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

- ♦ Medical Director of the network of Hyperbaric Medicine centers BioBarica Argentina
- ♦ Vice President of AAMHEI
- ♦ Specialist in Clinical Medicine
- ♦ Specialist in Hyperbaric Medicine, School of Medicine



Dr. Jordá Vargas, Liliana

- ♦ Scientific Director of the Argentine-Spanish Association of Hyperbaric Medicine and Research (AAMHEI and AEMHEI).
- ♦ Scientific Director-Biobarica Clinical Research. International Network of BioBaric Hyperbaric Medicine Centers
- ♦ Degree in Biochemistry. National University of Córdoba, Argentina
- ♦ Microbiology Specialist
- ♦ Head of Microbiology, CRAI North, Cucaiba, Argentina



Professors

Dr. Verdini, Fabrizio

- ◆ Institutional Relations AAMHEI
- ◆ Clinical Doctor
- ◆ Diploma in Public Health Management
- ◆ Master's Degree in Healthcare Management

Dr. Ramallo, Rubén Leonardo

- ◆ Director of the AAMHEI Medical Clinic Commission
- ◆ Specialist in Internal Medicine. Residency in Internal Medicine, Córdoba Hospital
- ◆ Medical Surgeon Faculty of Medical Sciences. National University of Córdoba. Argentina
- ◆ Master's Degree in Psychoimmunoneuroendocrinology. Favaloro University

Dr. Emilia Fraga, Pilar María

- ◆ FINES Teacher
- ◆ AAMHEI Pedagogical Assistant

05

Structure and Content

The structure of the contents of this educational program has been designed by leading professionals in the field of Hyperbaric Medicine and Physiotherapy who, with extensive experience and recognized prestige in the profession, have used all their knowledge to enable you to achieve excellence. This team of professionals endorses its knowledge through the volume of cases reviewed, studied and diagnosed, and with a wide mastery of new technologies applied to hyperbaric medicine. This way, the students will be assured that the knowledge they receive is based on experience and will equip them with the skills required to successfully practice the profession.





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A complete and up-to-date Professional Master's Degree that will give you the professional boost your career needs"

Module 1. Introduction to Hyperbaric Medicine

- 1.1. History of Hyperbaric Medicine
- 1.2. First Hyperbaric Chambers
- 1.3. Discovery of Oxygen
- 1.4. Scientific Period of Hyperbaric Medicine
- 1.5. Types of Hyperbaric Chambers: Revitalair Technology Chambers
- 1.6. Technical and Therapeutic Safety of the New Generation Hyperbaric Chambers
- 1.7. Hyperbaric Medicine Societies in the World and the Evolution of the Indications
- 1.8. Introduction to the Fundamentals of Hyperbaric Oxygen Therapy
- 1.9. Introduction to the Adverse Effects and Contraindications
- 1.10. Current Concept of Hyperbaric Oxygen Therapy: Medium Pressure, Micro Pressure and Hyperbaria

Module 2. Fundamentals of Hyperbaric Oxygen Therapy (HBOT)

- 2.1. Physiological Principles of HBOT
- 2.2. Dalton, Henry, Boyle and Mariotte's Laws of Physics
- 2.3. Physical and Mathematical Principles of Oxygen Diffusion within Tissue in the Different Treatment Pressures: Krogh Model
- 2.4. Physiology of Oxygen
- 2.5. Physiology of Respiration
- 2.6. Volumetric and Solumetric Effect
- 2.7. Hypoxia: Types of Hypoxia
- 2.8. Hyperoxia and Treatment Pressure
- 2.9. Hyperoxia Effective in Wound Healing
- 2.10. Principles of the Intermittent Hyperoxia Model



Module 3. Physiological Therapeutic Effects of HBOT

- 3.1. Introduction to the Physiological Therapeutic Effects
- 3.2. Vasoconstriction
 - 3.2.1. Robin Hood Effect
 - 3.2.2. Effect of HBOT on Blood Pressure and Heart Rate
- 3.3. Stem Cells and Oxygen
 - 3.3.1. Liberation of Stem Cells with HBOT
 - 3.3.2. Importance of Stem Cells on Wound Healing
 - 3.3.3. Oxygen in the Differentiation of Stem Cells
- 3.4. Oxygen in the Synthesis of Collagen
 - 3.4.1. Synthesis and Types of Collagen
 - 3.4.2. Oxygen in the Synthesis and Maturing of Collagen
 - 3.4.3. HBOT and Collagen in Healing
- 3.5. Angiogenesis and Vasculogenesis
 - 3.5.1. Degenerative Angiogenesis and Hyperbaric Oxygen
- 3.6. Osteogenesis
 - 3.6.1. HBOT and Osteogenesis and Bone Resorption
- 3.7. Mitochondrial Function, Inflammation and Oxidative Stress
 - 3.7.1. Mitochondrial Dysfunction in the Pathogenesis of Different Diseases
 - 3.7.2. HBOT and Mitochondrial Function
- 3.8. Oxidative Stress and Hyperbaric Oxygen
 - 3.8.1. Oxidative Stress in Different Diseases
 - 3.8.2. Oxidative Stress in Hyperbaric Oxygen
- 3.9. Anti-Inflammatory Effect in Hyperbaric Oxygen
 - 3.9.1. Hyperbaric Oxygen and Inflammation
- 3.10. Antimicrobial Effect in Hyperbaric Oxygen
 - 3.10.1. Bacterial Effect of Oxygen
 - 3.10.2. Hyperbaric Oxygen and *Biofilm*
 - 3.10.3. Hyperbaric Oxygen and the Immune Response
- 3.11. Oxygen and Neuron Function
 - 3.11.1. Oxygen and Peripheral Axonal Regeneration
 - 3.11.2. Oxygen and Neuroplasticity

Module 4. HBOT in the Wound Healing Process and Infectious Pathology

- 4.1. HBOT in Healing Physiology
- 4.2. Medium Pressure and Wound Healing
 - 4.2.1. Effective Angiogenesis
 - 4.2.2. Equivalent Osteogenesis
 - 4.2.3. Anti-Inflammatory Effect in Medium Pressure
- 4.3. Necrotizing Infections
- 4.4. HBOT in Chronic Ulcers and Diabetic Foot
- 4.5. Burns
- 4.6. Injuries from Radiofrequency Lesions and Hyperbaric Oxygen
- 4.7. HBOT in Crush Syndrome
- 4.8. Vasculitis and HBOT
- 4.9. HBOT in Pyoderma Gangrenosum
- 4.10. Evidence of HBOT in Other Injuries and Dermatological Conditions

Module 5. HBOT in Pain, Rheumatic Diseases and Clinical Medicine

- 5.1. HBOT in Altitude Sickness
- 5.2. Mechanisms of Action in Analgesia: Neuropathic Pain and Hyperbaric Oxygen
- 5.3. Arthropathies and Collagenopathies
- 5.4. HBOT in Dysfunctional Neurosensitive Syndromes
- 5.5. Fibromyalgia and Hyperbaric Oxygen
- 5.6. HBOT in Ischemia Reperfusion Injury
- 5.7. Tinnitus and Sudden Deafness
- 5.8. Inflammatory Bowel Disease and Hyperbaric Oxygen
- 5.9. HBOT in Fertility
- 5.10. Hyperbaric Oxygen in the Metabolism of Diabetes and Severe Anemia

Module 6. HBOT in Physical and Neurological Rehabilitation

- 6.1. HBOT in Recovery and Performance in Sport
- 6.2. Hyperbaric Oxygen and Sporting Injuries
- 6.3. Brain Trauma and Post-Concussion Syndrome
- 6.4. Stroke Recovery and Hyperbaric Oxygen
- 6.5. Cerebral Palsy and HBOT
- 6.6. Autism
- 6.7. Ischemic Encephalopathies
- 6.8. HBOT in Parkinson's Disease
- 6.9. HBOT in Alzheimer's Disease
- 6.10. HBOT in Trauma (Avascular Necrosis, Bone Edema, Fractures and Osteomyelitis)

Module 7. HBOT in Oncology

- 7.1. Hypoxia and Tumors
- 7.2. Tumoral Angiogenesis
- 7.3. Oncologic Safety of HBOT
- 7.4. HBOT and Radiosensitivity
- 7.5. HBOT and Chemotherapy
- 7.6. Osteoradionecrosis and Hyperbaric Oxygen
- 7.7. Radical Cystitis and Proctitis
- 7.8. Radio induced Skin Syndrome and HBOT
- 7.9. HBOT in Other Radio lesions
- 7.10. HBOT in Oncology Pain and Quality of Life

Module 8. HBOT in Toxicology

- 8.1. Bibliographical Evidence in Relation to Dosage/Speed of Using Hyperbaric Oxygen in Carbon Monoxide Poisoning
- 8.2. Inflammation in Carbon Monoxide Poisoning
- 8.3. Delayed Neurological Syndrome
- 8.4. Smoke Inhalation and Hyperbaric Oxygen
- 8.5. HBOT in Hydrogen Cyanide Poisoning
- 8.6. HBOT in Other Gases Poisoning
- 8.7. Hyperbaric Oxygen in Pollution and Tobacco
- 8.8. Hyperbaric Oxygen in Addiction Recovery
- 8.9. HBOT in Brown Recluse Spider Bite Injuries and Poisoning
- 8.10. HBOT in Snake Bite Injuries and Poisoning

Module 9. HBOT in Dysbaric Illnesses

- 9.1. Diving and Diving Medicine: Physiological Reactions to Diving Conditions. Deep Neurological Syndrome
- 9.2. Changes in Environmental Pressure: Decompression Sickness. Air Embolism. Pathophysiology. Symptoms and Signs.
- 9.3. Treatment of Decompression Sickness: Prevention of Dysbaric Accidents. Decompression Table
- 9.4. Dysbaric Pathology and Evidence-Based Medicine
- 9.5. Dysbaric Osteonecrosis
- 9.6. HBOT in Postoperative Gas Embolism: Iatrogenic Embolism
- 9.7. Hyperbaric Medicine in the Workplace: Work in Compressed Air. Medical Documents and Immersion Records. Health Risks
- 9.8. Work Accidents in Operating High-Pressure Chambers Medical Support and Treatment for Compressed Air Jobs
- 9.9. Fire: Evaluation and Prevention with Hyperbaric Chamber with Combustion Risk
- 9.10. Regulations and Requirements for the Installation of Different Types of Hyperbaric Chambers



Module 10. Indications and Contraindications of HBOT

- 10.1. Absolute and Relative Contraindications of HBOT
- 10.2. Adverse Effects of Hyperoxia
- 10.3. Neuronal and Pulmonary Oxygen Toxicity
- 10.4. Neurotoxicity/Neuroexcitability
- 10.5. Objective and Subjective Barotrauma
- 10.6. Special Care for Patients Who Receive HBOT at Different Pressures
- 10.7. Indications by Consensus of the European Committee of Hyperbaric Medicine
- 10.8. Emerging Medical Applications: Off Label and Medicare Indications
- 10.9. Management in Hyperbaric Medicine Centers: HBOT in Public and Private Health
- 10.10. Cost-Benefit Relationship of the Application of HBOT: HBOT Cost Utility

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You will learn everything you need to act safely and efficiently, responding appropriately to every therapeutic need”

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. Physiotherapists/kinesiologists 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 of professional physiotherapy 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. Physiotherapists/kinesiologists 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 physiotherapist/kinesiologist 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.



The physiotherapist/kinesiologist 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 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 we trained more than 65,000 physiotherapists/kinesiologists with unprecedented success in all clinical specialties, regardless of the workload. 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 training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for 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 our 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 really 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.



Physiotherapy Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current Physiotherapy techniques and procedures. 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 them as many times as you want.



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.

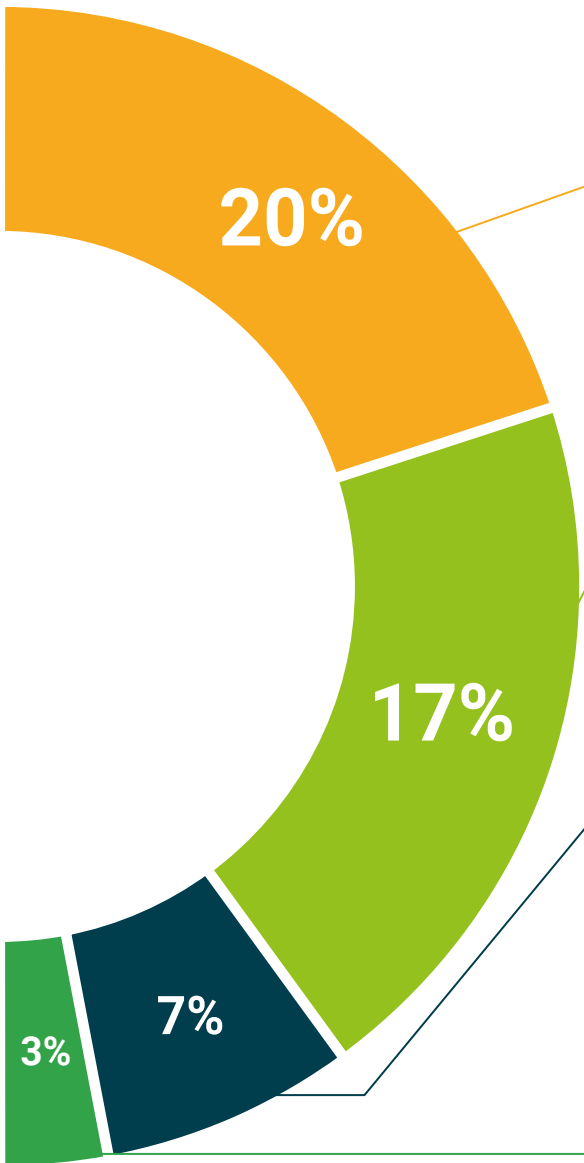
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



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 their goals.



Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



07 Certificate

The Professional Master's Degree in Hyperbaric Medicine guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree issued by TECH Global University.



“

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

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

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

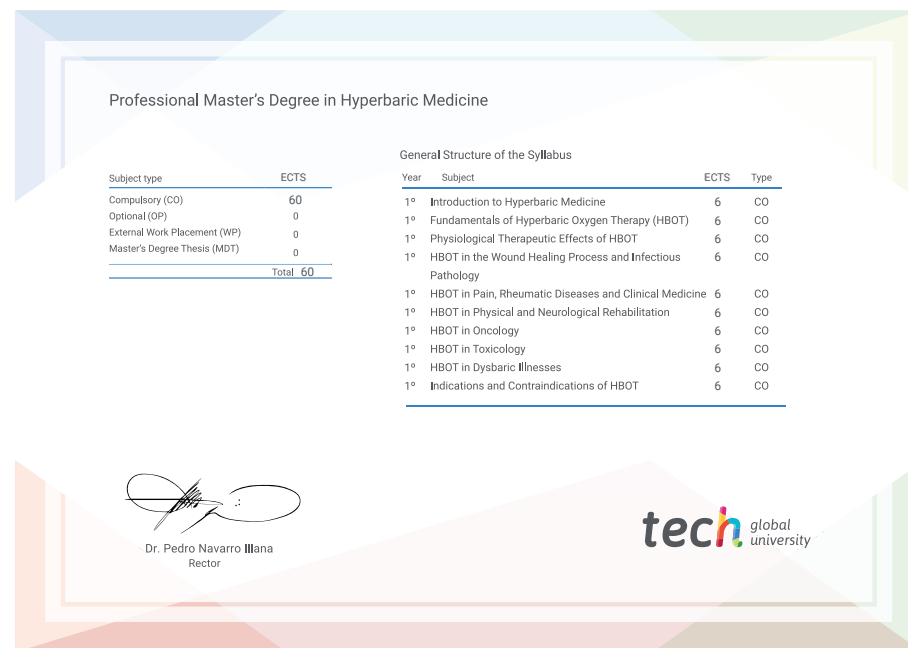
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Professional Master's Degree in Hyperbaric Medicine**

Modality: **online**

Duration: **12 months**

Accreditation: **60 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.



Professional Master's Degree Hyperbaric Medicine

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

Professional Master's Degree Hyperbaric Medicine

Endorsed by the NBA

