

# Postgraduate Certificate HBOT in Oncology





## Postgraduate Certificate HBOT in Oncology

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/hbot-oncology](http://www.techtute.com/us/medicine/postgraduate-certificate/hbot-oncology)

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# 01

# Introduction

In the field of clinical oncology, hyperbaric oxygenation treatment (HBOT) has ample evidence in the recovery from radiolyses of different types. This course is intended as a key training for physicians to specialize in this treatment linked to oncology.



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*HBOT is a technique that is increasingly gaining momentum in the field of oncology and palliative care.”*

There is currently a resurgence in the use of hyperbaric oxygenation treatment as an adjuvant tool in different medical specialties. 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.

This Postgraduate Certificate in HBOT in Oncology will provide an exhaustive analysis of the published evidence in different situations and will present the experience of the lecturers in the use of HBOT in different cases of radiotoxicity through clinical cases.

On the other hand, oncological safety is a point that considerably slows down the incorporation of this treatment in oncology patients. However, since 1950 this treatment has been evaluated as a radiosensitizer or modifier of hypoxia in some solid tumors where this factor can make impossible or diminish the efficacy of conventional treatments. Thus, experimental evidence of the role of hyperbaric oxygenation in angiogenesis and tumor growth is shown.

The incorporation of HBOT in the adjuvant of palliative treatment in the oncology patient could considerably improve the patient's quality of life. For this reason, we would like to present the evidence in this regard and discuss the future possibilities to be developed to evaluate its applications in situations other than the treatment of radioinduced lesions.

This Postgraduate Certificate in HBOT in Oncology 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 Hyperbaric Medicine.
- ♦ 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.
- ♦ Developments in Hyperbaric Medicine.
- ♦ Practical exercises where 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



*Don't miss the opportunity to study at the largest private online university in the Spanish-speaking world".*

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*This course is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge of HBOT in Oncology, you will obtain a degree endorsed by TECH Global 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.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train 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 during the academic year. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in Oncology HBOT in with extensive experience.

*This training comes with the best didactic material, providing you with a contextual approach that will facilitate your learning.*

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



# 02 Objectives

This **Postgraduate Certificate in HBOT in Oncology** is oriented to train in the fundamentals and applications of hyperbaric oxygenation treatment and to expose the scientific evidence in the different specialties in the field of health.





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*Increase your capacity for success thanks to this Postgraduate that will enable you to be the best in your profession”.*



## General Objectives

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- ♦ Promote the usefulness of hyperbaric oxygenation treatment in different medical specialties.
- ♦ Train health professionals on the foundations, 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.
- ♦ Recognise 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

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- 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.

04

# Course Management

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





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*Leading professionals in the field have come together to teach you the latest advances in Hyperbaric 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

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- 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

- ♦ President of AAMHEI Biobarica Medical Director
- ♦ Specialist in Hyperbaric Medicine, Medical Clinic



### Dr. Jordá Vargas, Liliana

- ♦ Degree in Clinical Biochemistry
- ♦ Microbiology
- ♦ Scientific Director of AEMHEI and AAMHEI
- ♦ Biobarica Scientific and Clinical Research Director





## Teachers

### **Dr. Emilia Fraga, Pilar María**

- ◆ FINES Teacher
- ◆ AAMHEI Pedagogical Assistant

### **Dr. López Jiménez, Elías**

- ◆ Degree in Medicine from the Complutense University of Madrid
- ◆ Specialist in Radiotherapeutic Oncology via RMI, La Princesa Hospital

### **Dr. Navarro Viltre, Bárbara Ivonne**

- ◆ Deputy of the Emergency Department of the General Hospital of Catalonia
- ◆ Specialist in Family and Community Medicine
- ◆ Head of Hyperbaric Medicine unit at Catalunya Hospital

### **Dr. Ramallo, Rubén Leonardo**

- ◆ Master of Psycho neuro immuno endocrinology
- ◆ Biobarica Medical Doctor Núñez and Larrea
- ◆ Director of the AAMHEI Medical Clinic Commission

### **Dr. Romero-Feris, María Delfina**

- ◆ President of AEMHEI
- ◆ Biobaric Medical Director Spain

### **Dr. Verdini, Fabrizio**

- ◆ Diploma in Public Health Management
- ◆ Master's Degree in Healthcare Management

05

# Structure and Content

The structure of the content has been designed by the best professionals in the Hyperbaric Medicine sector, with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied, and diagnosed, and with extensive knowledge of new technologies applied to teaching.



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*This Postgraduate Certificate in HBOT in Oncology contains the most complete and up-to-date scientific program on the market.*

## Module 1. HBOT in Oncology

- 1.1. Hypoxia and Tumors
- 1.2. Tumoral Angiogenesis
- 1.3. Oncologic Safety of HBOT
- 1.4. HBOT and Radiosensitivity
- 1.5. HBOT and Chemotherapy
- 1.6. Osteoradionecrosis and Hyperbaric Oxygen
- 1.7. Radical Cystitis and Proctitis
- 1.8. Radio induced Skin Syndrome and HBOT
- 1.9. HBOT in Other Radio lesions
- 1.10. HBOT in Oncology Pain and Quality of Life





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*This training will allow you to advance in your career comfortably”*

05

# Methodology

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

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

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



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching potential or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in professional medical 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 grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Re-Learning Methodology

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

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



*The physician will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-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 trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Re-learning will allow you to learn with less effort and better performance, involving you more in your 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 (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 highly specific and precise.

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



#### Latest Techniques and Procedures on Video

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



#### Interactive Summaries

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

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



#### Additional Reading

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





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

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



**Testing & Re-testing**

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



**Classes**

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

Learning from an expert strengthens knowledge and memory, and generates confidence in our future difficult 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 Certificate in HBOT in Oncology Therapy guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Global University.



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*Successfully complete this training and receive your university degree without travel or laborious paperwork”.*

This program will allow you to obtain your **Postgraduate Certificate in HBOT in Oncology** 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 Certificate in HBOT in Oncology**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 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.





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