

# Postgraduate Certificate Neuromuscular Electrostimulation





## Postgraduate Certificate Neuromuscular Electrostimulation

Course Modality: **Online**

Duration: **6 weeks**

Certificate: **TECH Technological University**

Official N° of hours: **150 h.**

Website: [www.techtute.com/medicine/postgraduate-certificate/neuromuscular-electrostimulation](http://www.techtute.com/medicine/postgraduate-certificate/neuromuscular-electrostimulation)

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# 01

# Introduction

Electrotherapy has become a branch of rehabilitation medicine based on the application of electromagnetic fields to treat different pathologies. In this sense, its use ranges from the generation of analgesia to the stimulation of nerve fibers, including the modulation of the activity of different encephalic areas. This makes it necessary to have a program that helps professionals interested in this area to specialize in the principles of electrostimulation.





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*Develop your skills and a sense of confidence when performing your profession with the help of the Neuromuscular Electrostimulation Postgraduate Certificate program”*

The use of electromagnetic fields as a therapeutic tool is a practice that has been practiced for years, but it was not until the end of the last century that it experienced a scientific breakthrough. As a result, the field of action of this discipline expanded, making it necessary to have an extensive knowledge of the physiological and neuronal functioning of the subjects. This knowledge ranges from muscle contraction mechanisms to somatosensory transmission mechanisms, which makes it essential for the rehabilitation physician to know both the pathophysiological mechanisms of the subject and the physicochemical basis of electrotherapy.

Consequently, it is necessary to have highly trained professionals who understand and know the principles of muscle contraction and injuries at the neurological level, for their subsequent treatment. Thus, a program focusing on these points of interest has been devised for medical professionals interested in this field.

Given the updated content of the Neuromuscular Electrostimulation Postgraduate Certificate, its orientation is open to different health professionals, thus extending the application of electrotherapy beyond the field of rehabilitation medicine.

This **Postgraduate Certificate in Neuromuscular Electrostimulation** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- ◆ More than 75 practical cases presented by experts in electrotherapy
- ◆ 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
- ◆ New developments on the role of the rehabilitation physician in the application of electrotherapy
- ◆ Practical exercises where self-assessment can be used to improve learning.
- ◆ Algorithm-based interactive learning system for decision-making in the situations that are presented to the student
- ◆ Its special emphasis on research methodologies on electrotherapy applied to Rehabilitation 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



*Turn this program into an opportunity to learn about the latest advances in Neuromuscular Electrostimulation and improve the care of your patients"*



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*This Postgraduate Certificate is the best investment you can make in the selection of an updated program for two reasons: in addition to updating your knowledge of Neuromuscular Electrostimulation, you will obtain a certificate from TECH Technological University"*

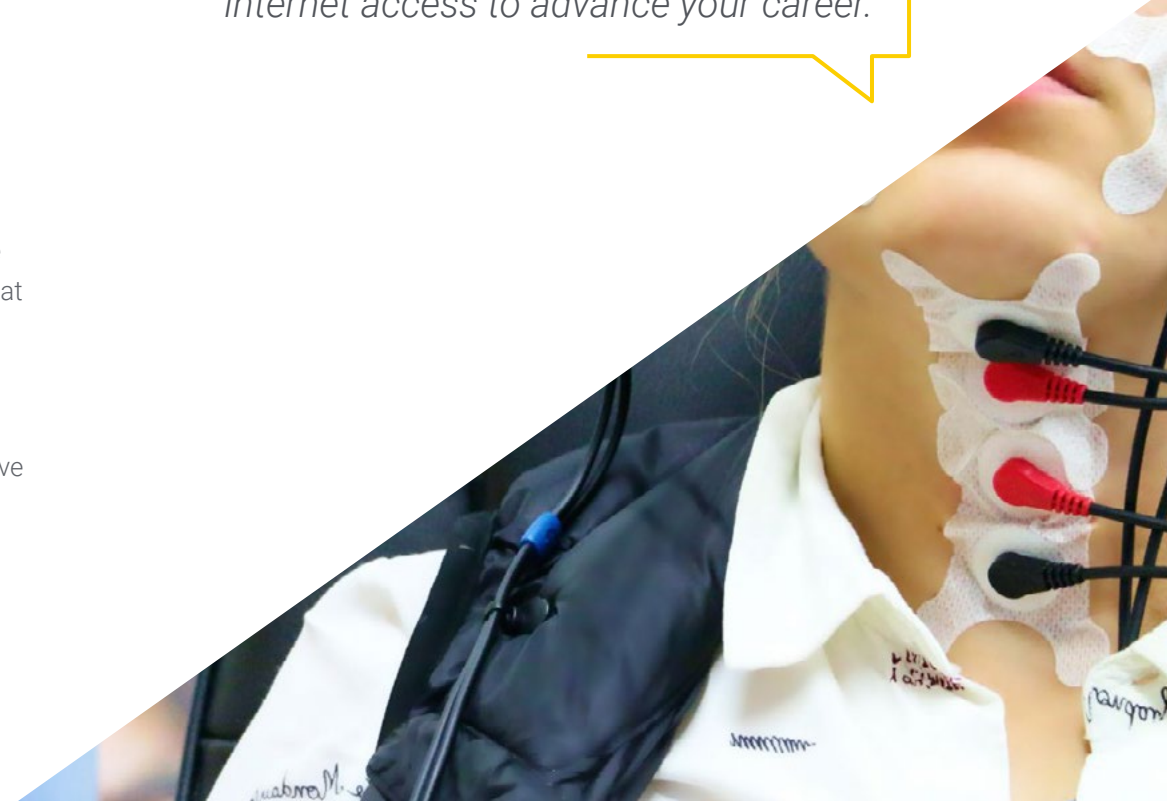
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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 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. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Study the main excitomotor currents and interferential currents to improve your professional practice.*

*It has a 100% online program to train you without leaving your daily work. All you need is internet access to advance your career.*



# 02

# Objectives

To help rehabilitation physicians enhance their skills when treating their patients, a program has been designed to update their knowledge on the subject, while promoting strategies based on a comprehensive approach to the patient. Thus, after the completion of this program, you will be able to know all the aspects related to the use of Neuromuscular Electrostimulation in patients who require it. For this reason, a series of general and specific objectives have been established to guide learning throughout the program.







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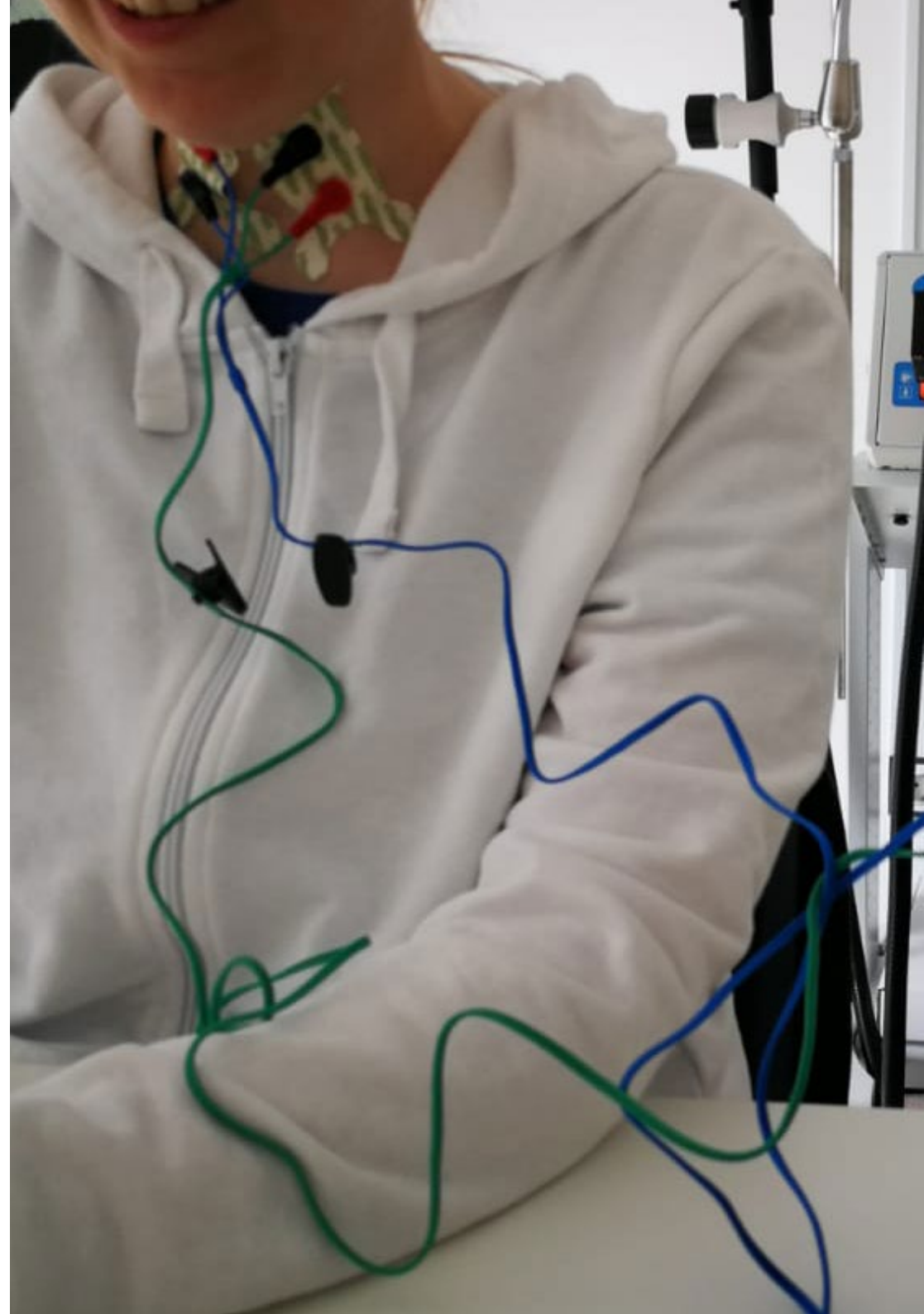
*Update your knowledge in Neuromuscular  
Electrostimulation using the best  
educational technology”*



## General Objectives

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- Update the knowledge of the Rehabilitation Medicine professional in the field of Electrotherapy
- Promote work strategies based on a comprehensive approach to the patient as a standard model for achieving excellent care
- Encourage the acquisition of technical skills and abilities, through a powerful audiovisual system, and the possibility of development through online simulation workshops and/or specific training
- Encourage professional stimulation through continuing education and research





## Specific Objectives

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- Learning about the principles of muscle contraction
- Identify the main neuromuscular injuries
- Study the main excitomotor currents and interferential currents
- Identify the described benefits of electrostimulation training



*Apply the knowledge you acquire in this program to your daily practice and improve the treatment of your patients with neuromotor problems"*

# 03

## Course Management

Thanks to the development of electrotherapy in recent years, it has been possible to learn much more about the physiological and neuronal functioning of the body. This favors the professional development of physicians who wish to specialize in this field. In this sense, for this Postgraduate Certificate focused on this area, the best specialists of recognized prestige in related areas have been brought together to complete it in an interdisciplinary way, making it, therefore, a unique and highly nourishing experience at an academic level for the student.





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*Learn from highly trained professionals  
in the latest procedures related to  
neuromuscular electrostimulation”*



## Management



### Dr. del Villar Belzunce, Ignacio

- ♦ Head of the Rehabilitation and Physical Medicine Department of the Rey Juan Carlos I Hospital in Móstoles Madrid
- ♦ Specialist in Physical Medicine and Rehabilitation, University Hospital La Paz, Madrid.
- ♦ Head of the Rehabilitation and Physical Medicine Associate Department of the Rey Juan Carlos I Hospital in Móstoles
- ♦ Specialist Physician in the Rehabilitation and Physical Medicine Service of the Rey Juan Carlos I Hospital in Móstoles
- ♦ Professor of ultrasound-guided interventional techniques in the locomotor system Quierón Salud
- ♦ Degree in Medicine and Surgery from the University of Zaragoza.
- ♦ Specialist in Physical Medicine and Rehabilitation, University Hospital La Paz, Madrid.

## Professors

### Ms. Sánchez Gómez, Gema

- ♦ Attending Physician in the specialty of Physical Medicine and Rehabilitation at the Rey Juan Carlos de Móstoles University Hospital, Madrid
- ♦ Medical Specialist in Physical Medicine and Rehabilitation at Jaca Clinic, Madrid
- ♦ Specialist Physical Medicine and Rehabilitation. Rey Juan Carlos Hospital, Móstoles, Madrid
- ♦ Degree in Medicine from the Complutense University of Madrid



**Ms. Aguirre Sánchez, Irene**

- ♦ F.E.A. of Physical Medicine and Rehabilitation in the Physical Medicine and Rehabilitation Service of the Regional Hospital García Orcoyen of Estella. Navarra, Spain
- ♦ Echoguided interventional rehabilitation. Meixoeiro Hospital Vigo, Spain
- ♦ Spinal cord injury unit National Hospital of Paraplegics. Toledo, Spain
- ♦ Degree in Medicine from the University of Navarra, Spain
- ♦ Specialist in Physical Medicine and Rehabilitation at the Navarra Hospital Complex, Spain.
- ♦ University Expert "Musculoskeletal Ultrasound", Francisco de Vitoria Online University
- ♦ University expert "Prescription of physical exercise", UPNA. Face-to-Face

**Dr. Torres Noriega, Daniel**

- ♦ Rehabilitation Physician. Rehavitalis Clinic Madrid- Spain
- ♦ Emergency and primary care physician. Manises Hospital. Valencia, Spain
- ♦ Prehospital Medical Assistance. Vallada Ambulances Valencia, Spain
- ♦ Medical Surgeon Central University of Venezuela
- ♦ Physical medicine and rehabilitation. Ramón y Cajal University Hospital Spain
- ♦ Master's Degree in Integration and Clinical Problem Solving in Medicine. University of Alcalá, Spain
- ♦ Theoretical and practical course for the treatment of spasticity in stroke.

# 04

## Structure and Content

The Neuromuscular Electrostimulation Postgraduate Certificate has been planned to become a course that will show interested students all the knowledge they need to improve their daily practice. In this way, in each class, you will acquire practical and theoretical knowledge about this field of action. Consequently, you will be able to study the main excitomotor currents and interferential currents and identify the benefits of electrostimulation training.





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*This Postgraduate Certificate in Neuromuscular Electrostimulation is the most comprehensive and up-to-date scientific program on the market”*



## Module 1. Neuromuscular Electrostimulation

- 1.1. Principles of Muscular Contraction
- 1.2. Main Neuromuscular Injuries
- 1.3. Electric Currents
- 1.4. Principles of Electromyography
- 1.5. Main Excitomotor Currents Neo-faradic Currents
- 1.6. Main Interferential Currents Kotz's Currents
- 1.7. Clinical Applications of Electrostimulation
- 1.8. Described Benefits of Electrostimulation Training
- 1.9. Body Map of the Location of the Electrostimulation Electrodes
- 1.10. Contraindications and Precautions of Electrostimulation







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*Make the right electrostimulation applications and boost your career internationally”*

# 05 Methodology

This training program provides you with 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 Harvard 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 multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

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



#### Classes

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



#### Quick Action Guides

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





# 06 Certificate

The Postgraduate Certificate in Neuromuscular Electrostimulation guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Technological University.







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

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

After the student has passed the assessments, they will receive their corresponding Postgraduate Certificate issued by **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional from career evaluation committees.

Title: **Postgraduate Certificate in Neuromuscular Electrostimulation**

Official N° of Hours: **150 h.**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

health future  
confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
development language  
virtual classroom

**tech** technological  
university

Postgraduate  
Certificate  
Neuromuscular  
Electrostimulation

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

Official N° of hours: 150 h.

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