

# Postgraduate Certificate

## Toxicological Emergencies Related to Solvents for Nursing





## Postgraduate Certificate Toxicological Emergencies Related to Solvents for Nursing

- » Modality: online
- » Duration: 6. weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/pk/nursing/postgraduate-certificate/toxicological-emergencies-related-solvents-nursing](http://www.techtute.com/pk/nursing/postgraduate-certificate/toxicological-emergencies-related-solvents-nursing)

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# 01

# Introduction

Chemical substances found in solvents can have certain effects on the body. In some industries people are exposed to these chemicals and are unaware of the effects this has on them. Many of these effects are reversible if exposure is ceased, but in many cases, no problem is detected until it is necessary to go to the emergency room. In this sense, the Nursing staff must be fully specialized to understand the situation they are facing and provide the best care for their patients.





“

*Learn about the latest advances  
in Toxicological Emergencies Related  
to Solvents and the consequences  
of intoxication by aliphatic alcohols”*

The field of knowledge covered by toxicology is very broad. However, the goal of this program is to provide nurses with sufficient knowledge in solvent-related toxicology to be able to successfully address the professional challenge of caring for patients with urgent toxicological problems.

In this sense, a program has been designed mainly aimed at the daily practice of the profession, referring to the study of those toxins that come into contact with patients most frequently, either at work or at home. On the other hand, we will try to minimize as much as possible the theoretical foundations of the subject and focus on the clinical care of the intoxicated. At the same time, we have given special importance to the practical approach required for therapeutic success.

Furthermore, it is a 100% online Postgraduate Certificate that provides students with comfortable study and ease, wherever and whenever they want it. All you need is a device with internet access to take your career one step further. A modality in keeping with the current times with all the guarantees to position the nurse in a highly demanded sector.

This **Postgraduate Certificate in Toxicological Emergencies Related to Solvents for Nursing** contains the most complete and up-to-date scientific program on the market.

The most important features include:

- ♦ The development of clinical cases presented by experts in toxicology
- ♦ The graphic, schematic, and practical contents of which they are composed provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Clinical iconography and diagnostic imaging tests
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ His special emphasis on research methodologies in toxicology
- ♦ 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



*Contact with solvent products can lead to intoxication. Learn all about them with this Postgraduate Certificate”*

“ *Understand all the knowledge you need to identify the symptoms of disinfectant and sterilant poisoning* ”

*Explains the toxicokinetics of asphyxiants and pulmonary irritants and their treatment in case of acute intoxication.*

*Explains the toxicokinetics of methanol, ethylene glycol and other toxic alcohols and their treatment in case of acute intoxication.*

The program's teaching staff includes professionals from the sector who contribute their work experience to this educational 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 education programmed to learn 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 students will be assisted by an innovative interactive video system created by renowned and experienced experts.



# 02 Objectives

At TECH, a series of goals have been created to help keep the student focused on excellence. Therefore, the program of this Postgraduate Certificate is focused on providing you with all the knowledge you need to deal with any situation involving a solvent-related toxicological emergency in the Nursing field. All this, having a theoretical-practical learning methodology that will help to better understand every aspect of this area. After completing the program, the graduate will be able to understand the effects of these substances on the body and their long-term repercussions.







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*Understand the different harmful effects of solvents on the organism thanks to a learning methodology based on practical examples”*



## General Objectives

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- ♦ Define the basic and general principles of care for the severely poisoned patient
- ♦ Identify the main toxics available in our environment
- ♦ Describe the main signs and symptoms related to severe acute poisoning and its organ involvement
- ♦ Implement mechanisms to protect the severely poisoned patients and those around them
- ♦ Detect complications related to the related toxicant or to the patient's health status
- ♦ Explain the process of care, diagnosis and treatment of the severely poisoned patient in all its dimensions





## Specific Objectives

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- ◆ Identify the toxicokinetics of petroleum derivatives and their treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of asphyxiants and pulmonary irritants and their treatment in case of acute poisoning
- ◆ Identify the toxicokinetics of antiseptics, disinfectants and sterilants and their treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of methanol, ethylene glycol and other toxic alcohols and their treatment in case of acute poisoning

“Take the step to get up to date on the latest developments in Solvent-Related Toxicological Emergencies”

03

# Course Management

The program developed for this Postgraduate Certificate has been designed by a group of professionals who specialize in the area of toxicological emergencies related to solvents in the Nursing sector. In this way, they pour all their knowledge and experience to specialize nurses who are better prepared to intervene with patients presenting any condition related to exposure to toxic substances.





“

*Learn in an immersive way everything you need to know to perform a correct evaluation of the solvent poisoned patient”*

## Management



### Dr. Cesáreo Álvarez Rodríguez

- ♦ Coordinator of the Toxicology Working Group of SEMES Galicia.
- ♦ Scientific Secretary of the Galician Society of Emergency Medicine (SEMES Galicia)
- ♦ Vice-Secretary for Training of the Spanish Society of Emergency Medicine (SEMES)
- ♦ Scientific Committee of the XXI Conference on Glycinic Toxicology and XI Conference on Toxicovigilance (October 2017)
- ♦ President of the Scientific Committee of the XXV Congress of the Spanish Society of Emergency Medicine (SEMES)
- ♦ Emergency Physician. Head of the Emergency Unit of Verín Hospital
- ♦ Degree in Medicine and Surgery from the University of Santiago de Compostela with a Bachelor's Degree in Medicine and Surgery
- ♦ Research Sufficiency by the University of Salamanca
- ♦ PhD in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Director of Doctoral Thesis in the area of Clinical Toxicology (Extraordinary Award)
- ♦ Member of the Editorial Board of the journal "Emergencias"
- ♦ Specialist in Family and Community Medicine
- ♦ University Expert in Health Promotion
- ♦ Advanced Life Support Instructor (American Heart Association Accredited)

## Professors

### Dr. Guillermo Burillo-Putze

- ♦ Emergency Coordinator of the University Hospital Complex of the Canary Islands
- ♦ Degree in Medicine from the University of La Laguna Doctor of Medicine from the University of La Laguna. Extraordinary Doctorate Award
- ♦ Director of 5. Doctoral Theses
- ♦ Specialist in Family and Community Medicine
- ♦ Master's Degree in Emergency Medicine
- ♦ University Expert in Toxicology by the University of Sevilla
- ♦ Instructor Advanced Hazardous Materials Life Support (AHLS), American College of Clinical Toxicology, Washington, USA
- ♦ Accepted in the European Registry of Toxicologists (EUROTOX), managed by the Spanish Association of Toxicology (AETOX)
- ♦ Associate Professor of Emergency Medicine at the Faculty of Medicine of the University of La Laguna

### Dr. Angel Ascensiano Bajo Bajo

- ♦ Hospital Emergency Physician at the University Health Care Complex of Salamanca
- ♦ Degree in Medicine and Surgery from the University of Salamanca
- ♦ Specialist in Family and Community Medicine
- ♦ Doctor of Medicine from the Miguel Hernández University with Extraordinary Doctorate Award)
- ♦ Certified in Emergency Medicine by the Spanish Society of Emergency Medicine (SEMES)

### Mr. César Antonio Carnero Fernandez

- ♦ Deputy Inspector of National Police
- ♦ TEDAX-NRBQ Specialist in the TEDAX-NRBQ Unit of the National Police
- ♦ Teacher in TEDAX-NRBQ for national agencies and Security Forces and Corps

### Ms. Patricia Giralde Martínez

- ♦ Prehospital Emergency Physician in the Galician 061. Health Emergency Service
- ♦ Professional experience in Hospital Emergency Medicine at Montecelo Hospital
- ♦ Degree in Medicine and Surgery from the University of Santiago de Compostela
- ♦ Specialist in Family and Community Medicine
- ♦ Master's Degree in Urgencies, Emergencies and Catastrophes by CEU San Pablo University
- ♦ Professor in the "Postgraduate Diploma in Emergencies and Emergencies" course at the School of Health Sciences of the Complutense University of Madrid

### Dr. Iria Miguéns Blanco

- ♦ Hospital Emergency Physician at the Gregorio Marañón General University Hospital in Madrid
- ♦ Professional experience in Pre-Hospital Emergency Medicine in the Emergency Service of the Community of Madrid-SUMMA
- ♦ Degree in Medicine and Surgery from the University of Santiago de Compostela
- ♦ Specialist in Family and Community Medicine
- ♦ Master's Degree in Emergency Medicine from the Complutense University of Madrid
- ♦ Master's Degree in Teaching and Digital Competencies in Health Sciences by CEU Cardenal Herrera

**Dr. Plácido Mayan Conesa**

- ◆ Graduate in Medicine and Surgery from the Universidad de Navarra
- ◆ Specialist in Family and Community Medicine
- ◆ Diploma of Advanced Studies from the from of A Coruña
- ◆ Emergency Physician at the University Hospital Complex of A Coruña
- ◆ Reviewer of Emergencias magazine
- ◆ Advanced Life Support Teacher

**Dr. María Teresa Maza Vera**

- ◆ Degree in Medicine and Surgery in the University of Zaragoza
- ◆ Member of the Toxicology Working Group of SEMES Galicia
- ◆ Hospital Emergency Physician at the Álvaro Cunqueiro Hospital in Vigo
- ◆ Specialist in Family and Community Medicine
- ◆ Diploma of Advanced Studies in Health Sciences from the University of Vigo
- ◆ Coordinator of the Scientific Committee XXIV Autonomous Congress SEMES Galicia

**Mr. José María Rodríguez Domínguez**

- ◆ National Police Officer
- ◆ TEDAX-NRBQ Specialist in the TEDAX-NRBQ Unit of the National Police
- ◆ TEDAX-NRBQ teacher for national and international organizations
- ◆ Degree in Biology from the University of Santiago de Compostela





**Dr. María del Mar Suárez Gago**

- ◆ Specialist in Internal Medicine
- ◆ Member of the Toxicology Working Group of SEMES Galicia
- ◆ Degree in Medicine and Surgery University of the Basque Country
- ◆ Assistant Physician of the Emergency Department of the Verín Hospital
- ◆ Professional experience in out-of-hospital emergency medicine in Portugal
- ◆ VMER (Medical Emergency and Resuscitation Vehicle) accreditation of the Training Center of the National Institute of Medical Emergencies of Oporto (INEM)

“ *Our teaching team will provide you with all their knowledge so that you are up to date with the latest information on the subject*”



# 04

# Structure and Content

The structure of the contents has been designed by a team of professionals from the best educational centers and universities in the national territory, thus guaranteeing the excellence of the syllabus and that it meets the labor demands required in the sector. Therefore, the Postgraduate Certificate focused on solvent-related toxicological emergencies in the Nursing sector has a syllabus that focuses on the key aspects when treating patients in these circumstances. In a well-structured manner, students will be able to apply what they have learned in their work environment immediately.





“With the support of an excellent group of experts, take an updated Postgraduate Certificate focused on your professional needs”

## Module 1. Industrial Poisoning by Solvents

### 1.1. Hydrocarbon Poisoning

#### 1.1.1. Preliminary

1.1.1.1. Introduction

1.1.1.2. Index

1.1.1.3. Objective

#### 1.1.2. Aliphatic or Linear

1.1.2.1. Short Chain Hydrocarbons: Butane, Propane, Ethane and Methane

1.1.2.2. Long-Chain Hydrocarbons: Pentanes, Hexanes, Heptanes and Octanes

1.1.2.3. Petroleum Distillates: Gasoline, Kerosene, and Others

1.1.2.4. Halogenated Products

1.1.2.5. Carbon Tetrachloride

1.1.2.6. Chloroform

1.1.2.7. Dichloromethane

1.1.2.8. Trichloroethylene

1.1.2.9. Tetrachloroethylene

1.1.2.10. Trichloroethane

#### 1.1.3. Aromatic or Cyclic

1.1.3.1. Benzene

1.1.3.2. Toluene

1.1.3.3. Conclusions and Key Points

### 1.2. Aliphatic Alcohols Poisoning

#### 1.2.1. Preliminary

1.2.1.1. Introduction

1.2.1.2. Index

1.2.1.3. Objective

#### 1.2.2. Methyl Alcohol

#### 1.2.3. Isopropyl Alcohol

1.2.4. Conclusions and Key Points





### 1.3. Glycol Poisoning

#### 1.3.1. Preliminary

1.3.1.1. Introduction

1.3.1.2. Index

1.3.1.3. Objective

1.3.2. Ethylene Glycol

1.3.3. Diethylene Glycol

1.3.4. Propylene Glycol

1.3.5. Conclusions and Key Points

### 1.4. Nitrogen Derivative Poisoning

#### 1.4.1. Preliminary

1.4.1.1. Introduction

1.4.1.2. Index

1.4.1.3. Objective

1.4.2. Aniline

1.4.3. Toluidine

1.4.4. Nitrobenzene

1.4.5. Conclusions and Key Points

### 1.5. Acetone Poisoning

#### 1.5.1. Preliminary

1.5.1.1. Introduction

1.5.1.2. Index

1.5.1.3. Objective

1.5.2. Conclusions and Key Points

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*Dare to take the step that will lead you to improve your professional practice with a program focused on solvent toxicological emergencies”*

# 05

# 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.





“

*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 Nursing School we use the Case Method

In a given situation, what should a professional do? 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. Nurses learn better, faster, and more sustainably over time.

*With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing practice.



“

*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. Nurses 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 nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.



*The nurse 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 have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical 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 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 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.



### Nursing 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 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 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 suggesting that observing third-party experts can be useful.

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.



06

# Certificate

The Postgraduate Certificate in Toxicological Emergencies Related to Solvents for Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Toxicological Emergencies Related to Solvents for Nursing** contains the most complete and up-to-date scientific 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 career evaluation committees.

Title: **Postgraduate Certificate in Toxicological Emergencies Related to Solvents for Nursing**

Official N° of Hours: **100 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.





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Toxicological Emergencies  
Related to Solvents  
for Nursing

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