

# Postgraduate Diploma Pediatric Hemodialysis for Nursing





## Postgraduate Diploma Pediatric Hemodialysis for Nursing

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

Website: [www.techtute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-pediatric-hemodialysis-nursing](http://www.techtute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-pediatric-hemodialysis-nursing)

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Certificate

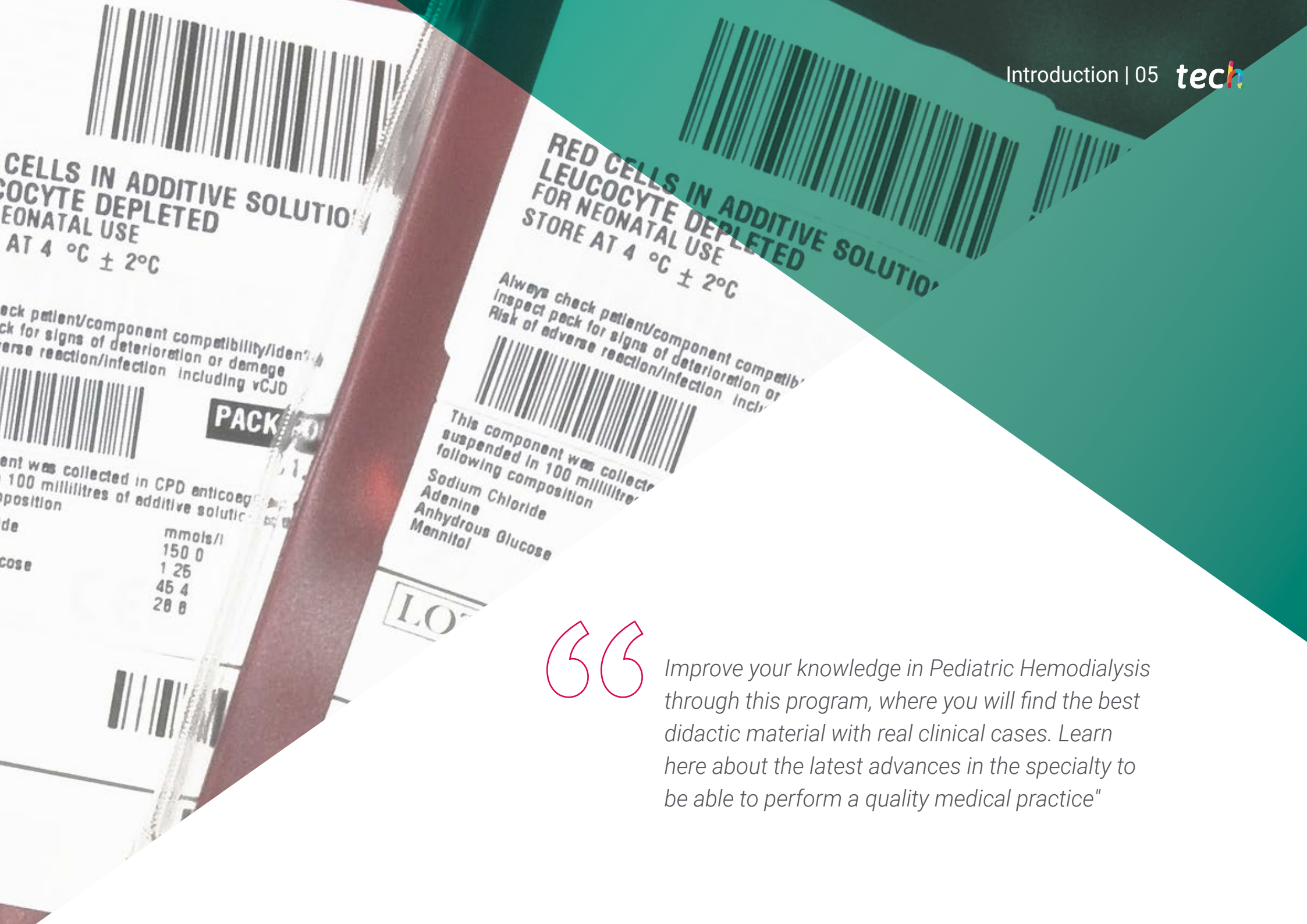
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# 01 Introduction

Nursing plays a decisive role in the care of the pediatric patient with chronic kidney disease, both from its onset and in later stages. In addition to skills in renal replacement techniques such as the acquisition of specific professional competencies, specific and quality care is required in the various studies of renal disease.





CELLS IN ADDITIVE SOLUTION  
LEUCOCYTE DEPLETED  
FOR NEONATAL USE  
STORE AT 4 °C ± 2°C

RED CELLS IN ADDITIVE SOLUTION  
LEUCOCYTE DEPLETED  
FOR NEONATAL USE  
STORE AT 4 °C ± 2°C

Always check patient/component compatibility/identity  
Inspect pack for signs of deterioration or damage  
Risk of adverse reaction/infection including vCJD

Always check patient/component compatibility/identity  
Inspect pack for signs of deterioration or damage  
Risk of adverse reaction/infection including vCJD

**PACK**

This component was collected  
suspended in 100 millilitre  
following composition

- Sodium Chloride
- Adenine
- Anhydrous Glucose
- Mannitol

mmols/l  
150.0  
1.25  
45.4  
28.8

“

Improve your knowledge in Pediatric Hemodialysis through this program, where you will find the best didactic material with real clinical cases. Learn here about the latest advances in the specialty to be able to perform a quality medical practice”

The care of the pediatric nephrological patient, including renal function replacement techniques, has made significant advances in recent years, both in terms of renal transplantation and in the health care of the nephrological patient, requiring specialized and continuous training for nursing. Such specialized training is rarely found in the usual curricular specialization, so many nurses are unaware of important aspects of caring for these patients. Training in this area is necessary to guarantee a minimum quality of care.



*Increase your competencies  
in the approach to Pediatric  
Hemodialysis for Nursing through  
this Postgraduate Diploma"*

This **Postgraduate Diploma in Pediatric Hemodialysis for Nursing** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- ◆ Development of clinical cases presented by experts in the different areas of multidisciplinary knowledge. The graphic, schematic, and eminently practical contents of which they are composed provide scientific and practical information on the disciplines that are essential for professional practice.
- ◆ New developments in Pediatric Hemodialysis for Nursing.
- ◆ Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- ◆ With a special emphasis on evidence-based nursing and Pediatric Hemodialysis research methodologies for Nursing.
- ◆ All this will be complemented by 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.

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*This Postgraduate Diploma may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Pediatric Hemodialysis for Nursing, you will obtain a certificate from TECH Technological University"*

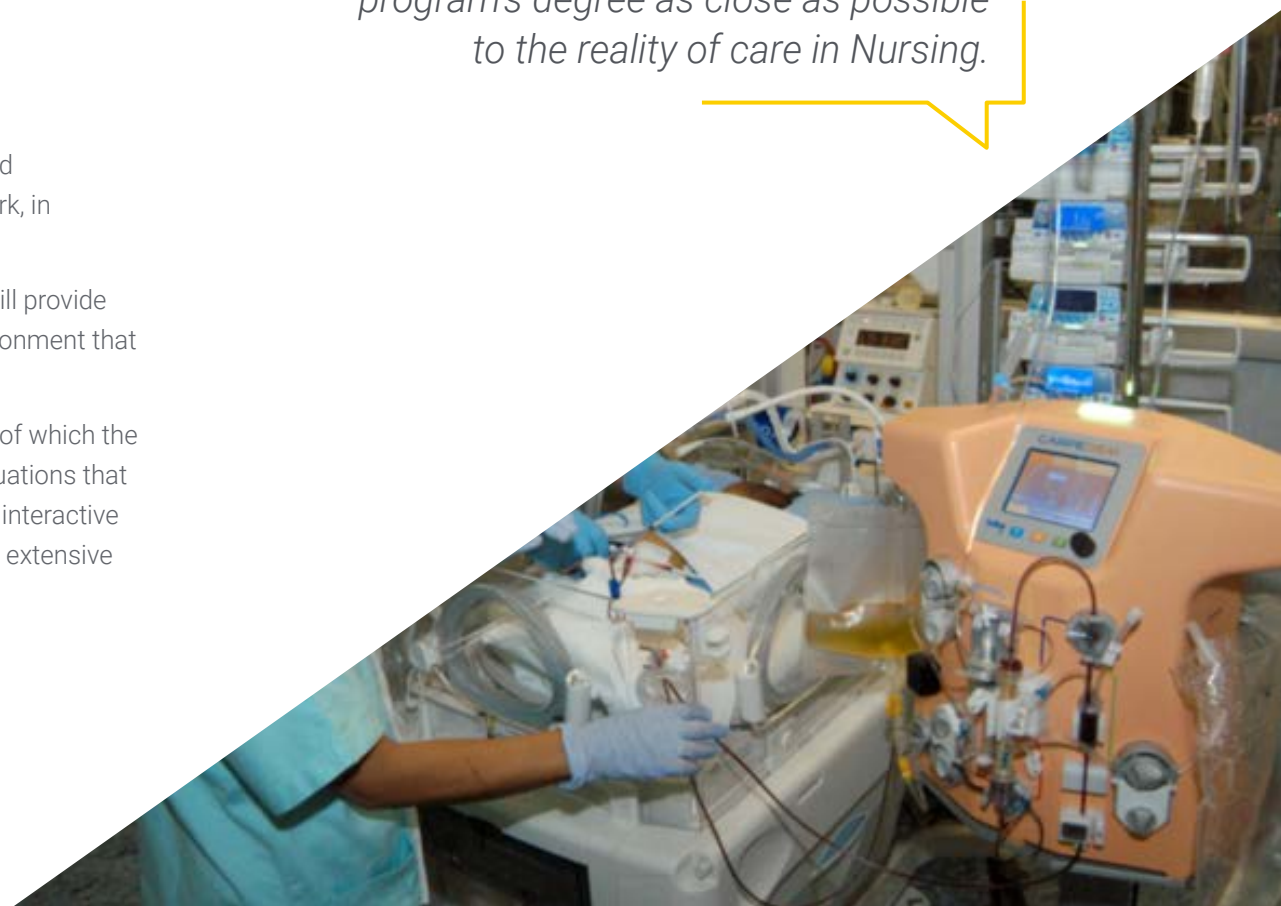
Its teaching staff includes health professionals from the fields of nursing and nephrological medicine, who bring to this training the experience of their work, in addition to recognized specialists belonging to leading scientific societies.

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 an immersive training program to train in real situations.

The design of this program is based on Problem Based Learning, by means of which the nursing professional must try to solve the different professional practice situations that arise throughout the course. This will be done with the help of an innovative interactive video system developed by renowned experts in the field of nephrology with extensive teaching experience.

*The Postgraduate Diploma allows training in simulated environments, which provide immersive learning programmed to train for real situations.*

*It includes clinical cases to bring the program's degree as close as possible to the reality of care in Nursing.*



02

# Objectives

The main objective of the program is the development of theoretical and practical learning, so that the nursing professional can master in a practical and rigorous way the study of Pediatric Hemodialysis for Nursing.







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*This refresher program will generate a sense of confidence when practising nursing, which will help you grow both personally and professionally”*



## General Objectives

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- ♦ Review the most frequent procedures, techniques and care in routine clinical practice in the approach to the pediatric chronic renal patient.
- ♦ Optimize the quality and care of pediatric dialysis patients by providing more qualified healthcare professionals.
- ♦ Develop competencies and skills for the comprehensive approach and management of pediatric patients with renal disease.



## Specific Objectives

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- ♦ Acquire basic knowledge on the fundamental aspects of diagnosis, etiology, pathophysiology and prevention of kidney disease.
- ♦ Identify the risk factors of kidney disease and its different stages.
- ♦ Identify signs and symptoms that indicate pathology of renal origin.
- ♦ Gain up-to-date knowledge of the different examination methods in Nephrology.
- ♦ Broaden knowledge in the promotion of self-care.
- ♦ Acquire knowledge of how to deal with a renal patient in the emergency department.
- ♦ Know how renal insufficiency affects the different stages of the drugs administered.
- ♦ Provide the essential foundations and the latest theoretical and practical advances to all professionals who need it, who decide to start learning about hemodialysis, or who are already in this field and want to update their knowledge.
- ♦ Gain up-to-date knowledge on the care and management of pediatric patients in hemodialysis.





- ◆ Acquire skills in the comprehensive management of a pediatric patient on dialysis.
- ◆ Gain skills in the use of new technologies in caring for a chronic renal patient.
- ◆ Describe the different digital didactic resources that we can recommend to a chronic renal patient.
- ◆ Acquire skills in the use of new technologies applied to chronic renal patients.
- ◆ Develop competencies and skills to empower the chronic renal patient.
- ◆ Know the current status and benefits of the use of ICT in the Chronic Kidney Disease procedures.
- ◆ Understand and manage the research process in the field of healthcare and renal patients.
- ◆ Gain up-to-date knowledge of the Nursing Research design.
- ◆ Acquire skills in the different quantitative and qualitative research techniques.
- ◆ Describe the different methodologies in care research.
- ◆ Broaden knowledge of qualitative research.
- ◆ Know the ICT resources used for care research in renal patients.

03

# Course Management

This program includes in its teaching staff health professionals of recognized prestige, who belong to the field of nephrology and who pour into this training the experience of their work.

In addition, renowned specialists, members of prestigious national and international scientific communities, are involved in designing and preparing the program.





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*Learn from leading professionals the latest advances in Pediatric Hemodialysis for Nursing”*

## Management



### Mrs. Molina Fuillerat, Ruth

- ◆ Diploma in Nursing from the University of Cadiz, with a extensive experience working in Nephrology Services. Dialysis. Doctor Negrín Hospital (Las Palmas de Gran Canaria), Torrecárdenas Hospital (Almería) y Virgen de las Nieves Hospital y Clínico San Cecilio Hospital, (Granada). Currently wokring in the hemodialysis unit at Campus de la Salud Hospital (Granada) Co-author of the health application Dialysis 24h.
- ◆ 1st prize Hinnovar de Novartis, 2014 edition, Hospital Management Category
- ◆ Accésit Professor Barea Award 2015 "Effect of a support tool on adherence to treatment, anxiety and quality of life of dialysis patients".
- ◆ Award for the isysCore Foundation, naming Dialysis 24h as the second best app in Spain
- ◆ Bandera de Andalucía 2015 for the commitment, dedication and devotion as a nurse in the Dialysis 24h app.
- ◆ Albert Jovell Award 2016 Accésit to Diálisis 24h app for "Best initiative that improves patient health outcomes, developed by healthcare professionals, individually or as a team".

## Professors

### Mrs. Fraile Bravo, Mercedes

- ◆ Diploma in Nursing
- ◆ Degree in Social and Cultural Anthropology
- ◆ PhD in Nursing
- ◆ Associate Professor at University of Extremadura
- ◆ Care Coordinator
- ◆ Extremadura Health Service

### Dr. Gutiérrez Vilchez, Elena

- ◆ Degree in Medicine and Surgery
- ◆ Specialist in Nephrology
- ◆ Head of Pediatric Hemodialysis Department
- ◆ Carlos Haya Hospital Malaga, Spain



**Dr. López-González Gila, Juan de Dios**

- ◆ Degree in Medicine and Surgery
- ◆ Nephrology Resident
- ◆ Virgen de Las Nieves Hospital Granada, Spain

**Pérez Jiménez, María Teresa**

- ◆ Diploma in Nursing
- ◆ Nurse in the Child and Adolescent Psychiatric Unit
- ◆ Son Espases University Hospital Mallorca, Spain

**Rebollo Rubi, Ana**

- ◆ Diploma in Nursing
- ◆ Nurse in Carlos Haya Hospital Malaga, Spain
- ◆ Rebollo Rubi, Ana
- ◆ Diploma in Nursing
- ◆ Nurse in Carlos Haya Hospital Malaga, Spain

**Sánchez García, Belén**

- ◆ Diploma in Nursing
- ◆ Nurse in Carlos Haya Hospital Malaga, Spain

04

# Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of specialization in daily nursing practice, aware of the relevance of the current importance of training to be able to act before the patient with nephrological pathology and committed to quality teaching through new educational technologies.





SpO<sub>2</sub>-PR

[/min]

HR

SpO<sub>2</sub>

153

[bpm]

100

NIBP

SYS  
180  
80

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*This Postgraduate Diploma in Pediatric Hemodialysis for Nursing contains the most complete and up-to-date scientific program on the market”*

## Module 1. Advanced in Kidney Disease

- 1.1. Latest Information on Kidney Disease.
  - 1.1.1. Kidney Structure and Function.
  - 1.1.2. Uremic Toxins.
  - 1.1.3. Hydroelectrolyte Balance and Acid-Base Balance:
  - 1.1.4. Hydration Disorders
  - 1.1.5. Acid-base Balance Disorders: Acidosis, Alkalosis
  - 1.1.6. Potassium Disorders: Hyperkalemia, Hypokalemia.
  - 1.1.7. Conceptual Basis of Renal Pathology.
  - 1.1.8. General Apects in Nursing Care of Patients with Renal Pathology.
- 1.2. Prevention of Kidney Failure Advancing.
  - 1.2.1. Definition and Risk Factors of CKD.
  - 1.2.2. Evaluation, Diagnosis and Stratification.
  - 1.2.3. Diagnosis and Management of Proteinuria.
  - 1.2.4. Hygiene and Medication Management of Hypertensive Patients.
  - 1.2.5. Strategies to Promote Self-Care.
  - 1.2.6. Comorbidity Management.
  - 1.2.7. Prevention and Progression of CKD in a Diabetic Patient.
- 1.3. Renal Pathologies.
  - 1.3.1. Urinary Function Disorders: Proteinuria, Hematuria, Azoemia, Oliguria.
  - 1.3.2. Nephritis.
  - 1.3.3. Nephrotic Syndrome.
  - 1.3.4. Urinary Infection.
  - 1.3.5. Nephrolithiasis
  - 1.3.6. Hemolytic Uremic Syndrome and Thrombocytic Thrombocytopenic Purpura.
  - 1.3.7. Primary Glomerulonephritis.
  - 1.3.8. Nephropathies of Systemic Diseases.
  - 1.3.9. Interstitial and Toxic Nephropathies.
  - 1.3.10. Renal Vasculopathies.
  - 1.3.11. Congenital and Hereditary Diseases.
  - 1.3.12. Arterial Hypertension and Organ Repercussions.
  - 1.3.13. Diabetes and the Kidneys.
  - 1.3.14. Pregnancy and the Kidneys.
  - 1.3.15. Polycystic Kidney Disease.
  - 1.3.16. Types of Kidney Failure and the Associated Complications.
  - 1.3.17. General Apects in Nursing Care of Patients with Renal Pathology.
- 1.4. Methods of Examination in Nephrology
  - 1.4.1. Semiology and Physical Examination.
  - 1.4.2. Inspection
  - 1.4.3. Palpitation
  - 1.4.4. Auscultation
  - 1.4.5. Imaging Techniques.
  - 1.4.6. Intravenous Urography.
  - 1.4.7. Renal Arteriography.
  - 1.4.8. Ultrasound
  - 1.4.9. Gammagraphy.
  - 1.4.10. Urine Study.
  - 1.4.11. Urinary Sediment Analysis.
  - 1.4.12. Evaluation of Renal Function: Urea, Creatinine and Clearance.
  - 1.4.13. Osmolality and Functional Tests.
  - 1.4.14. Renal Biopsy.
  - 1.4.15. Protocol and Technique Procedure.
  - 1.4.16. Renal Patient Management in Emergencies.
- 1.5. Pharmacokinetics in Kidney Failure.
  - 1.5.1. Absorption.
  - 1.5.2. Distribution.
  - 1.5.3. Metabolism.
  - 1.5.4. Elimination.
  - 1.5.5. Dosage Adjustment.

## Module 2. Pediatric Hemodialysis

- 2.1. Advances and Innovations in Pediatric Hemodialysis.
  - 2.1.1. Indications and Contraindications.
- 2.2. Pediatric Vascular Accesses.
  - 2.2.1. Care and Assessment of Vascular Accesses.
- 2.3. Pediatric Dialysis Equipment.
  - 2.3.1. Peritoneal.
  - 2.3.2. Hemodialysis
- 2.4. Modalities in Pediatric Dialysis.
  - 2.4.1. Peritoneal.
  - 2.4.2. Hemodialysis
- 2.5. Administration of Drugs during Pediatric Hemodialysis Sessions.
- 2.6. Nursing in the Care of Children on Dialysis.
  - 2.6.1. Complication Management in Hemodialysis Sessions.
  - 2.6.2. Nursing Care of Pediatric Renal Patients.

## Module 3. Use of ICT in Chronic Renal Patients.

- 3.1. Use of Technology.
  - 3.1.1. Use of Technology Applied to Health.
- 3.2. Communication in the Digital Era.
  - 3.2.1. Redes sociales
- 3.3. Active Patient.
  - 3.3.1. Definition.
  - 3.3.2. Features.
  - 3.3.3. Empowerment.
  - 3.3.4. Active Patient Initiatives.
- 3.4. Digital Resources for Chronic Renal Patients.
  - 3.4.1. Blogs.
  - 3.4.2. Didactic Websites.
  - 3.4.3. Health Apps.

## Module 4. Research in Renal Patient Care

- 4.1. Research in Renal Patient.
  - 4.1.1. Quantitative Research.
  - 4.1.2. Investigación Cualitativa.
    - 4.1.2.1. Phases and Stages of Qualitative Research.
    - 4.1.2.2. Qualitative Research Techniques.
      - 4.1.2.2.1. Data Analysis.
      - 4.1.2.2.2. Reporting.
  - 4.1.3. Resources.
  - 4.1.4. TICS for Research in Renal Patient Care.



*A unique, key and decisive training experience to boost your professional development"*

05

# Methodology

This training 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.



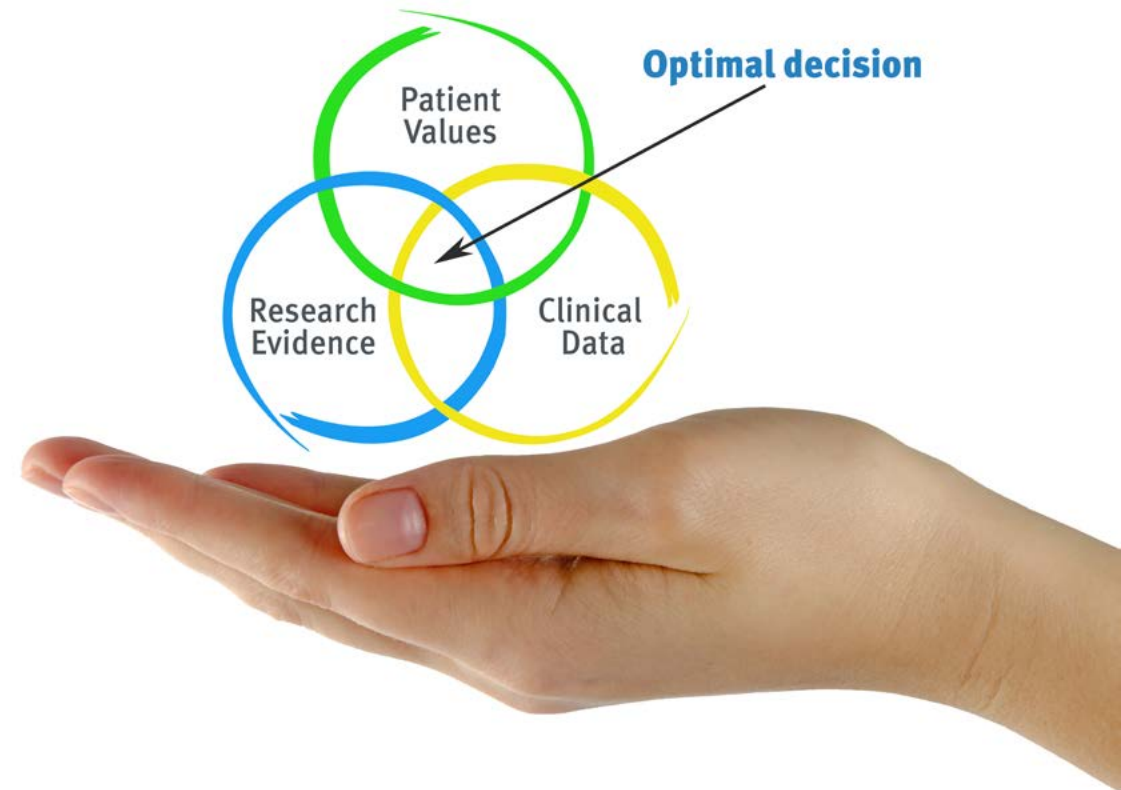
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*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH Nursing School we use the Case Method

In a given clinical 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 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. Gervas, 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 university program.



## 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 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 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 175,000 nurses with unprecedented success, in all specialties regardless of from the workload. 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 really 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.



### Nursing Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current nursing procedures and 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

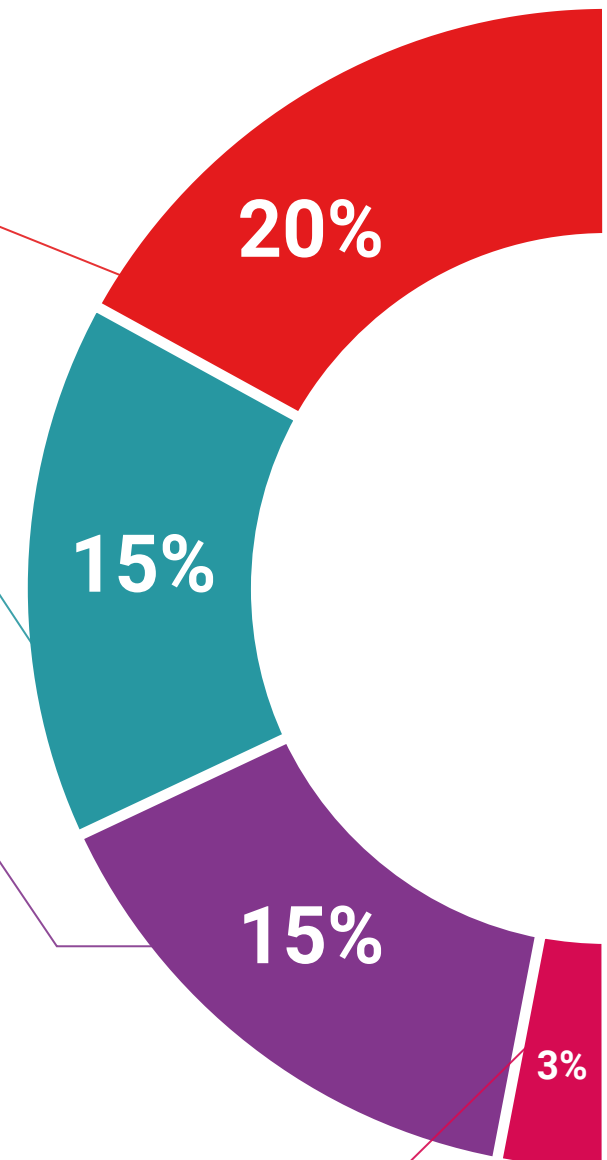
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

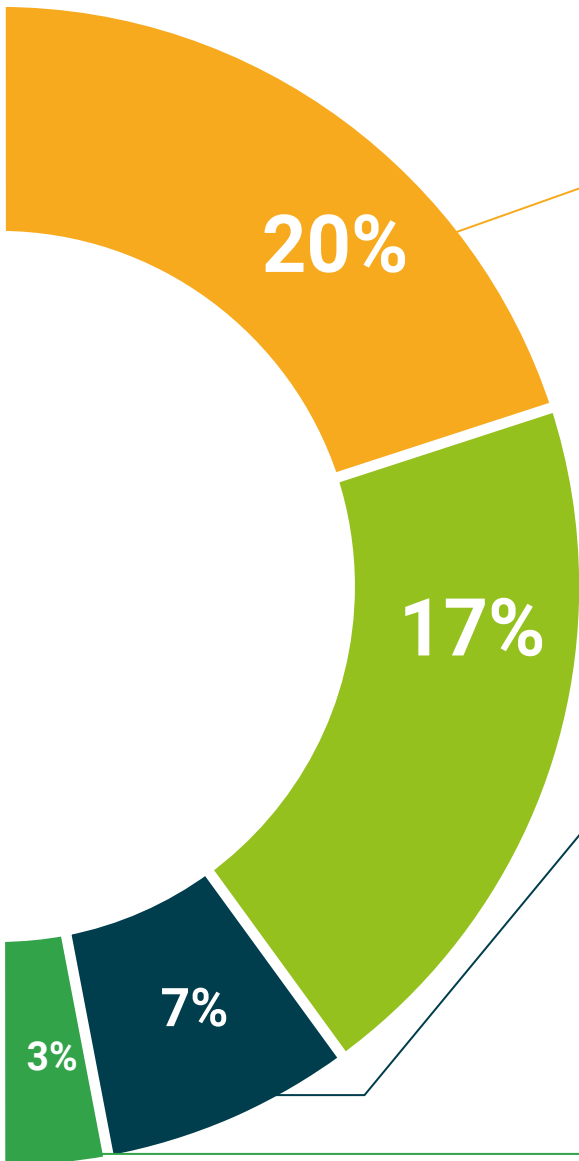
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



### 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 difficult future 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 Diploma in Pediatric Hemodialysis for Nursing** guarantees you, in addition to the most rigorous and up-to-date training, access to a certificate issued by **TECH Technological University**.



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*Successfully complete this specialisation and receive your diploma without travel or laborious paperwork”*

This **Postgraduate Diploma in Pediatric Hemodialysis for Nursing** contains the most complete and up-to-date scientific program on the market.

After the student has passed the evaluations, they will receive their corresponding certificate issued by **TECH Technological University via tracked delivery**.

The diploma issued by **TECH Technological University** will specify the qualification obtained through the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Pediatric Hemodialysis for Nursing**

Official Number of Hours: **400**



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

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



## Postgraduate Diploma Pediatric Hemodialysis for Nursing

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

# Postgraduate Diploma Pediatric Hemodialysis for Nursing

