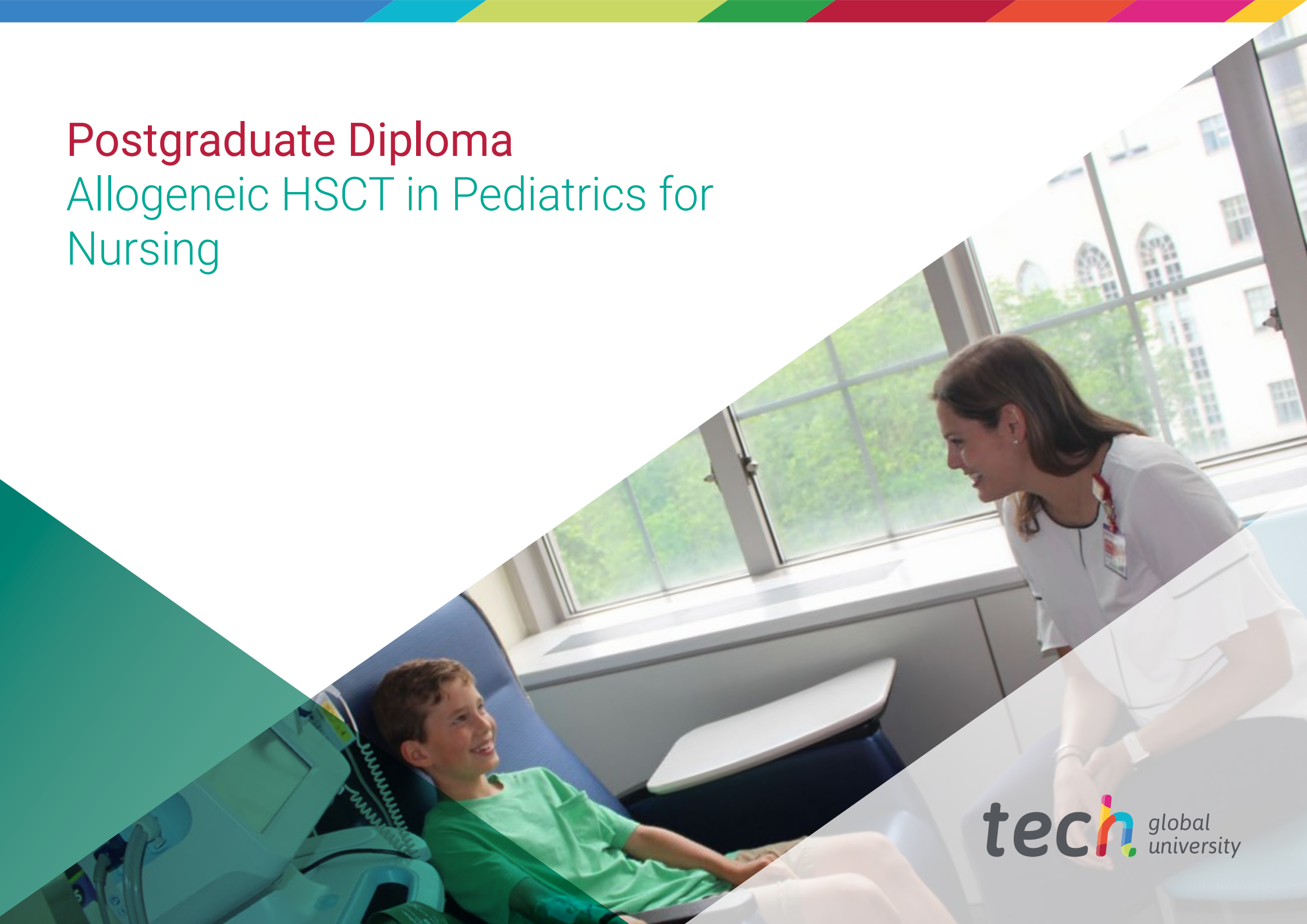


# Postgraduate Diploma Allogeneic HSCT in Pediatrics for Nursing





## Postgraduate Diploma Allogeneic HSCT in Pediatrics for Nursing

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 24 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-allogeneic-hsct-pediatrics-nursing](http://www.techtute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-allogeneic-hsct-pediatrics-nursing)

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# 01

# Introduction

Hematopoietic Progenitor Transplants have been performed for more than 40 years and have become one of the most common procedures to treat an increasing number of malignant and non-malignant blood diseases in children worldwide. Like any other procedure, it is not without risk and it is the job of nurses to acquire the competencies and skills necessary to comprehensively care for pediatric patients and their families during conditioning for treatment. For this reason, the program in Allogeneic HSCT in Pediatrics for Nursing will allow students to learn this and other concepts of interest for their professional development.



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*Understand and develop your skills in the approach to and management of short-, medium- and long-term complications in hematopoietic stem cell transplant patients”*

Hematopoietic Progenitor Transplantation has been used as a treatment in several hematologic and oncological diseases, and is reserved for patients who have no other treatment options. This is not to say that it is a process that is exempt from risk or the development of a stressful situation in pediatric patients. Therefore, children must be able to count on the support of both family members and medical professionals so that they feel safe during the process.

In this way, the Postgraduate Diploma in Allogeneic HSCT in Pediatrics for Nursing will provide students with all the necessary and up-to-date information in this field. The program will begin by providing the student with the knowledge and skills necessary for the recognition, management and initial stabilization of pediatric hematological patients who suffer a vital compromise derived from a complication of their underlying disease, an intercurrent process or undesired consequences of their treatment, in an effective, safe and coordinated manner, and integrating their interventions with the rest of the health system services at the hospital level.

In the modules that follow, you will have a broader view of the process used to identify pediatric patients with hematologic disorder who are candidates for allogeneic hematopoietic stem cell transplantation. As a result, students will acquire the necessary skills to ensure comprehensive care of patients during all stages of this procedure.

By the end of the program, the professional will have developed a set of knowledge and skills for the comprehensive approach and management of children and adolescents with severe hematologic disorder and their families. All this, taking into account the facilitating and emotional role of nurses in the field of pediatric hematology.

The teaching team gathered for this Postgraduate Diploma is of recognized prestige and has extensive experience in international reference units in the treatment and care of newborns, children and adolescents with hematologic disease. As it is a 100% online program, it provides the students with the ease of being able to study it comfortably, wherever and whenever they want. All you need is a device with internet access to take your career one step further. A modality according to the current times with all the guarantees to position the nurse in a highly demanded sector.

This **Postgraduate Diploma in Allogeneic HSCT in Pediatrics for Nursing** contains the most complete and up-to-date educational program on the market. The most important features include:

- ♦ The development of practical case studies presented by experts in Pediatric Hematology for Nursing
- ♦ 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.
- ♦ Practical exercises where self-assessment can be used to improve learning.
- ♦ Its special emphasis on innovative methodologies
- ♦ 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



*Understand the importance of therapeutic communication in the care of children and adolescents with severe hematologic disorder and their families"*

“

*Achieve sufficient knowledge and skills to be able to develop the personal and professional attitudes necessary to care for children and adolescents and their families who are undergoing allo HSCT”*

The program's teaching staff includes professionals from the sector who contribute their work experience to this 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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Carry out a comprehensive plan of care for children with incurable diseases and their families, following a program supported by an excellent teaching team.*

*Understand the most frequent situations in which children and adolescents with severe hematologic disease require intensive care.*



# 02 Objectives

The knowledge acquired in this Postgraduate Diploma allows the students to acquire the skills required to update their knowledge in their profession, while understanding, at all times, the most frequent emergency situations in children and adolescents with hematologic diseases who are undergoing a HSCT procedure. In this way, they will be able to develop their full capabilities in a field of medicine that continues to advance. Likewise, they will be able to understand the importance of therapeutic communication in the care of children and adolescents with severe hematologic disorder.







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*Identifying the influence of the environment and surroundings on the experience of the disease will help professionals to improve their care"*



## General Objectives

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- ♦ Optimize the quality and care of pediatric patients with hematologic disorders, providing greater qualification to healthcare professionals.
- ♦ Acquire the essential skills to comprehensively care for children and adolescents with hematologic disorders and their families.
- ♦ Recognize and assess the physical, psychological, social and spiritual needs of children and adolescents with hematologic disorder and their families
- ♦ Achieve sufficient knowledge and skills to be able to develop the personal and professional attitudes required to treat children and adolescents with hematologic disorder
- ♦ Develop a comprehensive approach to the care of children and adolescents with hematologic disorders and their families, in order to promote their well-being, autonomy and dignity at all times.
- ♦ Develop problem-solving and evidence generation capabilities in the field of Pediatric Hematology to correct knowledge deficiencies and establish standards of excellence in practice.



*Analyze the different specific treatment modalities to address hematologic disorders in childhood and adolescence”*





## Specific Objectives

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### Module 1. All Together as a Team

- ♦ Provide the student with the knowledge and skills necessary for the recognition, management and initial stabilization of pediatric hematological patients who suffer a vital compromise derived from a complication of their underlying disease, an intercurrent process or undesired consequences of their treatment, in an effective, safe and coordinated manner, and integrating their interventions with the rest of the health system services at the hospital level
- ♦ Expose the most frequent emergency situations in children and adolescents with severe hematologic disease
- ♦ Explain the most frequent situations in which children and adolescents with severe hematologic disease require intensive care
- ♦ Achieve sufficient knowledge and skills to be able to develop the personal and professional attitudes necessary to care for children and adolescents with severe hematologic disease and their families during their stay in a PICU
- ♦ Detail and justify the importance of humanizing PICUs to promote the well-being, autonomy and dignity of children, adolescents and families at all times
- ♦ Broaden knowledge of the psychological care needs of children and adolescents with severe hematological disease and their families
- ♦ Discuss the importance of educational continuity for children and adolescents with severe hematologic disease
- ♦ Emphasize the importance of non-profit associations and volunteers in the comprehensive care of children with severe hematologic disease and their families
- ♦ Describe the different digital teaching resources (ICT-E-health) that we can use and recommend to children and adolescents with severe hematologic disease and their

families

- ♦ Learn about new technologies applied to care management and nursing visibility

## **Module 2. Towards Healing: Allogeneic Hematopoietic Stem Cell Transplantation (HSCT) in Pediatrics**

- ♦ Identify pediatric patients with hematologic disorders who are candidates for allogeneic hematopoietic stem cell transplantation (allo-HSCT)
- ♦ Explain the different phases from the donation of hematopoietic progenitors to the infusion of these progenitors to the patient
- ♦ Achieve sufficient knowledge and skills to be able to develop the personal and professional attitudes necessary to care for children and adolescents and their families who are undergoing allo HSCT
- ♦ Acquire the essential skills to comprehensively care for children and adolescents and their families during conditioning for allo HSCT
- ♦ Gain knowledge and acquire competence to carry out the process of hematopoietic progenitor infusion, as well as to address and manage possible complications during this process
- ♦ Understand and develop competence in the approach and management of short-, medium- and long-term complications in the hematopoietic stem cell transplanted patient
- ♦ Update knowledge in the treatment of acute graft-versus-host disease (GVHD) in post hematopoietic stem cell transplant patients
- ♦ Explain the most frequent emergency situations in children and adolescents transplanted with hematopoietic progenitors
- ♦ Describe the mid- and long-term nursing care of children and adolescents after hematopoietic stem cell transplantation



- ♦ Increase knowledge of the psychological care needs of children and adolescents undergoing allo HSCT and their families

### **Module 3. When the Response to Treatment is Not Adequate**

- ♦ Describe the concept of relapse, treatment options and the reception and accompaniment of children, adolescents and parents
- ♦ Identify the scientific and ethical basis of clinical trials in pediatric hematology
- ♦ Introduce the biologic-molecular basis of immunotherapy treatment
- ♦ Get to know the types and different phases of clinical trials in pediatric hematology
- ♦ Explain the practical aspects of conducting a clinical trial in pediatric hematology
- ♦ Identify the professionals involved and the role of nursing in clinical trials in pediatric hematology
- ♦ Describe the nursing care of the pediatric patient with hematologic disease included in a clinical trial
- ♦ Discuss expectations in the management of the pediatric patient with severe hematologic disease
- ♦ Conceptualize pediatric palliative care
- ♦ Acquire the essential skills to provide comprehensive care to children and adolescents in need of palliative care and their families
- ♦ Recognize the needs of pediatric patients in need of palliative care
- ♦ Gain knowledge about the fundamental aspects of symptom control in palliative care in pediatric hematology
- ♦ Carry out a comprehensive care plan for children with incurable diseases and their families
- ♦ Examine the ethical issues applicable to child health and their use in making difficult decisions in palliative care situations

- ♦ Discuss what is an appropriate end of life in symptom management and accompaniment, to promote and ensure well-being and dignity at all times

### **Module 4. Fostering, Caring and Accompanying in Pediatric Hematology**

- ♦ Develop in nursing professionals the set of knowledge and skills for the comprehensive approach and management of children and adolescents with severe hematologic disorder and their families
- ♦ Identify the theoretical foundations of nursing that approach the comprehensive view of care
- ♦ Describe the facilitating role and emotional competency profile of pediatric hematology nurses
- ♦ Understand the importance of therapeutic communication in the care of children and adolescents with severe hematologic disorders and their families.
- ♦ Identify the influence of the environment and surroundings on the experience of the disease
- ♦ Acquire skills in the accompaniment of the family system in pediatric hematology
- ♦ Achieve sufficient knowledge and skills to be able to develop the personal and professional attitudes necessary to care for children and adolescents with severe hematologic disorders and their families in the different stages of development

03

# Course Management

In order to provide a quality education, it is necessary to have a teaching staff that can provide all the theoretical and practical information that will help students to develop optimally in any work environment. This way, TECH has a large team specialized in the care of patients who are about to receive a treatment for HSCT. As a result, students have the best tools to develop all their theoretical and practical skills in their profession. This is the best way to execute in a real environment all the knowledge acquired in this program.



“

*Understand and develop your skills in the approach and management of short-, medium- and long-term complications in hematopoietic stem cell transplant patients"*

## Management



### Ms. Coronado Robles, Raquel

- Specialist Nurse in Pediatric Nursing
- Pediatric hematology/oncology unit, Vall d'Hebron Hospital, Barcelona.
- Associate Professor and coordinator of the Childhood Mention of the Nursing Degree at the Autonomous University of Barcelona (UAB)

## Professors

### Ms. Ariño Ariño, Ingrid

- ♦ Neonatology Unit Vall d'Hebron Barcelona Hospital Campus

### Ms. Bonfill Ralló, Marina

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### Ms. Bustelo Almeida, Eugenia

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### Ms. Congil Ortega, Jordana

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### Ms. Cuevas González, Cristina

- ♦ Specialist Nurse in Pediatric Nursing. Vall d'Hebron Barcelona Hospital Campus

### Mr. Díaz Martín, Gonzalo

- ♦ Specialist Nurse in Pediatric Nursing. Vall d'Hebron Barcelona Hospital Campus

### Ms. Fernández Angulo, Verónica

- ♦ Day Hospital Pediatric hematology/oncology unit, Vall d'Hebron Hospital, Barcelona

### Ms. Hladun Álvaro, Raquel

- ♦ Medical specialist and head of Clinical Trials at the Pediatric hematology/oncology unit, Vall d'Hebron Barcelona Hospital Campus



**Ms. Martínez González, Ester**

- ♦ Pediatric hematology/oncology unit, Vall d'Hebron Barcelona Hospital Campus

**Ms. Muñoz Blanco, M<sup>a</sup> José**

- ♦ Supervisor of the pediatric intensive care unit (PICU). Vall d'Hebron Barcelona Hospital Campus

**Ms. Nogales Torres, Elena**

- ♦ Pediatric hematology/oncology unit, Vall d'Hebron Barcelona Hospital Campus

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- ♦ Co-director of SEER (Emotional Health and Education).

**Ms. Pérez Cainzos, Laura**

- ♦ Pediatric Unit Vall d'Hebron Barcelona Hospital Campus

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- ♦ Pediatric hematology/oncology unit, Vall d'Hebron Barcelona Hospital Campus

**Ms. Ridao Manonellas, Saida**

- ♦ Specialist Nurse in Pediatric Nursing
- ♦ Immunodeficiency nursing consultation

**Ms. Rodríguez Gil, Raquel**

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**Ms. Saló Rovira, Anna**

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**Mr. Toro Guzmán, Antonio**

- ♦ Pediatric hematology/oncology unit, Vall d'Hebron Hospital, Barcelona.
- ♦ Associate Professor of the Degree in Nursing at the Autonomous University of Barcelona (UAB)

**Ms. Vidal Laliena, Miriam**

- ♦ Cell biology, immunology and neuroscience at IDIBAPS-UB
- ♦ Clinical Data Manager-study coordinator Pediatric hematology/oncology unit Vall d'Hebron Barcelona Hospital Campus (2016-2017)
- ♦ Currently: at CatSalut. Catalan Health Service



*Recognize the needs of pediatric patients in need of palliative care to improve their quality of life at all times"*

# 04

# Structure and Content

In order to ensure that students meet the requirements of nursing applied to pediatric patients who will receive allogeneic HSCT treatment, a syllabus has been developed whose modules offer a broad perspective of this field of action, allowing the student to achieve sufficient knowledge and skills to be able to develop the personal and professional attitudes necessary to care for children and adolescents and their families who are undergoing allogeneic HSCT. From module 1, students will see their knowledge broadened, which will enable them to develop professionally, knowing that they can count on the support of a team of experts.





“

*Identify the facilitating role and emotional competency profile of pediatric hematology nurses following a program supported by the experience of an excellent faculty”*

## Module 1. All Together as a Team

- 1.1. Emergency Nursing Care in the Pediatric Patient with Hematologic Disorder
  - 1.1.1. Definition of Emergency in Children with Severe Hematologic Disorder
  - 1.1.2. Most Common Emergencies in Children with Severe Hematologic Disorder
    - 1.1.2.1. According to Etiology
    - 1.1.2.2. According to Affected Organs
  - 1.1.3. Most Frequent Reasons for Admission to the Emergency Department in Children with Severe Hematologic Disorders
  - 1.1.4. Performance in the Most Common Emergencies
    - 1.1.4.1. Hyperleukocytosis
    - 1.1.4.2. Febrile Neutropenia
    - 1.1.4.3. Immune Reconstitution Inflammatory Syndrome (IRIS)
    - 1.1.4.4. Cytokine Release Syndrome
    - 1.1.4.5. Severe Pain
    - 1.1.4.6. Acute Methotrexate Toxicity
    - 1.1.4.7. Transfusion Reactions
    - 1.1.4.8. Extravasations
    - 1.1.4.9. Intrathecal Chemotherapy Side Effects
  - 1.1.5. Management of Oxygen Therapy, Fluid Therapy, Main Drugs and Electromedical Devices and Administration of Own Drugs.
  - 1.1.6. Emergency Response
  - 1.1.7. Crash Cart Defibrillator
  - 1.1.8. Training of the Assistance Team
  - 1.1.9. Communication with the Family and the Child/Adolescent
- 1.2. Nursing Care of Pediatric Patients with Hematologic Disease and Their Family, Admitted to the PICU (I)
  - 1.2.1. Initial Assessment of the Patient in PICU
  - 1.2.2. Common Complications Requiring Intensive Care
    - 1.2.2.1. Complications Related to the Underlying Disease and its Treatment
      - 1.2.2.1.1. Respiratory Failure
      - 1.2.2.1.2. Cardiac Alterations
      - 1.2.2.1.3. Hematological System Alteration
      - 1.2.2.1.4. Acute Kidney Failure
      - 1.2.2.1.5. Metabolic Alterations
      - 1.2.2.1.6. Hepatotoxicity
    - 1.2.2.2. Complications Related to the Postoperative Period in Neurosurgery
  - 1.2.3. Basic Nursing Care in the Pediatric Patient Admitted to the PICU
  - 1.2.4. Nutritional Aspects of the Patient in PICU
  - 1.2.5. Special Situations in the Oncology Patient
    - 1.2.5.1. Patient Requiring Continuous Renal Replacement Therapy (CRRT)
    - 1.2.5.2. Patient Subjected to High Frequency Mechanical Ventilation (HFMV)
- 1.3. Nursing Care of Pediatric Patients with Hematologic Disease and Their Family, Admitted to the PICU (II)
  - 1.3.1. Initial Comprehensive Care for the Family of the Hematologic Patient Admitted to the PICU
  - 1.3.2. Psychological Aspects in Children with Hematologic Pathology Requiring Intensive Care
    - 1.3.2.1. Pain Management
    - 1.3.2.2. Treatment Anxiety
    - 1.3.2.3. Fear of Death
  - 1.3.3. Grief in the Oncologic Patient Admitted to the PICU
  - 1.3.4. Special Situations in the Oncologic Patient Admitted to the PICU
    - 1.3.4.1. Communication with the Oncology Patient Subjected to Mechanical Ventilation
    - 1.3.4.2. Rehabilitation (Respiratory and Motor Physiotherapy)
  - 1.3.5. Medical Information and Care Team-Family Unit Communication
  - 1.3.6. End-of-Life Care for Oncology Patients
- 1.4. Pediatric Intensive Care Unit (PICU). Humanization Projects
  - 1.4.1. General Criteria for Admission of Hematologic Patients to the PICU
  - 1.4.2. Family Repercussions of Admission to the PICU
  - 1.4.3. Humanistic Vision of Critical Care
  - 1.4.4. Care Model: Family-Centered Care
    - 1.4.4.1. Family Empowerment
    - 1.4.4.2. Emotional Well-Being
  - 1.4.5. Characteristics of the Care Team in a Humanistic PICU
  - 1.4.6. Humanizing Strategies in an Open-Door PICU
- 1.5. Psychological Support of the Child with Severe Hematologic Disorder

- 1.5.1. Developmental Stage of Childhood
- 1.5.2. The Child with Severe Hematologic Disease
  - 1.5.2.1. Specific Characteristics
  - 1.5.2.2. Psychological Care for Children and Their Family
    - 1.5.2.2.1. General Aspects
    - 1.5.2.2.2. According to the Stage of the Disease
- 1.5.3. Survivors of Malignant Hematologic Disease in Childhood and Quality of Life
- 1.5.4. Death in Childhood
  - 1.5.4.1. Palliative Care
  - 1.5.4.2. Grief
- 1.6. Psychological Support of the Adolescent During the Process of Living of Severe Hematologic Disease
  - 1.6.1. Adolescent Developmental Stage
  - 1.6.2. The Adolescent with Severe Hematologic Disease
    - 1.6.2.1. Specific Characteristics of the Adolescent with Severe Hematologic Disease
    - 1.6.2.2. Psychological Care in the Phases of the Disease
      - 1.6.2.2.1. Diagnosis
      - 1.6.2.2.2. Treatment
      - 1.6.2.2.3. Post-Treatment
  - 1.6.3. Survivors in Adolescence and Quality of Life
  - 1.6.4. Death in Adolescence
- 1.7. Foundations and Associations of Parents of Children with Hematologic Disorder and other NGOs
  - 1.7.1. Spanish Federation of Parents of Children with Cancer (FEPNC)
    - 1.7.1.1. The Federation
    - 1.7.1.2. Member Associations
    - 1.7.1.3. The example of AFANOC-Association of Relatives and Friends of Oncological Children of Cataluña
  - 1.7.2. Spanish Association of Primary Immune Deficits
  - 1.7.3. Barcelona PID Foundation
  - 1.7.4. Other Associations and/or Foundations
    - 1.7.4.1. El Somni dels Nens Foundation
    - 1.7.4.2. Enriqueta Villavecchia Foundation
    - 1.7.4.3. Spanish Fanconi Anemia Association
    - 1.7.4.4. Association of Affected Blackfan Diamond Spain
    - 1.7.4.5. Spanish Hemophilia Foundation
- 1.7.5. Volunteering in Pediatric Hematology-Oncology Units
  - 1.7.5.1. The Importance and Coordination of Volunteering
  - 1.7.5.2. Lines of Volunteering in Pediatric Oncology
  - 1.7.5.3. Volunteer Training
- 1.7.6. Regulatory Framework for Volunteering
- 1.8. Educational Continuity in Children and Adolescents with Hematologic Disorder
  - 1.8.1. Educational Care as a Right; Principles of Educational Care for Students with Disease
  - 1.8.2. Requirements and Procedures
  - 1.8.3. Educational Coverage During the Disease Process
    - 1.8.3.1. In-Hospital. Hospital Classrooms
    - 1.8.3.2. Home-Based Educational Support Service
- 1.9. Information and Communication Technologies (ICT) and Humanization
  - 1.9.1. Use of ICT and E-health for Parents
    - 1.9.1.1. Decalogue for the Good Use of ICT
    - 1.9.1.2. ICT as a Method of Distraction and Relief of Pain and Anxiety in Children and Adolescents
    - 1.9.1.3. ICT as a Method of Communication and Learning
  - 1.9.2. Use of ICT and E-health for Parents
    - 1.9.2.1. Information Needs
    - 1.9.2.2. Communication Needs
    - 1.9.2.3. Development and Prescription of Apps and Websites in Pediatric Oncology
    - 1.9.2.4. Use of Social Networks
  - 1.9.3. Use of ICT and E-health for Health Professionals
    - 1.9.3.1. New Technologies and New Challenges for the Nursing Professional
    - 1.9.3.2. Application of New Technologies in Healthcare
    - 1.9.3.3. Useful Applications for Pediatric Hematology Nurses
    - 1.9.3.4. ICT Applications in the Healthcare of the Future

- 2.1. Introduction and Indications for Allogeneic Hematopoietic Progenitor Transplantation
  - 2.1.1. Hematopoietic Progenitors (HPs) and HSCT
  - 2.1.2. The Histocompatibility System (HLA or MHC)
  - 2.1.3. The History Hematopoietic Progenitor Transplantation
  - 2.1.4. Types of Hematopoietic Progenitor Transplantation
    - 2.1.4.1. According to the Donor
    - 2.1.4.2. According to the Source of the Hematopoietic Progenitors
  - 2.1.5. Indications for Allogeneic HSCT
    - 2.1.5.1. Patients with Hematologic Malignancies
      - 2.1.5.1.1. Leukemias
      - 2.1.5.1.2. Myelodysplastic Syndromes
      - 2.1.5.1.3. Lymphomas
    - 2.1.5.2. Patients with Non-Malignant Diseases
      - 2.1.5.2.1. Erythrocyte Alterations
      - 2.1.5.2.2. Primary Immunodeficiencies
      - 2.1.5.2.3. Congenital Medullary Insufficiencies
      - 2.1.5.2.4. Others
- 2.2. From Donor Selection to Infusion of Hematopoietic Progenitors
  - 2.2.1. Donor Selection
    - 2.2.1.1. Related Donors
    - 2.2.1.2. Search for Unrelated Donors
    - 2.2.1.3. Choice of Donor
  - 2.2.2. PH Collection Techniques
    - 2.2.2.1. Cord Blood Progenitor Procurement and Management
    - 2.2.2.2. Mobilization and Collection of Peripheral Blood Progenitor Cells
    - 2.2.2.3. Bone Marrow Progenitor Cell Collection by Direct Aspiration
  - 2.2.3. Transportation of PHs (From Hospital of Origin to Receiving Hospital)
    - 2.2.3.1. Bag Labeling
    - 2.2.3.2. Container Labeling
    - 2.2.3.3. Documentation
    - 2.2.3.4. Temperature
  - 2.2.4. HPs Management and Preservation
    - 2.2.4.1. Quality Control of Cell Processing
    - 2.2.4.2. Handling Prior to Cryopreservation
    - 2.2.4.3. Cryopreservation
    - 2.2.4.4. Defrosting
    - 2.2.4.5. Transport to the Hospital HPT Unit to be Infused
- 2.3. Nursing During the Conditioning of the Child/Adolescent Undergoing allo-HSCT
  - 2.3.1. Patient and Family Reception
  - 2.3.2. Patient Assessment
  - 2.3.3. Conditioning Regimes
    - 2.3.3.1. Total Body Irradiance (TBI)
    - 2.3.3.2. Chemotherapy
  - 2.3.4. Prophylaxis of Graft-Versus-Host Disease (GVHD)
    - 2.3.4.1. Methotrexate
    - 2.3.4.2. Infliximab and Rituximab
    - 2.3.4.3. Cyclosporine
    - 2.3.4.4. Mycophenolate
    - 2.3.4.5. Gene Transfer Agents (GTAs)
    - 2.3.4.6. Cyclophosphamide
    - 2.3.4.7. Corticoids
    - 2.3.4.8. Non-Specific Immunoglobulins
  - 2.3.5. Prophylaxis of Sinusoidal Obstructive Syndrome (SOS)
  - 2.3.6. Infection Prophylaxis
    - 2.3.6.1. Protective Environment (PE) Rooms
    - 2.3.6.2. Low Bacterial Diet
    - 2.3.6.3. Pharmacological Prophylaxis
  - 2.3.7. Patient and Family Accompaniment
- 2.4. Day 0. Infusion of Hematopoietic Progenitors
  - 2.4.1. Day 0
  - 2.4.2. Patient Preparation
  - 2.4.3. Progenitors Reception
  - 2.4.4. Infusion of Progenitors
  - 2.4.5. Potential Complications
  - 2.4.6. Post Infusion Care of Progenitors



- 2.4.6.1. Care of the Patient
- 2.4.6.2. Care of the Family
- 2.5. Phase of Medullary Aplasia. Nursing Care
  - 2.5.1. Duration of the Spinal Cord Aplasia Phase
  - 2.5.2. Potential Complications of the Spinal Cord Aplasia Phase
    - 2.5.2.1. Directly Derived from the Conditioning Treatment
    - 2.5.2.2. Produced by the Situation of Aplasia
      - 2.5.2.2.1. Infections
      - 2.5.2.2.2. Nausea and Vomiting
      - 2.5.2.2.3. Diarrhea
      - 2.5.2.2.4. Mucositis
      - 2.5.2.2.5. Hemorrhages
      - 2.5.2.2.6. Respiratory Problems
  - 2.5.3. Nursing Assessment and Interventions
- 2.6. Mid-Term Nursing Care of the Transplanted Child/Adolescent and Their Family
  - 2.6.1. Duration of the Post-Transplant Phase in the Medium Term
  - 2.6.2. Potential Complications of the Post-Transplant Phase in the Medium Term
    - 2.6.2.1. Infections
    - 2.6.2.2. Graft Versus Host Disease
    - 2.6.2.3. Implant and Pre-Implant Syndrome
    - 2.6.2.4. Implant/Graft Failure
    - 2.6.2.5. Other Complications
      - 2.6.2.5.1. Hemorrhagic Cystitis
      - 2.6.2.5.2. Renal Dysfunction
      - 2.6.2.5.3. Thrombotic Microangiopathy
      - 2.6.2.5.4. Idiopathic Pneumonia Syndrome (IPS)
      - 2.6.2.5.5. Diffuse Alveolar Hemorrhage
  - 2.6.3. Nursing Assessment and Interventions
- 2.7. Most Relevant Emergencies in Post-Transplant Patients
  - 2.7.1. Introduction
  - 2.7.2. Sepsis and Septic Shock
  - 2.7.3. Mucositis Grade III-IV
  - 2.7.4. Implant Syndrome
  - 2.7.5. Capillary Leakage Syndrome (CLS)

- 2.7.6. Acute GVHD and Chronic GVHD
- 2.7.7. Hemorrhagic Cystitis
- 2.7.8. Sinusoidal Obstructive Syndrome of the Liver (SOS)
- 2.7.9. Posterior Reversible Encephalopathy Syndrome (PRES)
- 2.7.10. Acute Kidney Failure
- 2.7.11. Respiratory Failure Post-HPT
  - 2.7.11.1. Idiopathic Pneumonia Syndrome (IPS)
  - 2.7.11.2. Diffuse Alveolar Hemorrhage (DAH)
  - 2.7.11.3. Organizational Cryptogenic Pneumonia (COP)
  - 2.7.11.4. Bronchiolitis Obliterans Syndrome (BOS)
- 2.7.12. Post-HPT Thrombotic Microangiopathy (TMA)
- 2.7.13. Cardiac Toxicity
- 2.7.14. Multiorgan Dysfunction Syndrome (MODS)
- 2.7.15. Transfer to Intensive Care Unit
- 2.8. Follow-Up HPT Nursing Consultation
  - 2.8.1. HPT Nursing Consultation
  - 2.8.2. Nursing Care in the Pre-Transplant Consultation for Hematopoietic Progenitors
    - 2.8.2.1. Information About the Process
    - 2.8.2.2. Reception at the HPT Unit and Basic Operational Recommendations
    - 2.8.2.3. Anthropometric Measurements and Vital Signs
    - 2.8.2.4. Peripheral Blood Test Pre-HPT
    - 2.8.2.5. Introduction of the Multidisciplinary Team
    - 2.8.2.6. Emotional Support to the Patient and Family
    - 2.8.2.7. Resolution of Doubts
  - 2.8.3. Nursing Care in Post-HPT Follow-Up Consultations
    - 2.8.3.1. Short Term
      - 2.8.3.1.1. Review of Information Provided at Discharge from Hospitalization
      - 2.8.3.1.2. Surveillance Signs and Symptoms, Information on Warning Signs, Early Detection of Complications
      - 2.8.3.1.3. Information on Measures to Avoid Infection: Avoid Contact with People with Flu-like Symptoms, Avoid Crowded Indoor Spaces
      - 2.8.3.1.4. Dietary and Nutritional Recommendations
    - 2.8.3.1.5. Vascular Access Care and Follow-Up: Pulmonary Artery Catheter (PAC), Peripherally Inserted Central Catheter (PICC)
    - 2.8.3.1.6. Care and Monitoring of Nutritional Support Devices: Nasogastric (NG) Tube, Gastrostomy Button
    - 2.8.3.1.7. Pain Assessment
    - 2.8.3.1.8. Assessment of Activity
    - 2.8.3.1.9. Health education
    - 2.8.3.1.10. Information about Circuits in Day Hospital
    - 2.8.3.1.11. Emotional Support to the Patient and Family
  - 2.8.3.2. In the Long Term
    - 2.8.3.2.1. Surveillance Signs and Symptoms
    - 2.8.3.2.2. Early Detection of Toxicity Complications
    - 2.8.3.2.3. Coordination with Other Specialists: Cardiology, Endocrinology, Traumatology
    - 2.8.3.2.4. Chronic Follow-up: Symptomatic Treatments, Emotional Support, Adherence to Treatment
    - 2.8.3.2.5. Follow-up Immunizations Post-HPT
    - 2.8.3.2.6. Health Education on Healthy Habits for Children and Adolescents
- 2.9. New Therapies for Treating Post Allo-HSCT Complications
  - 2.9.1. Donor CD34+ Progenitor Infusion for the Treatment of Implant Failure Secondary to Allo HSCT
    - 2.2.1.1. Candidate Patients
    - 2.2.1.2. Procedure
  - 2.9.2. Extracorporeal Photopheresis for the Treatment of GVHD
    - 2.2.2.1. Candidate Patients
    - 2.2.2.2. Procedure
  - 2.9.3. Mesenchymal Stem Cell Infusion for the Treatment of GVHD
    - 2.2.3.1. Candidate Patients
    - 2.2.3.2. Procedure
  - 2.9.4. Donor Lymphocyte Infusion. Immunotherapy in Patients Relapsing after Allogeneic HSCT
    - 9.9.4.1. Candidate Patients



9.9.4.2. Procedure

## Module 3. When the Response to Treatment is Not Adequate

### 3.1 Introduction

- 3.1.1. Response to Disease
- 3.1.2. Definition of Survival
- 3.1.3. Definition of Recurrence
- 3.1.4. Diseases or Situations with Higher Probability of Recurrences
- 3.1.5. Treatment Options
- 3.1.6. Reception and Accompaniment in the Relapse of the Disease
  - 3.1.6.1. Parents
    - 3.1.6.1.1. Emotional Reactions
    - 3.1.6.1.2. Coping
  - 3.1.6.2. Emotional Reactions and Coping with Relapse in Children and Adolescents

### 3.2 Concept, Rationale and Need for Clinical Trials in Pediatric Hematology

- 3.2.1. What is a Clinical Trial?
- 3.2.2. Historical Background, Legislation and Ethics of Experimentation with Drugs
  - 3.2.2.1. "The Canon of Medicine". Avicenna (Ibn Sina)
  - 3.2.2.2. First Clinical Trial in History. James Lind
  - 3.2.2.3. Experiments on Children in the Auschwitz Concentration Camp (Josef Mengele)
  - 3.2.2.4. Nuremberg Code (1946)
  - 3.2.2.5. Ethically Questionable Clinical Trials after the Nuremberg Code
  - 3.2.2.6. Declaration of Helsinki (1964)
  - 3.2.2.7. Good Clinical Practice Guidelines (1995) Why are Clinical Trials Necessary in Pediatric Hematology?
- 3.2.3. Why are Clinical Trials Necessary in Pediatric Hematology?
  - 3.2.3.1. Increase Overall Survival of Patients with Poor Prognosis
  - 3.2.3.2. Decrease Long-Term Sequelae

### 3.3. Design, Preparation and Implementation of a Clinical Trial

- 3.3.1. Design of a Clinical Trial
- 3.3.2. Clinical Trials Phases
- 3.3.3. Identification and Selection of Participating Centers

- 3.3.4. Role of the Competent Authorities: CEIm and AEMPS
- 3.3.5. Medication and Hospital Pharmacy Service
- 3.3.6. Sample Analysis Laboratories
- 3.3.7. Economic Aspects of the Clinical Trial
- 3.3.8. Archive

### 3.4. Development of an Open Clinical Trial in a Center and Professionals involved

- 3.4.1. Initiation Visit
- 3.4.2. Monitoring Visit
- 3.4.3. Closing Visit
- 3.4.4. Investigators File
- 3.4.5. Management of Adverse Events
- 3.4.6. Trial Medication
- 3.4.7. Inclusion of Patients
- 3.4.8. Trial Drug Administration, Disease Assessment and Follow-Up
- 3.4.9. Professionals Involved in a Clinical Trial
  - 3.4.9.1. Professionals in the Hospital Setting
  - 3.4.9.2. Pharmaceutical Company Professionals

### 3.5. The Role of Nursing Professionals in the Clinical Trials in Pediatric Hematology

- 3.5.1. Nurse in the Clinical Trials Team in Pediatric Hematology/Oncology
- 3.5.2. Specific Training Requirements
  - 3.5.2.1. Training in Good Clinical Practice
  - 3.5.2.2. Training in Handling and Shipment of Biohazard Samples
  - 3.5.2.3. Specific Training for Each Clinical Trial
- 3.5.3. Responsibilities
- 3.5.4. Delegated Clinical Trial Activities
  - 3.5.4.1. Material Management
    - 3.5.4.1.1. Fungibles
    - 3.5.4.1.2. Non-Fungibles
  - 3.5.4.2. Management of Local Laboratory Samples
  - 3.5.4.3. Management of Central Laboratory Samples
  - 3.5.4.4. Nursing Techniques
  - 3.5.4.5. Drug Administration
  - 3.5.4.6. Source Records
  - 3.5.4.7. Electronic Data Collection Notebooks
- 3.5.5. Nursing Care

- 3.5.5.1. Basic Needs Care
- 3.5.5.2. Accompaniment
- 3.6. Current and Future Situation of Pediatric Hematology. Personalized Medicine
  - 3.6.1. Sciences and Omics
  - 3.6.2. Fundamentals of Translational Research
  - 3.6.3. Definition of Personalized Medicine
  - 3.6.4. High-Performance Sequencing Techniques
  - 3.6.5. Analysis of Data
  - 3.6.6. Bio Markers
  - 3.6.7. Preclinical Models
- 3.7. Introduction, Objectives and Stages of the Therapeutic Approach in Pediatric Palliative Care
  - 3.7.1. History of Palliative Care
  - 3.7.2. Difficulties in the Application of Palliative Care in the Pediatric Population. The Challenge of Pediatric Palliative Care
  - 3.7.3. Definition of Pediatric Palliative Care
  - 3.7.4. Pediatric Palliative Care Groups
  - 3.7.5. Peculiarities of Pediatric Palliative Care
  - 3.7.6. Universal Principles of Palliative Care
  - 3.7.7. Objectives of the Palliative Approach
  - 3.7.8. Advanced Disease Situation. Turning Point
  - 3.7.9. Stages of the Therapeutic Approach
  - 3.7.10. Place of Care: Hospital vs. Home
- 3.8. Symptom Control in Pediatric Hematology Palliative Care (Includes Pain)
  - 3.8.1. Diagnosis and Assessment of Symptoms
  - 3.8.2. General Principles of Symptom Control
  - 3.8.3. Symptoms to Palliate
    - 3.8.3.1. Main Symptom to Palliate: Pain
    - 3.8.3.2. General Symptoms
    - 3.8.3.3. Constitutional Symptoms
    - 3.8.3.4. Respiratory Symptoms
    - 3.8.3.5. Digestive Symptoms
    - 3.8.3.6. Neurological Symptoms
    - 3.8.3.7. Other Symptoms





- 3.8.4. Prevention and Treatment
  - 3.8.4.1. Non-Pharmacological Methods
  - 3.8.4.2. Pharmacological Methods
- 3.9. Total Pain and Ethical Issues in Pediatric Palliative Care
  - 3.9.1. Total Pain
    - 3.9.1.1. Cicely Saunders
    - 3.9.1.2. Concept of Total Pain
    - 3.9.1.3. Pain Threshold
    - 3.9.1.4. Basic Principles of Total Pain Relief
    - 3.9.1.5. Pain, Suffering and Death
    - 3.9.1.6. Barriers in the Management of Total Pain in Pediatric Hematology/Oncology
    - 3.9.1.7. Dying with Dignity
  - 3.9.2. Ethical Aspects
    - 3.9.2.1. Definition of Ethics and Bioethics
    - 3.9.2.2. Basic Principles of Bioethics
    - 3.9.2.3. Ethical Issues and Legal Rights of Children Undergoing Pediatric Palliative Care
    - 3.9.2.4. Legislation Applied to Minors
    - 3.9.2.5. Communication and Decision-Making
    - 3.9.2.6. Deliberation in Decision-Making
    - 3.9.2.7. Healthcare Ethics Committees
- 3.10. Nursing Care During Terminal Phase and Last Days Situation in Pediatric Palliative Care
  - 3.10.1. Diagnostic Principles of the Terminal Phase
  - 3.10.2. Agony Phase or Last Days Situation (LDS)
    - 3.10.2.1. Concept
    - 3.10.2.2. Signs and Symptoms of the Agony Phase
    - 3.10.2.3. Therapeutic Objectives
    - 3.10.2.4. Symptom Control
    - 3.10.2.5. Family Care
    - 3.10.2.6. Palliative Sedation
    - 3.10.2.7. Adjustment of Pharmacological Treatment
  - 3.10.3. Palliative Sedation

## Module 4. Fostering, Caring and Accompanying in Pediatric Hematology

- 4.1. Comprehensive View of the Care of Children with Hematologic Disorder and Their Family
  - 4.1.1. Comprehensive View of Human Health
    - 4.1.1.1. Physical Health
    - 4.1.1.2. Mental Health
    - 4.1.1.3. Emotional Health
    - 4.1.1.4. Social Health
    - 4.1.1.5. Spiritual Health
  - 4.1.2. The Nurse's View
    - 4.1.2.1. Emotions, Beliefs and Professional Development
    - 4.1.2.2. Fostering, Caring and Accompanying
    - 4.1.2.3. Biomedical Model
    - 4.1.2.4. Salutogenic Model
  - 4.1.3. Systemic View of Care
    - 4.1.3.1. Consistency of the Person
    - 4.1.3.2. System Consistency
    - 4.1.3.3. Consistency of the "Soul"
  - 4.1.4. Fostering, Caring and Accompanying in a Comprehensive Way
    - 4.1.4.1. Nursing Roles and Competencies
    - 4.1.4.2. The Interdisciplinary Work of Professionals
    - 4.1.4.3. Transdisciplinary Challenges of the Nursing Professional
- 4.2. Theories and Models That Approach the Comprehensive Vision of Nursing
  - 4.2.1. The Salutogenic Model Applied to Care
    - 4.2.1.1. Well-Being Assets
    - 4.2.1.2. Development of Personal Assets
    - 4.2.1.3. Development of System Assets
    - 4.2.1.4. Development of Institutional Assets
  - 4.2.2. Development of Personal Assets
  - 4.2.3. Helping Relationship Model: Hildegard Peplau
  - 4.2.4. Health Promotion Model: Nola Pender
  - 4.2.5. Diversity Theory and the Universality of Care: Madeleine Leininger
  - 4.2.6. Theory of Human Care: Jean Watson
  - 4.2.7. Comfort Theory: Katharine Kolcaba
  - 4.2.8. Marie Françoise Collière. Promoting Life
- 4.3. The Facilitating Role of Nursing in Pediatric Hematology
  - 4.3.1. Facilitating Role
  - 4.3.2. Nursing Perspective
  - 4.3.3. Facilitating Care from the Different Nursing Roles
  - 4.3.4. Humanization of Care
  - 4.3.5. Support Orders
- 4.4. The Profile of Emotional Skills of Nursing in Pediatric Hematology
  - 4.4.1. The Need to Promote the Social-Emotional Development of the Nursing Professional
  - 4.4.2. Nursing Emotional Competency Model
  - 4.4.3. Everything that Can Be Done with an Emotion
  - 4.4.4. Health in Nursing Pediatric Hematology
- 4.5. Therapeutic Communication in Pediatric Hematology
  - 4.5.1. Specific Skills for Effective and Affective Communication
  - 4.5.2. Key Ideas in Relation to the Child and the Family
  - 4.5.3. Key Ideas in Relation to Times of the Disease
  - 4.5.4. Key ideas in Relation to Intra- and Interprofessional Practice
- 4.6. The Influence of the Environment and Surroundings when Accompanying Children with Hematologic Pathology
  - 4.6.1. Occupational Health and Work Teams
  - 4.6.2. Architecture of Spaces
  - 4.6.3. Responsible Environment with a Rights Perspective
  - 4.6.4. The Significance of Spaces
- 4.7. Accompaniment for the Family System in Pediatric Hematology
  - 4.7.1. Family as a System
  - 4.7.2. Caring for the Caregiver
  - 4.7.3. Accompanying Processes of High Emotional Impact
  - 4.7.4. Parenting Support
  - 4.7.5. Barriers to Care
  - 4.7.6. Coping With the Disease

- 4.7.7. Systemic Support
- 4.8. Psychomotor and Affective Development of Infants and Preschoolers with Hematologic Disorders
  - 4.8.1. Accompany the Specific Characteristics in the Infant
  - 4.8.2. Accompany the Specific Characteristics in the Preeschool Children
  - 4.8.3. Psychomotor and Emotional Development During the Disease
    - 4.8.3.1. Psychomotor Development (Physical Health)
    - 4.8.3.2. Language and Emotional Comfort (Mental and Emotional Health)
    - 4.8.3.3. Socialization (Social Health)
    - 4.8.3.4. Meaning of Life
      - 4.8.3.4.1. Love and Contact
      - 4.8.3.4.2. Growing Up Playing
- 4.9. Emotion, Storytelling, and Meaningful Playtime in School-Aged Children with Hematologic Disorder
  - 4.9.1. Accompany the Specific Characteristics of the School-Age Child
  - 4.9.2. Personality Development During Disease
    - 4.9.2.1. Coping (Emotional Health)
    - 4.9.2.2. The Importance of Storytelling (Mental Health)
    - 4.9.2.3. Socialization (Social Health)
  - 4.9.3. Meaning of Life
    - 4.9.3.1. Self-Esteem, Self-Image and Self-Concept
    - 4.9.3.2. Pedagogical Support
    - 4.9.3.3. Meaningful Play
- 4.10. Emotion, Storytelling and Socialization in Adolescents with Hematologic Disorder
  - 4.10.1. Accompany the Specific Characteristics of the Adolescent
  - 4.10.2. Personality Development During Disease
    - 4.10.2.1. Coping (Emotional Health)
    - 4.10.2.2. The Importance of Storytelling (Mental Health)
    - 4.10.2.3. Socialization (Social Health)
  - 4.10.3. Meaning of Life
    - 4.10.3.1. Self-Esteem, Self-Image and Self-Concept
    - 4.10.3.2. Pedagogical and Social Support
    - 4.10.3.3. Affective-Sexual Development



*Acquire the indispensable skills for the accompaniment of the family system in pediatric hematology”*

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 Harvard 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 specialties regardless of practical 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.

*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 adapted in 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 the videos as many times as you like.



### Interactive Summaries

The TECH team presents the contents in an attractive and dynamic way in multimedia packages 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, international guides... in TECH's virtual library the student will have access to everything they need to complete their training.





**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 Diploma in Allogeneic HSCT in Pediatrics for Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.



“

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

This program will allow you to obtain your **Postgraduate Diploma in Allogeneic HSCT in Pediatrics for Nursing** 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.

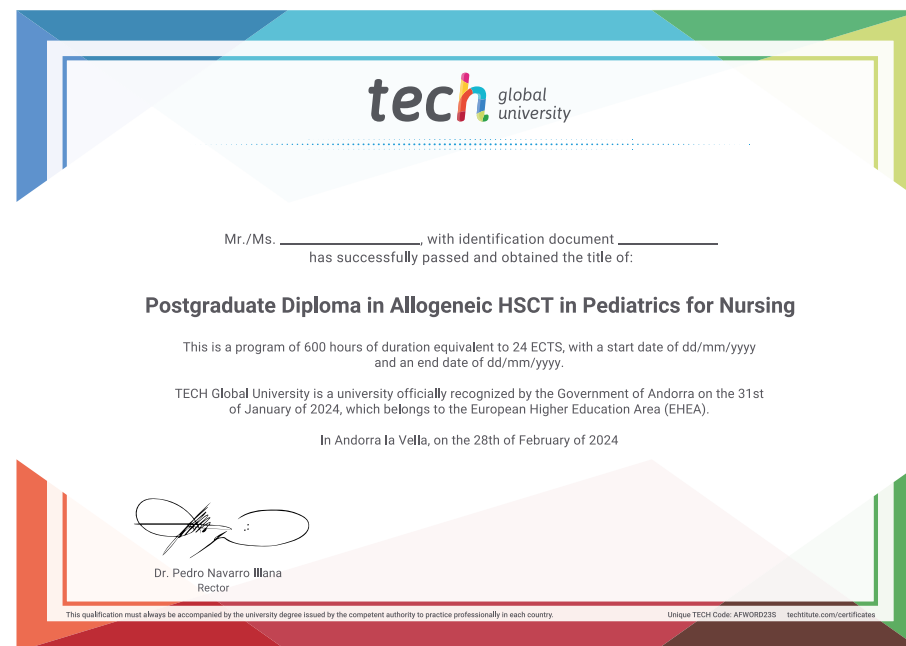
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Allogeneic HSCT in Pediatrics for Nursing**

Modality: **online**

Duration: **6 months**

Credits: **24 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.



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



## Postgraduate Diploma

Allogeneic HSCT  
in Pediatrics  
for Nursing

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 24 ECTS
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Diploma Allogeneic HSCT in Pediatrics for Nursing

