

Postgraduate Diploma

Patient Blood Management in Medical Patients



Postgraduate Diploma Patient Blood Management in Medical Patients

Course Modality: **Online**

Duration: **6 months**.

Certificate: **TECH Technological University**

Official N° of Hours: **450 h**.

Website: www.techtute.com/pk/medicine/postgraduate-diploma/postgraduate-diploma-patient-blood-management-medical-patients

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01

Introduction

The application of transfusion recommendations and blood-saving strategies should be individualized, always prioritizing patient safety and taking into account the particularities of the patient's biological situation and pathologies. For this reason, this program will go in depth into pre-transfusion compatibility tests, their interpretation and application, as well as studies of certain transfusion reactions. It also addresses transfusion practice in pediatrics, which has its own characteristics due to the different mechanisms of adaptation to anemia and its clinical manifestations and the peculiarities of the sick child. It also includes immunological aspects, the evaluation of donations, compatibility tests and the study of patients with immunohematological reactions in a broad sense.





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This Postgraduate Diploma in Patient Blood Management in Medical Patients is the program you were looking for to specialize in a booming sector within the medical sector"

In this Postgraduate Diploma in Patient Blood Management in Medical Patients, we will go in depth into the pre-transfusion compatibility tests, their interpretation and application, as well as into the studies of some transfusion reactions. In this sense, the program covers the immunological aspects of the three fundamental components of blood: red blood cells, platelets and plasma, including studies carried out on donations, compatibility tests and the study of patients presenting immunohematological reactions in a broad sense.

On the other hand, transfusion practice in pediatrics has its own characteristics due to the different mechanisms of adaptation to anemia and its clinical manifestations and to the peculiarities of the sick child. In addition, the incidence of transfusion-related complications is higher in the pediatric population. At present, increasingly restrictive transfusion policies are being imposed, but the scarcity of well-designed studies and individual clinical variability do not allow the establishment of a single transfusion threshold for all patients.

Likewise, the most accepted recommendations for transfusion of the different blood components in pediatric patients will be detailed, divided into two stages: on the one hand, the fetal stage, which covers up to 4 months of age, and on the other hand, for patients older than 4 months.

It should be noted, however, that the application of transfusion recommendations and blood-saving strategies should be individualized, always prioritizing patient safety and taking into account the particularities of the patient's biological situation and pathologies. This is why sometimes applying an "inflexible" restrictive therapy may not be the most convenient in all clinical situations.

All in all, it is a 100% online Postgraduate Diploma, so the student has the ease of being able to study it comfortably, wherever and whenever he/she wants. All you need is a device with internet access to take your career one step further. A modality in line with the current times with all the guarantees to position the medical professional in a highly demanded field.

This **Postgraduate Diploma in Patient Blood Management in Medical Patients** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of case studies presented by experts in transfusion medicine and Patient Blood Management
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional development
- ◆ Practical exercises where self-assessment can be used to improve learning.
- ◆ With a special emphasis on evidence-based medicine and research methodologies in the field of transfusion medicine
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any device with an Internet connection



The incidence of transfusion-related complications is higher in the pediatric population, so it is necessary for the professional to know the transfusion policies applicable in Pediatrics"

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You will further your knowledge of the indications of hemocomponents in pediatric patients, considering it a therapeutic measure of which you must have a clear and precise physiological knowledge to avoid unnecessary risks”

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.

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

The determination of transfusion thresholds in the pediatric population will be one of your objectives in this TECH Postgraduate Diploma.

You will learn to describe and identify the special clinical situations in which it is a priority to individualize transfusion strategies.



02 Objectives

The purpose of this Postgraduate Diploma is for the student to achieve the proposed objectives, in order to expand their knowledge in transfusion medicine and gain a deeper understanding of Patient Blood Management in Medical Patients through the learning of quality content and the development of the different skills necessary for a good medical practice. To this end, a team of medical professionals has poured its knowledge and experience in the development of the points of this curriculum, which will drive the professional from a cutting-edge approach, with full preparation for the achievement of their professional goal, guiding them towards excellence in their daily medical work in the field of blood transfusions, attending to all types of patients from an individualized perspective.





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In-depth study of the performance and interpretation of immunohematological tests that will guide you to provide greater safety in the act of transfusion"



General Objectives

- ◆ Know everything about the process of blood donation and blood components
- ◆ Understand hemovigilance as a transversal process involving the entire transfusion chain, from donor to patient

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Your professional future is your goal and TECH helps you achieve it with booming specializations like this one”





Specific Objectives

Module 1. Immunohematology

- ◆ In-depth study of the performance and interpretation of immunohematological tests that will lead the clinician to provide greater safety in the act of transfusion

Module 2. Transfusions in Pediatrics

- ◆ Gain a deeper knowledge of the indications of hemocomponents in pediatric patients, considering it as a therapeutic measure, of which a clear and precise physiological knowledge is necessary in the pediatric age to avoid unnecessary risks and to make a good use of them
- ◆ Determine transfusion thresholds in the pediatric population
- ◆ Focus on the proper use of blood derivatives in the pediatric population

Module 3. Transfusion and Blood Saving Strategies in Special Situations

- ◆ Describe and identify special clinical situations in which individualized transfusion strategies are a priority

03

Course Management

In its maxim of offering an elite education for all, TECH counts on renowned professionals so that the medical professional acquires a solid knowledge in the specialty of transfusion medicine focused on Patient Blood Management in Medical Patients, guided by experts in the field. For this reason, this Postgraduate Diploma has a team of highly qualified teachers, whose extensive experience in this medical field contributes to the quality of the program, thus providing students with the best tools for the development of their skills during the course. In this way, the professional has the guarantees he/she demands to specialize with the best and boost his/her academic career towards a highly demanded specialized sector.





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*By betting on a program like this,
you are betting on your future".*

Management



Dr. Alcaraz Rubio, Jesús

- ♦ Head of the Hematology Department at the 12 de Octubre Hospital (Madrid)
- ♦ Head of the Hematology Department at Mesa del Castillo Hospital, in Murcia
- ♦ Head of the Oncohematological Day Unit Hospital Viamed in Alcantarilla, Murcia
- ♦ Emergency Specialist at the Rafael Méndez Hospital, in Lorca, Murcia.
- ♦ Head of the Hematology Department at the Hospital Virgen de la Caridad in Cartagena
- ♦ Member of Sermo's Medical Advisory Board
- ♦ Associate Professor of Emergency and Clinical Simulation at the Universidad Católica San Antonio in Murcia.
- ♦ Degree in Medicine and Surgery from the University of Murcia
- ♦ Specialty in Hematology Hemotherapy



Professors

Dr. Contessotto Avilés, María Cristina

- ◆ Pediatrician at the Pediatrics and Neonatology Unit of Hospital Quirón Salud, in Murcia.
- ◆ Specialist in Pediatrics and Neonatology at the Hospital Universitario Virgen de la Arrixaca, in Murcia
- ◆ Degree in Medicine and Surgery from the University of Murcia.
- ◆ Pediatrician and Neonatology Specialist

Dr. Pelegrín Pelegrín, Fulgencio

- ◆ Section Chief of the Emergency Unit of the Rafael Méndez Hospital.
- ◆ Chief Resident of Hospital Emergency and Urgent Care Rotational Internships
- ◆ Degree in Medicine and Surgery from the University of Murcia.
- ◆ Specialty in Otorhinolaryngology

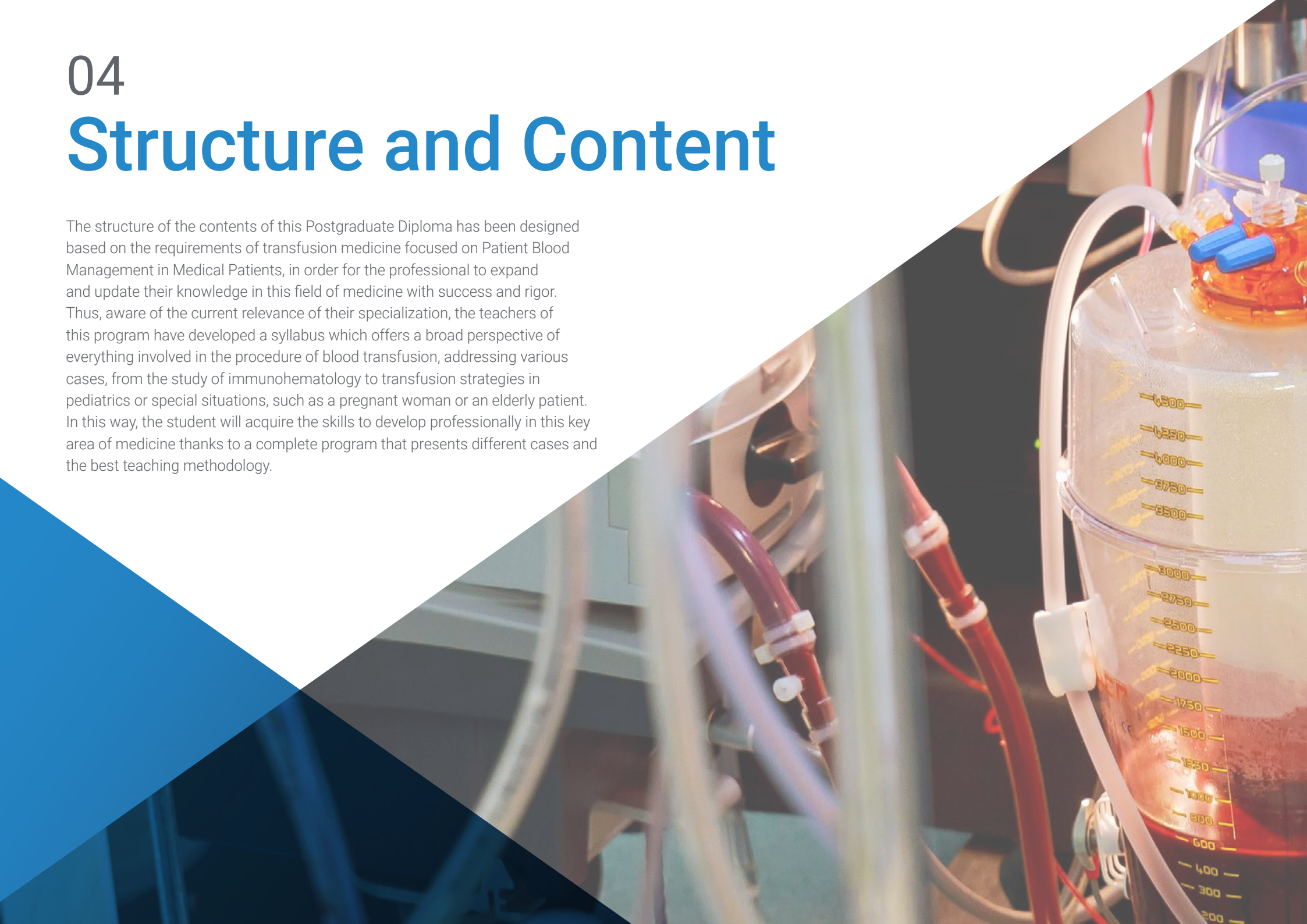
Dr. Burgos Alves, María Isabel

- ◆ Responsible for the technical area at Hospital Virgen de la Caridad
- ◆ Degree in Medicine from the University of Cadiz
- ◆ Specialist in Clinical Analysis by the HU Virgen de la Arrixaca

04

Structure and Content

The structure of the contents of this Postgraduate Diploma has been designed based on the requirements of transfusion medicine focused on Patient Blood Management in Medical Patients, in order for the professional to expand and update their knowledge in this field of medicine with success and rigor. Thus, aware of the current relevance of their specialization, the teachers of this program have developed a syllabus which offers a broad perspective of everything involved in the procedure of blood transfusion, addressing various cases, from the study of immunohematology to transfusion strategies in pediatrics or special situations, such as a pregnant woman or an elderly patient. In this way, the student will acquire the skills to develop professionally in this key area of medicine thanks to a complete program that presents different cases and the best teaching methodology.

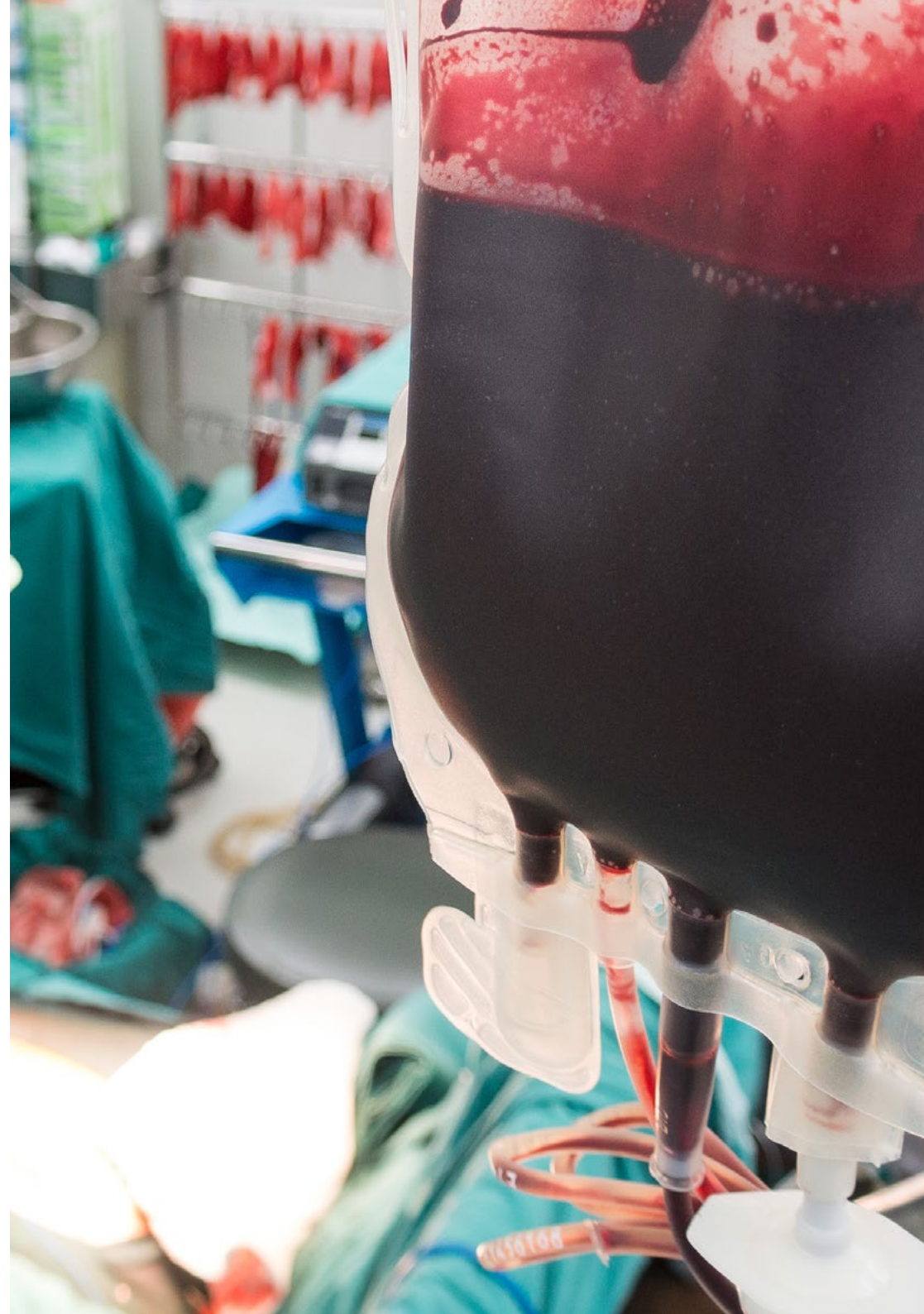


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You will learn the classification of blood grouping systems such as ABO and Rh with renowned industry experts”

Module 1. Immunohematology

- 1.1. Red Blood Cell Immunohematology
 - 1.1.1. ABO, Rh and Other Blood Grouping Systems
 - 1.1.2. Classification of Blood Grouping Systems
- 1.2. Platelet Immunohematology
 - 1.2.1. Antigens and Platelet Antibodies
 - 1.2.2. Study Techniques and Clinical Significance
 - 1.2.3. Study of Alloimmune Neonatal Thrombopenia
- 1.3. Leukocyte Immunohematology
 - 1.3.1. The HLA System Antigens and Leukocyte Antibodies
 - 1.3.2. Study Techniques and Clinical Significance
- 1.4. Autoimmune Hemolytic Anemia
 - 1.4.1. Immunohematological Tests
- 1.5. Hemolytic Disease of the Fetus and Newborn
 - 1.5.1. HDN due to Anti-D and Other Erythrocyte Groups
- 1.6. Platelet Refractoriness
 - 1.6.1. Diagnosis and Management
- 1.7. Rare Phenotypes
 - 1.7.1. Diagnosis of Rare Phenotypes
- 1.8. The Panagglutination Problem in Pretransfusion Compatibility Tests
 - 1.8.1. Diagnostic Approach
- 1.9. TRALI or Transfusion-Related Acute Lung Injury
 - 1.9.1. Vlaar's Classification of Pulmonary Complications of Transfusion
- 1.10. The Indication for Transfusion of Phenotype-Matched Blood



Module 2. Transfusions in Pediatrics

- 2.1. Transfusion Medicine in Pediatrics
 - 2.1.1. Optimal Transfusion Volumes
 - 2.1.2. Indication of Irradiated Components in Pediatrics
- 2.2. Intrauterine Hemocomponents Transfusion
 - 2.2.1. Current Indications for Intrauterine Transfusion
- 2.3. Red Blood Cells Transfusion in Children Younger than 4 Months of Age
 - 2.3.1. Preterm Anemia
 - 2.3.2. Red Blood Cell Concentrate Transfusion Thresholds
- 2.4. Platelet Transfusion in Children Younger than 4 Months of Age
 - 2.4.1. Prophylactic Platelet Transfusion
 - 2.4.2. Alloimmune Neonatal Thrombopenia
- 2.5. Plasma Transfusion in Children Younger 4 Months of Age
 - 2.5.1. Indications for Fresh Frozen Plasma in the Neonatal Period
- 2.6. Exchange Transfusion
 - 2.6.1. Indications
 - 2.6.2. Complications of Exchange Transfusion
- 2.7. Red Blood Cells Transfusion in Children Older than 4 Months of Age
 - 2.7.1. Anemia in Hemato-Oncology Patients
 - 2.7.2. Management of Massive Hemorrhage in Pediatrics
- 2.8. Platelet Transfusion in Children Older than 4 Months of Age
 - 2.8.1. Therapeutic Platelet Transfusion Thresholds
- 2.9. Plasma Transfusion in Children Older than 4 Months of Age
 - 2.9.1. Acute Hemorrhage in Hemophiliac Patients
- 2.10. Immunoglobulin Administration
 - 2.10.1. Update on ITP Treatment in Pediatrics

Module 3. Transfusion and Blood Saving Strategies in Special Situations

- 3.1. Woman of Childbearing Age
 - 3.1.1. Transfusion Considerations
 - 3.1.2. Alloantibodies with Gestational Significance
- 3.2. Pregnant Woman
 - 3.2.1. Anemia and Pregnancy
 - 3.2.2. Use of Erythropoietin in Pregnancy
- 3.3. Tolerance of Anemia in Elderly Patients
 - 3.3.1. Most Frequent Causes
 - 3.3.2. Factors that Lead to Hemorrhage in Elderly Patients
- 3.4. Transfusion in Elderly Patients
 - 3.4.1. Transfusion Thresholds
 - 3.4.2. Risk of Water Overload and Acute Pulmonary Edema
- 3.5. Anemia in the Patient With Ischemic Heart Disease and Heart Failure
 - 3.5.1. Mechanisms of Anemia in Patients with Cardiomyopathy
 - 3.5.2. Use of Erythropoietic Agents
 - 3.5.3. Transfusion Thresholds
- 3.6. Anemia in Chronic Kidney Disease Patients
 - 3.6.1. Mechanisms of Anemia in Chronic Kidney Disease Patients
 - 3.6.2. Use of Erythropoietic Agents
- 3.7. Anemia in the Emergency Room
 - 3.7.1. Diagnosis of Anemia in the Emergency Department
 - 3.7.2. Management of Anemia in the Emergency Department
- 3.8. Massive and/or Life-Threatening Hemorrhage in the Emergency Department
 - 3.8.1. Resuscitation and Stabilization
 - 3.8.2. Hemorrhage Control
- 3.9. Immune Thrombocytopenic Purpura in Adults
 - 3.9.1. Management in the Emergency Department
- 3.10. Acute Complications in Sickle Cell Anemia Patients
 - 3.10.1. Management of Acute Complications
 - 3.10.2. Recommendations for Blood Transfusion

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.



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

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

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



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive 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 on the usefulness of learning by observing experts. The system known as 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 Patient Blood Management in Medical Patient guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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”

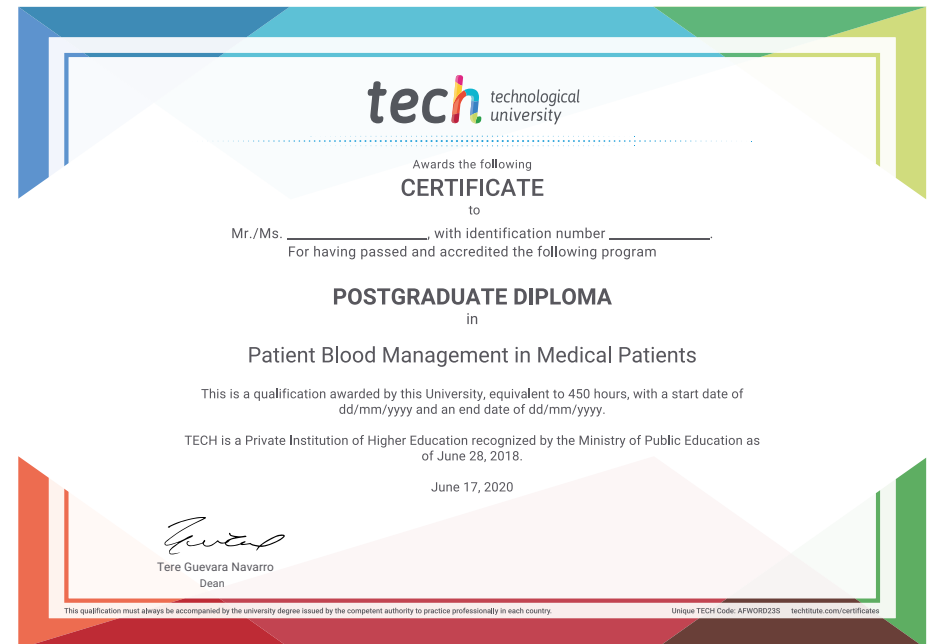
This **Postgraduate Diploma in Patient Blood Management in Medical Patient** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Postgraduate Diploma in Patient Blood Management in Medical Patients**

Official N° of Hours: **450 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.

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



Postgraduate Diploma
Patient Blood Management
in Medical Patients

Course Modality: Online

Duration: 6 months

Certificate: TECH Technological University

Official N° of Hours: 450 h.

Postgraduate Diploma Patient Blood Management in Medical Patients

