

Postgraduate Certificate

Blood Saving Strategies in the Intraoperative Setting





Postgraduate Certificate Blood Saving Strategies in the Intraoperative Setting

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/blood-saving-strategies-intraoperative-setting

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01

Introduction

Blood transfusion carries a number of risks and potential complications that can influence patient morbidity and mortality, so it is necessary to define strategies to minimize the use of blood components. Therefore, it is essential to know the different factors involved in hemostasis and their monitoring, so that the professional can carry out a specific and early treatment. In this regard, it is also important to learn more about the different intraoperative methods and techniques that contribute to blood saving, as well as to take into account the indications and transfusion thresholds when transfusing blood in order to reduce risks. For all these reasons, TECH presents this complete program with which the student will specialize in a specific field of medicine that requires experts.



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*By specializing in Blood Saving Strategies
in the Intraoperative Setting you are one
step closer to your career goal"*

Blood transfusion carries a number of risks and potential complications that can influence patient morbidity and mortality. Therefore, it is necessary to define strategies to minimize the use of blood components.

Thus, different situations may be encountered in the operating room, from scheduled and well optimized patients to urgent surgeries, situations in which acute bleeding may occur or be the main cause of surgery. Hence the importance of knowing the different factors involved in hemostasis and their monitoring, since with the appropriate knowledge the professional will perform a specific and early treatment.

In the same way, it is important to understand in depth the different intraoperative methods and techniques that contribute to blood saving, which can be applied to all intraoperative situations or have specific considerations in some surgical specialties.

Finally, if transfusion is to be performed, the transfusion indications and thresholds must be taken into account in order to reduce the risks and complications involved, together with the patient's evaluation.

In addition, it is a 100% online Postgraduate Certificate, so the student has the ease of being able to take 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 Certificate in Blood Saving Strategies in the Intraoperative Setting** 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
- ◆ 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



In this program you will delve into the different intraoperative methods and techniques that contribute to blood saving"

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You will define strategies that minimize the use of blood components to avoid patient morbidity and mortality from blood transfusion”

A 100% online Postgraduate Certificate for you to specialize where, when and how you want simply through a device with internet access.

You will learn the importance of knowing the different factors involved in hemostasis and their monitoring, key to the success of your treatment.

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.



02 Objectives

The purpose of this Postgraduate Certificate is that the student achieves the proposed objectives, in order to expand their knowledge in Transfusion Medicine, specifically in the intraoperative field. Through the learning of quality content and an innovative methodology, the student will be introduced to blood saving strategies in this clinical field. 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 current approach, with full preparation for the achievement of their professional goal. Thus, the student is well on his way to excellence in his daily medical work in this field of Transfusion Medicine.



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You will learn in depth about the different methods to reduce intraoperative bleeding with the best professionals in the sector”



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





Specific Objectives

- ◆ Acquire in-depth knowledge of the different methods to reduce intraoperative bleeding and the main indications and thresholds for blood transfusion

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Specialize with the medical elite and you will know perfectly the main indications and thresholds of blood transfusion”

03

Course Management

TECH has prestigious experts in the medical field of hematology so that the student acquires a solid knowledge in the specialty of Transfusion Medicine in the intraoperative setting. Therefore, this Postgraduate Certificate has a highly qualified teaching staff, whose extensive experience in this medical field brings quality to the program, thus providing students with the best tools for the development of their skills during the course. In this way, the future professional has the guarantees required to specialize with the best and boost their academic career towards a specific sector that contributes to saving an essential and scarce resource in the operating room, blood.



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*With this TECH Postgraduate Certificate,
you will be part of the medical elite"*

International Guest Director

Dr. Aaron Tobian is one of the great international references in the area of blood transfusion, being director of Transfusion Medicine at the Johns Hopkins Hospital. He is also Associate Director of Medical Affairs in the Pathology Area of the same clinical center.

In the academic field, Dr. Tobian has published more than 250 scientific articles related to Transfusion Medicine in the most prestigious journals, as a result of his global studies on diseases such as HIV.

In this sense, he also develops an important work as a member of several editorial boards. In addition, he is associate editor of the Journal of Clinical Apheresis, as well as being the editor-in-chief and founder of the Transfusion News portal, a reference in the dissemination of news on Transfusion Medicine.

All this, together with his teaching work, which he develops in prestigious centers, being professor of Pathology, Oncology and Epidemiology at the Johns Hopkins University School of Medicine and the Bloomberg School of Public Health.



Dr. Tobian, Aaron

- Director of Transfusion Medicine at The Johns Hopkins Hospital
- Associate Director of Clinical Affairs, Pathology Area, Johns Hopkins Hospital
- M.D. from Case Western Reserve University
- M.D., Case Western Reserve University
- Professor of Pathology, Medicine, Oncology and Epidemiology at The Johns Hopkins University School of Medicine
- Associate Editor of the Journal of Clinical Apheresis
- Editor-in-Chief and founding member of the website Transfusion News
- Editorial member of the journal Transfusion

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Thanks to TECH you will be able to learn with the best professionals in the world"

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. Reina Alcaina, Leandro

- ◆ Urology Specialist at Rafael Méndez University Hospital
- ◆ Urology Specialist at La Inmaculada Hospital
- ◆ Doctor of Medicine, Universidad Católica de San Antonio de Murcia
- ◆ Degree in Medicine and Surgery from the University of Murcia
- ◆ Specialty in Urology at Morales Meseguer University Hospital

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An impressive teaching staff, made up of professionals from different areas of expertise, will be your teachers during your specialization: a unique opportunity not to be missed”

04

Structure and Content

The structure of the contents of this Postgraduate Certificate has been designed based on the knowledge of Transfusion Medicine focused on the patient in the intraoperative setting, so that the professional can deepen and update their knowledge in strategies for blood saving in this clinical field. Thus, the teaching team of this program has developed a syllabus whose content offers a broad perspective of everything involved in this procedure, from the identification and monitoring of hemostasis alterations to anesthetic and surgical techniques to reduce intraoperative bleeding or how to proceed in the administration of plasma and platelets, among others. Quality content that will position the student at the top of this medical discipline.





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In this Postgraduate Certificate you will learn the characteristics of intraoperative and cardiac surgery fluid therapy”

Module 1. Strategies for Blood Saving in the Intraoperative Setting

- 1.1. Identification and Monitoring of Intraoperative Hemostasis Disorders
- 1.2. Anesthetic and Surgical Techniques to Reduce Intraoperative Bleeding
 - 1.2.1. Intraoperative Fluid Therapy
- 1.3. Administration of Prohemostatic Agents
 - 1.3.1. Plasma and Platelet Administration
 - 1.3.2. Administration of Antifibrinolytics
 - 1.3.3. Fibrinogen and Cryoprecipitates
 - 1.3.4. Prothrombin Complex Concentrate
- 1.4. Autologous Transfusion Methods.
 - 1.4.1. Acute Normovolemic Hemodilution
 - 1.4.2. Autologous Blood Transfusion
- 1.5. Intraoperative Blood Component Transfusion
 - 1.5.1. Transfusion Thresholds
- 1.6. Cardiac Surgery
 - 1.6.1. Fluid Therapy in Cardiac Surgery
 - 1.6.2. Transfusion Algorithms and Transfusion Thresholds
- 1.7. Paediatric and Obstetric Surgery
 - 1.7.1. Obstetric Hemorrhage
 - 1.7.2. Transfusion Recommendations for Neonates in the Intraoperative Setting
- 1.8. Orthopaedic Surgery and Traumatology
 - 1.8.1. Risks for Transfusion in Orthopedic Surgery Patient
- 1.9. Refusal of Allogeneic Blood Transfusion
 - 1.9.1. Alternatives to Allogeneic Blood Transfusion in Patients Refusing Transfusion
- 1.10. Acute Hemorrhage and Massive Transfusion
 - 1.10.1. Main Intraoperative Causes
 - 1.10.2. Strategies in Antiplatelet/Anticoagulated Patients and Emergency Surgery





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You will learn about alternatives to allogeneic blood transfusion in patients who refuse 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 Certificate in Blood Saving Strategies in the Intraoperative Setting guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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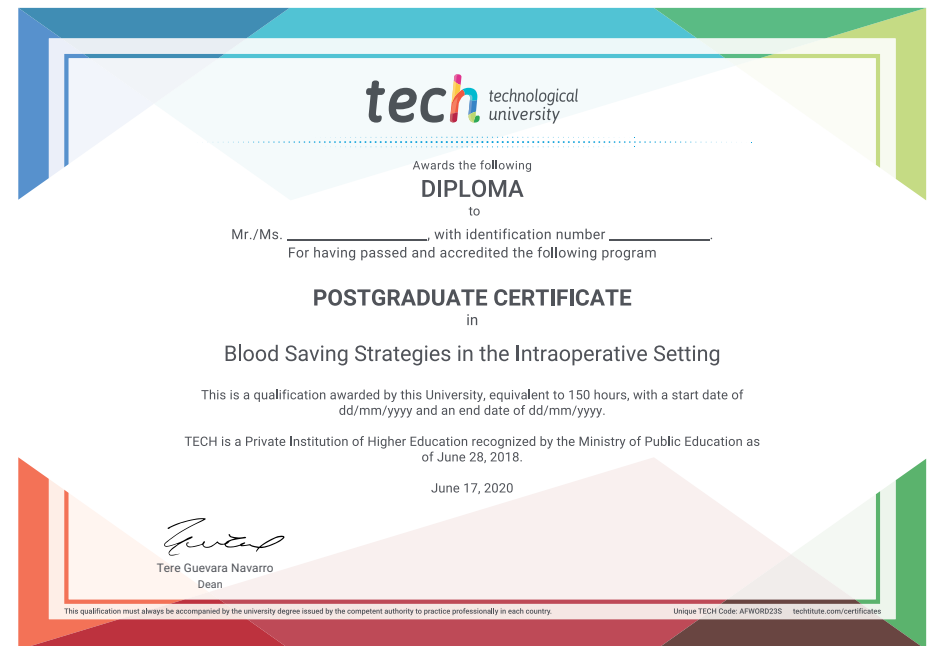
Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This **Postgraduate Certificate in Blood Saving Strategies in the Intraoperative Setting** contains the most complete and up-to-date scientific program on the market.

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

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

Title: **Postgraduate Certificate in Blood Saving Strategies in the Intraoperative Setting**
Official N° of Hours: **150 h.**



*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 languages

virtual classroom

tech technological
university

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the Intraoperative Setting

- › Modality: online
- › Duration: 6 weeks
- › Certificate: TECH Technological University
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