

Postgraduate Diploma

Pharmacological and Nutritional
Management of the Trauma Patient
in the ICU



Postgraduate Diploma Pharmacological and Nutritional Management of the Trauma Patient in the ICU

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-pharmacological-nutritional-management-trauma-patient-icu

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01

Introduction

The correct administration of medications in the critically ill patient is a permanent challenge for ICU teams, so it is essential to use strategies to control the effect of the medication and reduce errors. This program immerses the student in a syllabus focused on the use of drugs and nutritional strategies in trauma patients in ICU, so that the physician is kept up to date thanks to the latest scientific research and the most recent pharmacological research. A very complete update that draws on the most innovative didactic materials, at the forefront of technology and education. In addition, the syllabus has a 100% online methodology based on Relearning and the development of practical examples based on real patients





“

TECH offers you the most convenient and agile learning system to get you up to date in ICU pharmacology and nutrition. Enroll now!”

The physiological changes that can occur in the trauma patient alter the action of the drugs administered, in a way that is often difficult to predict. While continuously infusing a medication entails more care, this also translates into greater problems if adequate measures are not taken to safeguard the integrity of the critically ill patient

TECH has created this Postgraduate Diploma for the medical professional to acquire advanced skills in this area, with the aim of improving the ability to respond and care in delicate situations. In this way, the physician will be updated in the selection and administration of drugs for pain control, sedation, anti-inflammatory and antimicrobial medications. In addition, the importance of nutrition in the recovery of traumatized patients will be covered, considering energy, protein and micronutrient requirements. The graduate will acquire skills to optimize pharmacological and nutritional management, contributing to the effective recovery of patients

Likewise, the specialist will delve into trauma in special populations, such as children, the elderly, pregnant women and patients with chronic diseases. Likewise, specific protocols for critical situations, such as natural disasters, armed conflicts and massive traffic accidents will be addressed. Not to mention triage strategies, resource coordination and interdisciplinary collaboration

Finally, the importance of traumatic injuries from a public health perspective will be explored in depth, so that the graduate will understand how they affect society in general and how effective prevention and management strategies can be implemented

This is a university program that provides students with robust competencies, so that they can use them in their daily practice, facing real situations. All this thanks to the support of an excellent teaching team and access to a revolutionary teaching methodology, pioneer in TECH: Relearning, based on the repetition of key concept to ensure optimal acquisition of knowledge

This **Postgraduate Diploma in Pharmacological and Nutritional Management of the Trauma Patient in the ICU** 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 Pharmacological and Nutritional Management of the Trauma Patient in the ICU
- ♦ 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 the self-assessment process can be carried out 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



You will address the management of the patient with traumatic injuries in the ICU, with the guarantee of the best academic results"

“ *You will acquire the most advanced skills to treat traumatic injuries in special cases, such as children, pregnant women and the elderly thanks to this TECH program”*

The program's teaching staff includes professionals from the sector who contribute their work experience to this program, in addition to 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 an immersive education programmed to learn in real situations

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts

You will delve into the most commonly used medications in the ICU, from analgesics to antimicrobials, 100% online.

You will analyze the fundamental concepts of traumatic diseases from the point of view of public health, from the best experts in the field.



02 Objectives

Thanks to the design of this Postgraduate Diploma, the physician will be able to acquire the essential competencies to update his profession and put into practice all the knowledge acquired in a satisfactory manner. The program delves into the Pharmacological and Nutritional Management of the Trauma Patient in the ICU. Therefore, the graduate will develop each of the points that make up the syllabus, with full qualification for the achievement of the proposed objectives. In addition, they will be kept up to date in a delicate and important area, such as the administration of medications in critical patients





Benefit from the most innovative multimedia resources and update your clinical practice in pharmacology and nutrition of patients with trauma injuries"



General Objectives

- ◆ Delve into a thorough understanding of the anatomophysiological, pathophysiological, and clinical basis of severe traumatic injuries, as well as associated complications and comorbidities
- ◆ Effectively communicate injury prevention information to different audiences and utilize health promotion strategies
- ◆ Delve into protocols for the prehospital management of specific trauma, such as head, chest, and orthopedic trauma
- ◆ Integrate quality and safety practices in the management of trauma patients, minimizing risks and optimizing outcomes
- ◆ Be aware of the specific nutritional requirements of severe trauma patients and develop appropriate nutrition plans
- ◆ Implement triage protocols in mass trauma situations and prioritize care



Meet your goals and update yourself on the latest techniques in diagnosis and treatment of trauma patients in the ICU"





Specific Objectives

Module 1. Trauma Pharmacology and Nutrition

- ♦ Select and administer specific medications for pain management, sedation and shock control in trauma
- ♦ Update knowledge on appropriate dosages and routes of administration for different medications used in trauma patients
- ♦ Delve into the side effects and possible complications of medications used in the management of trauma patients
- ♦ Learn the specific nutritional requirements of severe trauma patients and develop appropriate nutrition plans

Module 2. Trauma in Special Situations

- ♦ Understand how traumatic injuries affect special populations such as children, the elderly and pregnant women
- ♦ Manage trauma situations in contexts of natural disasters, mass accidents and armed conflicts
- ♦ Implement triage protocols in mass trauma situations and prioritize care
- ♦ Coordinate medical resources and trauma response teams in vulnerable communities
- ♦ Develop effective communication skills with patients, families and other professionals in trauma and emergency situations
- ♦ Delve into specific protocols and procedures for trauma management in special contexts

Module 3. Traumatic Injury in Public Health

- ♦ Apply the concepts of epidemiology to analyze the incidence, prevalence and patterns of traumatic injuries in the population
- ♦ Evaluate the impact of traumatic injuries on public health, considering economic, social and quality of life factors
- ♦ Analyze injury prevention programs, considering vulnerable populations and intervention strategies
- ♦ Delve into the role of health policy in the prevention and management of traumatic injuries, considering relevant regulations and legislation
- ♦ Interpret epidemiological data and assess traumatic injury trends, identifying areas of focus for effective interventions
- ♦ Plan public health responses to mass trauma situations, considering resource coordination and crisis management
- ♦ Evaluate the effectiveness of public health interventions in preventing traumatic injuries and adjust strategies according to the findings

03

Course Management

TECH has selected the best specialists for the design of this academic program in Pharmacological and Nutritional Management of the Trauma Patient in ICU. With an extensive professional background behind them, working day by day in the most important hospitals in the mentioned care, these teachers will share with the physician the most innovative procedures and tools to carry out their work. All with the objective of achieving a high-quality and international specialization



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The recognized experts that make up the teaching team have designed the syllabus of this Postgraduate Diploma, with the guarantee of the best academic results"

International Guest Director

Doctor George S. Dyer is an eminent orthopedic surgeon, specializing in Upper Limb Traumatology and Complex Post Traumatic Reconstructions of the Shoulder, Elbow, Wrist and Hand. In fact, he has served as an Upper Limb Surgeon at Brigham and Women's Hospital in Boston, where he has also held the prestigious Barry P. Simmons Chair in Orthopedic Surgery.

Therefore, one of his most significant contributions has been his work in Haiti, where he has had a lasting impact. After the devastating earthquake of 2010, he was one of the first surgeons to arrive in the country, providing assistance at a critical time. In doing so, he has worked closely with local surgeons and other health professionals to strengthen Haiti's capacity to manage medical emergencies. As such, his efforts have been instrumental in training a new generation of Haitian orthopedic surgeons, who demonstrated their skill and preparedness during the 2021 earthquake, handling the situation with great efficiency and professionalism.

Likewise, during his time as Director of the Harvard Combined Orthopedic Residency Program, he has strived to improve the working and educational conditions of the residents, fostering a more balanced and healthy work environment. This focus on resident well-being reflects his commitment to preparing future physicians and his concern for the mental and professional health of his colleagues.

As such, Doctor George S. Dyer's impact on his field has been recognized through various honors, such as the Humanitarian Award given by the Hippocrates Society at Brigham and Women's Hospital, as well as being named a Top Doctor in Massachusetts. These awards have underscored his influence and significant contribution to global Orthopedic Surgery, reflecting his dedication and commitment to all aspects of his career.



Dr. Dyer, George S.

- ♦ Upper Limb Surgeon at Brigham and Women's Hospital, Boston, United States
- ♦ Barry P. Simmons Chair in Orthopedic Surgery at Brigham and Women's Hospital, Boston, United States
- ♦ Commandant Surgeon in the Medical Corps of the U.S. Navy
- ♦ Director of the Harvard Combined Orthopedic Residency Residency Program
- ♦ Fellowship in Upper Limb Fellowship at Brigham and Women's Hospital and Children's Hospital
- ♦ Doctor of Medicine from Harvard Medical School
- ♦ B.A. in Political Science and Government from Harvard University
- ♦ Humanitarian Award from the Hippocratic Society of Brigham and Women's Hospital
- ♦ Massachusetts Top Doctor



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

Management



Dr. Bustamante Munguira, Elena

- ♦ Head of the Intensive Care Medicine Department of the Clinical Hospital of Valladolid
- ♦ Medical Director of the Health Area of Ibiza and Formentera
- ♦ Specialist in Intensive Care Medicine
- ♦ Teacher of refresher courses and workshops
- ♦ Illustrious Official College of Physicians of Salamanca Award
- ♦ Ramón Llul Award of the Patient Safety Unit
- ♦ PhD in Medicine and Surgery
- ♦ Master's Degree in Management
- ♦ Medical and Healthcare Management
- ♦ Master's Degree in Patient Safety

Professors

Dr. Pérez Gutiérrez, Jaime Eduardo

- ♦ Intensive Care Specialist
- ♦ Intensive Care Physician at University Clinical Hospital of Valladolid
- ♦ General Physician at 12 de Octubre Hospital
- ♦ Graduate in Medicine from the Francisco de Vitoria University
- ♦ Member of: Member of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units (SEMICYUC), Official College of Physicians of Madrid and Official College of Physicians of Valladolid

Dr. Velasco García, Álvaro

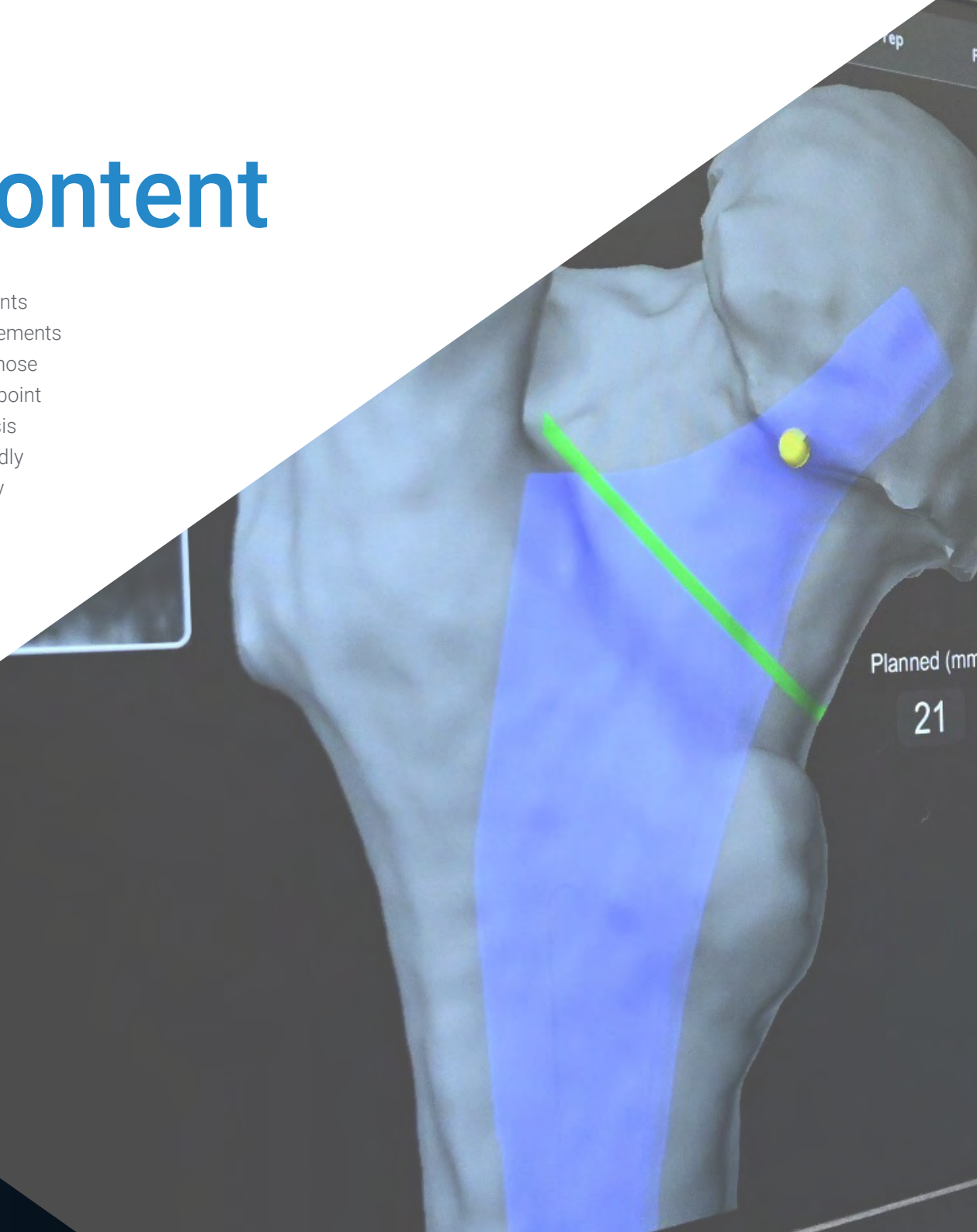
- ♦ Intensive Care Physician at the University Clinical Hospital of Valladolid
- ♦ Graduate in Medicine from the University of Valladolid
- ♦ Professional Master's Degree in Integration of medical knowledge and its application to the resolution of clinical problems Catholic University San Antonio of Murcia



04

Structure and Content

The program has been developed in accordance with the medical requirements of pharmacology and nutrition for trauma patients in the ICU, following the requirements proposed by the teaching team. Therefore, a syllabus has been established whose modules offer a broad perspective of this health area, from an international point of view. In addition, it incorporates all the procedures involved in the diagnosis and treatment of this type of injuries in intensive care. The graduate will rapidly expand their skills, betting on their maximum development in an increasingly demanded specialty





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Keep up to date with TECH! This comprehensive educational program will bring you all the latest medical-scientific research in the field”

Module 1. Trauma Pharmacology and Nutrition

- 1.1. Indications for sedation
 - 1.1.1. Sedation
 - 1.1.2. Physiological response to pain
 - 1.1.2.1. Pain Control
 - 1.1.2.2. Control of sedation
- 1.2. Drugs commonly used in the care of the severely traumatized patient
 - 1.2.1. Drugs:
 - 1.2.2. Hypnotics: intravenous sedatives
 - 1.2.2.1. Thiopental
 - 1.2.2.2. Etomidate
 - 1.2.2.3. Ketamine
 - 1.2.2.4. Propofol
 - 1.2.2.5. Benzodiazepines
 - 1.2.3. Muscle relaxants
 - 1.2.3.1. Depolarizing neuromuscular relaxants
 - 1.2.3.2. Non-depolarizing neuromuscular relaxants
 - 1.2.3.3. Anticholinesterase drugs
 - 1.2.4. Opioid Analgesics
 - 1.2.4.1. Pure Agonists
 - 1.2.4.2. Pure antagonists
 - 1.2.5. Inotropic agents
 - 1.2.5.1. Adrenaline
 - 1.2.5.2. Dopamine
 - 1.2.5.3. Dobutamine
- 1.3. Sedation analgesia guidelines
 - 1.3.1. Short-duration sedo analgesia
 - 1.3.2. Prolonged Sedo analgesia guideline
 - 1.3.3. Conclusions



- 1.4. Minor analgesics
 - 1.4.1. Analgesia
 - 1.4.2. Drugs and dosage
 - 1.4.2.1. NSAIDS
 - 1.4.2.2. Nonsteroidal Anti-Inflammatory Drugs
 - 1.4.2.3. Patient-controlled analgesia
- 1.5. Regional Thorax and Abdomen Analgesia
 - 1.5.1. Indications
 - 1.5.2. Classification
 - 1.5.2.1. Central Blocks
 - 1.5.2.2. Peripheral blocks
 - 1.5.2.3. Fascicular blocks
 - 1.5.3. Procedures used in Thorax and Abdomen
 - 1.5.4. Procedures used on the Upper Limb and Lower Limb
- 1.6. Neuromuscular Blockade
 - 1.6.1. Blockade
 - 1.6.2. Indications
 - 1.6.3. Classification
 - 1.6.3.1. Depolarizing agents
 - 1.6.3.2. Non-depolarizing
 - 1.6.4. Monitoring
- 1.7. Delirium
 - 1.7.1. Delirium
 - 1.7.2. Definition and scales
 - 1.7.3. Risk Factors
 - 1.7.4. Classification and clinical
 - 1.7.4.1. Hyperactive delirium
 - 1.7.4.2. Hypoactive delirium
 - 1.7.4.3. Mixed delirium
 - 1.7.5. Management and Treatments
 - 1.7.6. Prevention of delirium in ICU
- 1.8. Monitoring. Analgesia and sedation scales
 - 1.8.1. Scales
 - 1.8.2. Causes of pain
 - 1.8.3. Clinical Symptoms
 - 1.8.4. Analgesia Scales
 - 1.8.4.1. Pain assessment in the conscious patient
 - 1.8.4.1.1. EVA Scale
 - 1.8.4.1.2. Numerical verbal scale
 - 1.8.4.2. Pain assessment in the intubated patient with non-deep sedation
 - 1.8.4.2.1. EVA Scale
 - 1.8.4.2.2. Numerical verbal scale
 - 1.8.4.3. Assessment of pain in the non-communicative patient or under deep sedation
 - 1.8.4.3.1. Campbell Scale
 - 1.8.4.3.2. ESCID Scale
 - 1.8.5. Sedation scales
 - 1.8.5.1. Ramsay Scale
 - 1.8.5.2. RASS Scale
 - 1.8.5.3. BIS monitoring
- 1.9. Prophylaxis and antimicrobial treatment in the polytraumatized patient
 - 1.9.1. Prophylaxis
 - 1.9.2. Indications for Prophylaxis
 - 1.9.2.1. Most frequent antibiotic guidelines in polytraumatized patients
 - 1.9.3. Infections related to fractures
 - 1.9.4. Pneumonia
 - 1.9.5. Infections related to cranioencephalic traumatism
- 1.10. Nutrition
 - 1.10.1. Nutrition
 - 1.10.2. Indications for nutritional support in trauma
 - 1.10.2.1. When to initiate nutritional support
 - 1.10.2.2. Assessment of requirements
 - 1.10.2.3. Micronutrients
 - 1.10.2.4. Type of diet and follow-up

- 1.10.3. Complications
- 1.10.4. Monitoring
 - 1.10.4.1. Introduction
 - 1.10.4.2. Monitoring
 - 1.10.4.3. Nutritional risk analysis
 - 1.10.4.4. Imaging technique
- 1.10.5. Nutrition in Special Situations
 - 1.10.5.1. Abdominal Trauma
 - 1.10.5.2. Spinal trauma
 - 1.10.5.3. Barbiturate coma
 - 1.10.5.4. ECMO

Module 2. Trauma in Special Situations

- 2.1. Recommendations for Child Trauma Care
 - 2.1.1. Introduction
 - 2.1.2. Types and Patterns of Injury
 - 2.1.3. Unique Characteristics of the Pediatric Patient
 - 2.1.4. Airway
 - 2.1.5. Breathing
 - 2.1.6. Circulation and Shock
 - 2.1.7. Cardiopulmonary resuscitation
 - 2.1.8. Thoracic Trauma
 - 2.1.9. Abdominal Trauma
 - 2.1.10. TBI
 - 2.1.11. Spinal cord injury
 - 2.1.12. Musculoskeletal trauma
 - 2.1.14. Abdominal trauma
 - 2.1.13. Child Abuse
- 2.2. Trauma in the Elderly
 - 2.2.1. Introduction
 - 2.2.2. Effects of Aging and Impact of Prevalent Diseases
 - 2.2.3. Mechanisms of Injury
 - 2.2.4. Primary Screening and Resuscitation
 - 2.2.5. Specific injuries
 - 2.2.6. Specific Circumstances
- 2.3. Trauma in the Anticoagulated Patient
 - 2.3.1. Introduction
 - 2.3.2. Patient with Antiplatelet Therapy
 - 2.3.3. Patient with Warfarin Treatment
 - 2.3.4. Patient with Heparin Treatment
 - 2.3.5. Patient with Treatment with Low Molecular Weight Heparin
 - 2.3.6. Patient Treated with Direct Thrombin Inhibitors (Dabigatran Etexilate)
 - 2.3.7. Patient with Treatment with Rivaroxaban
- 2.4. Trauma in Pregnant Women
 - 2.4.1. Introduction
 - 2.4.2. Anatomical and Physiological Alterations during Pregnancy
 - 2.4.3. Anatomical Differences
 - 2.4.4. Mechanisms of Injury
 - 2.4.5. Injury Severity
 - 2.4.6. Assessment and Management
 - 2.4.7. Perimortem Cesarean Section
 - 2.4.8. Domestic Violence
- 2.5. Aggressions by External Agents. Immersion Accidents. Hypothermia. Electrocution. Burns
 - 2.5.1. Thermal Injuries: Burns
 - 2.5.1.1.1. Primary Assessment and Resuscitation of the Burn Patient
 - 2.5.1.1.1.1. Stopping the Burn Process
 - 2.5.1.1.1.2. Establish Airway Control
 - 2.5.1.1.1.3. Ensure Adequate Ventilation
 - 2.5.1.1.1.4. Management of Circulation with Burn Shock Resuscitation
 - 2.5.1.1.1.5. Patient Assessment
 - 2.5.1.1.1.6. Secondary Assessment
 - 2.5.1.1.1.6.1. Documentation
 - 2.5.1.1.1.6.2. Baseline Determinations for the Severely Burned Patient
 - 2.5.1.1.1.6.3. Peripheral Circulation in Circumferential Burns of the Limbs
 - 2.5.1.1.1.6.4. Placement of Nasogastric Tube
 - 2.5.1.1.1.6.5. Narcotics, Analgesia and Sedatives

- 2.5.1.1.6.7. Antibiotics
 - 2.5.1.1.6.8. Tetanus
 - 2.5.2. Specific Burn Injuries
 - 2.5.2.1. Chemical Burns
 - 2.5.2.2. Electrical Burns
 - 2.5.2.3. Tar burns
 - 2.5.3. Cold Exposure Injuries: Local Tissue Effects
 - 2.5.3.1. Types of Cold Injuries
 - 2.5.3.1.1. Frostbite Injuries
 - 2.5.3.1.2. Non-freezing Injuries
 - 2.5.3.1.3. Systemic Hypothermia
- 2.6. Trauma due to Hanging
 - 2.6.1. Introduction
 - 2.6.2. Anatomical Recollection
 - 2.6.3. Mechanism of Injury
 - 2.6.4. Management
 - 2.6.5. Prognostic Factors and Associated Injuries
 - 2.6.6. Treatment
 - 2.6.6.1. Surgical Treatment
 - 2.6.6.2. Treatment by Organs
 - 2.6.6.2.1. Airway Injuries
 - 2.6.6.2.2. Esophageal Injuries
 - 2.6.6.2.3. Vascular Injuries
- 2.7. Injuries by Chemical and Biological Agents
 - 2.7.1. Introduction
 - 2.7.2. Explosion Injuries
 - 2.7.3. Chemical Injuries and Diseases
- 2.8. Disaster Management
 - 2.8.1. Mass Casualty Event Management
 - 2.8.2. Tools for Effective Mass Casualty Management
 - 2.8.3. Management Priorities
 - 2.8.4. Challenges
 - 2.8.5. Security and Communication
 - 2.8.6. War Wounds (Military Trauma)

- 2.9. Organization of Multiple Casualty and Disaster Assistance
 - 2.9.1. Introduction
 - 2.9.2. Casualty Triage Card: Approach and Preparation
 - 2.9.3. Patient Transport, Evacuation
 - 2.9.4. Destination
 - 2.9.5. Transfer
 - 2.9.6. Decontamination
- 2.10. Management of the Polytraumatized Patient as a Potential Organ Donor
 - 2.10.1. Introduction
 - 2.10.2. Etiopathogenesis, Most Frequent Causes
 - 2.10.3. Clinical
 - 2.10.4. Diagnosis
 - 2.10.5. Treatment

Module 3. Traumatic Injury in Public Health

- 3.1. Epidemiology of traffic accidents
 - 3.1.1. Traffic Accidents
 - 3.1.2. Definition
 - 3.1.3. Importance
 - 3.1.4. Epidemiology
 - 3.1.5. Prevention
- 3.2. Influence of the consumption of medicines, alcohol, drugs and certain pathologies on driving
 - 3.2.1. Drug and alcohol use
 - 3.2.2. Influence of drug use on driving
 - 3.2.3. Action of health professionals when prescribing medication to the driving patient.
 - 3.2.4. Action to be taken by driver-patients
 - 3.2.5. Alcohol and driving
 - 3.2.5.1. Legal regulations on alcohol and driving
 - 3.2.5.2. Pharmacokinetics of alcohol and factors determining its concentration in blood
 - 3.2.5.3. Effects of alcohol on driving
 - 3.2.6. Illegal drugs and driving
 - 3.2.6.1. Types of drugs and their effects on driving

- 3.3. Biomechanics of Accidents
 - 3.3.1. Accidents
 - 3.3.2. Historical Aspects
 - 3.3.3. Collision phases
 - 3.3.4. Principles of biomechanics
 - 3.3.5. Biomechanics of injuries according to anatomical area and type of accident
 - 3.3.5.1. Automobile accidents
 - 3.3.5.2. Motorcycle, moped and bicycle accidents
 - 3.3.5.3. Truck and bus accidents
- 3.4. Organization of care in severe traumatic pathology
 - 3.4.1. Configuration of the trauma team
 - 3.4.2. Characteristics of a successful team
 - 3.4.3. Roles and responsibilities of the team leader
 - 3.4.3.1. Team perception
 - 3.4.3.2. Receiving the report
 - 3.4.3.3. Team management and reaction to information
 - 3.4.3.4. Team feedback
 - 3.4.3.5. Communication with the patient's family
 - 3.4.4. Effective leadership
 - 3.4.4.1. Qualities and behavior of an effective team leader
 - 3.4.4.2. Culture and climate
 - 3.4.5. Roles and responsibilities of team members
 - 3.4.5.1. Team members
 - 3.4.5.2. Responsibility of the members
 - 3.4.5.2.1. Prepare for the patient
 - 3.4.5.2.2. Receive report
 - 3.4.5.2.3. Assess and manage the patient
 - 3.4.5.2.4. Participate in feedback
- 3.5. Severity indexes in trauma
 - 3.5.1. Valuation indexes
 - 3.5.2. Glasgow Scale
 - 3.5.3. Abbreviated injury scale
 - 3.5.4. Injury severity assessment
 - 3.5.5. Characterization of the severity of the traumatized patient
- 3.6. Records, severity and avoidable mortality scales
 - 3.6.1. Scales
 - 3.6.2. Physiological scales
 - 3.6.2.1. Glasgow
 - 3.6.2.2. Revised trauma score (RTS)
 - 3.6.2.3. Pediatric trauma score or pediatric trauma index (ITP)
 - 3.6.3. Anatomical scales
 - 3.6.3.1. Abbreviated injury scale (AIS)
 - 3.6.3.2. Injury severity score (ISS)
 - 3.6.3.3. New Injury severity score (NISS)
 - 3.6.3.4. Organ injury scales (OIS)
 - 3.6.3.5. Penetrating abdominal trauma index (PATI)
 - 3.6.4. Combined scales
 - 3.6.4.1. TRISS scale or model
 - 3.6.4.2. International Classification of Diseases Injury Severity Score (ICISS)
 - 3.6.4.3. Trauma Mortality Prediction Model (TMPM)
 - 3.6.4.4. Trauma Risk Adjustment Model (TRAM)
 - 3.6.4.5. Sequential Trauma Score (STS)
 - 3.6.5. Avoidable mortality and errors in trauma
- 3.7. Quality and safety in trauma care?
 - 3.7.1. Quality and Safety
 - 3.7.2. Definition of concepts, quality and safety
 - 3.7.3. Ensuring effective team communication
 - 3.7.4. Record keeping, protocols, checklists, etc
 - 3.7.5. Risk Management
 - 3.7.6. Conflict Management
- 3.8. Simulation-based trauma team training
 - 3.8.1. Team building
 - 3.8.2. Simulation-based training concepts
 - 3.8.3. Development of a FEBS (Simulation Based Team Building) program
 - 3.8.3.1. Comprehensive needs analysis

- 3.8.3.2. Simulation design: Event-based team building
 - 3.8.3.2.1. Selection of competencies
 - 3.8.3.2.2. Training Objectives
 - 3.8.3.2.3. Clinical context
 - 3.8.3.2.4. Development of the scenario
 - 3.8.3.2.5. Expected responses
 - 3.8.3.2.6. Measurement Tools
 - 3.8.3.2.7. Scenario script
- 3.8.3.3. Debriefing
 - 3.8.3.3.1. Debriefing
 - 3.8.3.3.2. Briefing-prebriefing
 - 3.8.3.3.3. Objectives
 - 3.8.3.3.4. Conventional techniques and support for debriefing
 - 3.8.3.3.5. Assessment Systems
- 3.9. Bibliographic resources
 - 3.9.1. New paths for training
 - 3.9.1.1. Use of innovative teaching resources
 - 3.9.1.1.1. Learning based on clinical cases
 - 3.9.1.1.2. Inverted classroom model
 - 3.9.1.1.3. Clinical simulation
 - 3.9.1.1.4. Gamification
 - 3.9.1.1.5. Clinical discussions
 - 3.9.1.2. Adaptation to the current cognitive model
- 3.10. Trauma-related social networks
 - 3.10.1. Use of new digital resources for training
 - 3.10.1.1. FODMed and social networks
 - 3.10.1.2. Twitter as an educational tool
 - 3.10.2. Impact of digital transformation on research
 - 3.10.2.1. Dissemination in social networks
 - 3.10.2.2. Big Data

- 3.10.3. Impact of social networks on healthcare
 - 3.10.3.1. Introduction
 - 3.10.3.2. Use of social networks by health care professionals and organizations
 - 3.10.3.3. Use of social networks and digital media by patients and their environment
 - 3.10.3.4. Impact on the user
 - 3.10.3.5. Impact on the relationship with health professionals
- 3.10.4. Good practices in social networks



Take advantage of this unique opportunity and enroll now in the best program in Medicine dedicated to the Trauma Patient in ICU"

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 Pharmacological and Nutritional Management of the Trauma Patient in the ICU 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 Pharmacological and Nutritional Management of the Trauma Patient in the ICU** 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 diploma 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 Pharmacological and Nutritional Management of the Trauma Patient in the ICU**

Official N° of Hours: **450 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.



Postgraduate Diploma
Pharmacological and Nutritional
Management of the Trauma Patient
in the ICU

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Postgraduate Diploma

Pharmacological and Nutritional
Management of the Trauma Patient
in the ICU