

Postgraduate Certificate Pediatric Neonatal Surgery





Postgraduate Certificate Pediatric Neonatal Surgery

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

Website: www.techtitute.com/us/medicine/postgraduate-certificate/pediatric-neonatal-surgery

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 22

06

Certificate

p. 30

01

Introduction

Neonatal Pediatric Surgery deals with congenital or acquired pathologies that endanger the life of the newborn or child, such as heart malformations, gastrointestinal malformations or tumors, among others. In this line, the complexity of the treatment of this type of diseases has led to the improvement of the surgical techniques used, which the pediatric surgeon must know to be at the medical forefront. For this reason, TECH Technological University has created this program, which will provide the specialist with advanced strategies to treat congenital diaphragmatic hernia or esophageal atresia. All this, through a 100% online modality and without giving up your professional and personal life.





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Through this program, you will identify the latest advances in the treatment of congenital diaphragmatic hernia or esophageal atresia”

Neonatal Pediatric Surgery is a medical specialty that focuses on the surgical treatment of newborns and young children with acute health problems. Pathologies of this nature are complex and require a deep knowledge of the anatomical and physiological particularities of these patients, as well as of the recent techniques that allow them to be approached with greater agility and efficiency. As a result, physicians can position themselves at the surgical forefront and perfect their practice with younger individuals.

For this reason, TECH Technological University has opted to design this program, which will provide the specialist with the most up-to-date knowledge in the field. Throughout 6 intensive weeks of teaching, you will delve into the cutting-edge treatments of congenital defects of the abdominal wall or pyloric and gastric pathology in the newborn. You will also learn about cutting-edge techniques to treat duodenal obstruction or delve into advances in minimally invasive neonatal surgery.

Since this program is taught 100% online, the physician will be able to update their knowledge without having to make uncomfortable daily trips to a study center. Likewise, they will have didactic resources in various textual and multimedia formats at their disposal. Thanks to this, you will obtain a completely enjoyable and individualized learning, completely adapted to your daily needs.

This **Postgraduate Certificate in Pediatric Neonatal Surgery** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of practical cases presented by experts in Pediatric Surgery
- ◆ 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
- ◆ The practical exercises where the self-evaluation 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



Get your desired update in Pediatric Neonatal Surgery from the best specialists in the field"

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The Relearning system of this program will train you to learn at your own pace and without schedule constraints”

The program includes in its teaching staff professionals of the field who pour the experience of their work into this training, in addition to recognized specialists from reference societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

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

Study from anywhere in the world and 24 hours a day, enjoying a flexibility that will fully optimize your learning.

Learn about the latest methods to treat congenital defects of the abdominal wall through this Postgraduate Certificate.



02

Objectives

The design of this Postgraduate Certificate has been carried out with the intention of providing the student with the most updated knowledge in Pediatric Neonatal Surgery in only 6 weeks. During this academic experience, students will identify the advanced diagnostic and therapeutic methods that allow a more rigorous approach to pathologies of various kinds. All this, following general and specific objectives that will ensure your complete learning.



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Incorporate the latest scientific evidence regarding the management of Pediatric Neonatal Surgery" into your daily practice"



General Objectives

- ◆ Develop specialized knowledge and current treatments in pediatric surgery
- ◆ Compile the different diagnostic methods, as well as the different therapeutic options, both medical and surgical depending on the pathology
- ◆ Expose the possible associated complications and the prognosis of these diseases
- ◆ Establish the current treatment guidelines for each of the pathologies described

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Become a reference professional in the field of Pediatric Neonatal Surgery in only 6 weeks of intensive updating"





Specific Objectives

- ◆ Develop the concept of Fetal Medicine and point out the necessary participation of the pediatric Surgeon in the diagnosis and treatment of malformative pathology during the fetal period
- ◆ Analyze the normal embryological development and know the alterations that condition the main neonatal congenital malformations
- ◆ Examine the surgical pathologies acquired in the neonatal period and to know their differential diagnosis
- ◆ Analyze the evolutionary and prognostic advice of the main perinatal congenital pathologies for the parents of the affected fetus
- ◆ Propose a material and human resources guide for surgical procedures in the Neonatal Intensive Care Units
- ◆ Examine the main international consensus guidelines on perinatal management and pathologies follow-up treated in the neonatal period, mainly esophageal Atresia, congenital diaphragmatic Hernia and anorectal Malformation
- ◆ Establish the current clinical, analytical and radiological criteria for the evaluation of infectious intestinal processes acquired in the neonatal period
- ◆ Establish the current protocols for the management and treatment of short bowel syndrome as a sequel of neonatal surgical pathologies

03

Course Management

With the idea in mind to provide a high academic level to all its programs, this TECH Technological University program has a teaching team formed by highly experienced experts in the field of Pediatric Neonatal Surgery. This team is responsible for the creation and design of the didactic resources of the Postgraduate Certificate. As a result, the knowledge acquired by the students will have a great applicability in their daily work.





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Those responsible for teaching this program have extensive hospital experience in the field of Pediatric Neonatal Surgery"

Management



Dr. Paredes Esteban, Rosa María

- ♦ Head of Service and Director of the Pediatric Surgery Clinical Management Unit of the Reina Sofia Hospital
- ♦ Head of Service and Director of the Pediatric Surgery Clinical Management Unit of the university Reina Sofia Hospital of Córdoba
- ♦ Specialist in Pediatric Surgery at Reina Sofia University Hospital of Cordoba
- ♦ Specialist in Pediatric Surgery at Jaén Medical-Surgical Hospital
- ♦ Responsible for Pediatric Surgery Training at the university Reina Sofia Hospital of Córdoba
- ♦ President of the Spanish Society of Pediatric Surgery
- ♦ Coordinator of the Bioethics Commission of the Spanish Society of Pediatric Surgery
- ♦ Vice-President of the Ethics Committee of the province of Córdoba
- ♦ Coordinator of the Vascular Anomalies Committee of the Reina Sofia University Hospital of Córdoba
- ♦ Living Donor Transplant Bioethics Committee Coordinator
- ♦ Doctor of Medicine and Surgery from the University of Granada
- ♦ Graduate in Medicine and Surgery from the University of Granada
- ♦ Postgraduate Diploma in Communication with the Pediatric Patient
- ♦ Expert in Clinical Management
- ♦ University Diploma of Specialization in Quality and Patient Safety in Health Care Institutions
- ♦ University Diploma of Specialization in Bioethics
- ♦ Member of the European Society of Pediatric Endoscopic Surgery, Spanish Society of Pediatric Surgery, Editorial Committee of the journal of the Spanish Society of Pediatric Surgery, Scientific Evaluation Committee of the Spanish Society of Pediatric Surgery

Professors

Dr. Peiro Ibáñez, José Luis

- ◆ Head of Fetal Endoscopic Surgery at Cincinnati Children's Fetal Care Center
- ◆ Lead Researcher at The Center for Fetal and Placental Research
- ◆ Professor of Surgery at the University of Cincinnati Medical College
- ◆ Pediatric and Thoracic Surgical Specialist at Cincinnati Children's Hospital Medical Center
- ◆ Specialist in Pediatric Surgery at Vall d'Hebron Hospital and de Nens Hospital
- ◆ Degree in Medicine and Surgery from the Autonomous University of Barcelona

Dr. Soto Beauregard, Carmen

- ◆ Head of the Pediatric Surgery Department of the San Carlos Clinical Hospital
- ◆ Specialist in Pediatric Surgery at La Paz University Hospital
- ◆ Vicepresident of the National Commission of Pediatric Surgery Specialties
- ◆ Member of the Board of Directors of the Spanish Society of Pediatric Surgery
- ◆ Doctor of Medicine and Surgery from the Autonomous University of Madrid
- ◆ Graduate in Medicine and Surgery from the Complutense University of Madrid
- ◆ Specialty in Pediatric Surgery at La Paz University Hospital
- ◆ European Board in Pediatric Surgery
- ◆ Master's in Health Services Management by the European Institute of Health and Social Welfare
- ◆ Master's in Health Services and Health Companies Management

Dr. Rodríguez de Alarcón, Jaime

- ◆ Specialist in Pediatric Surgery at the San Carlos Clinical Hospital
- ◆ Specialist in Pediatric Surgery at Sanitas La Moraleja Hospital
- ◆ Graduate in Medicine from the Autonomous University of Madrid
- ◆ Specialty in Pediatric Surgery at Niño Jesús Hospital

Dr. Domínguez, Eva

- ◆ Specialist in Pediatric Surgery at the San Carlos Clinical Hospital
- ◆ Specialist in Pediatrics at La Paz University Hospital
- ◆ Specialist in Pediatric Surgery at Quirón Madrid Hospital and Quirón San José Hospital
- ◆ Responsible for the teaching area and tutor of Pediatric Surgery residents at Niño Jesús Hospital
- ◆ Graduate in Medicine from the Complutense University of Madrid
- ◆ Specialty in Pediatric Surgery at La Paz Hospital
- ◆ Master's Degree in Evidence-Based Medicine from the National University of Distance Education
- ◆ Master's Degree in Clinical Management, Medical and Healthcare Management from the CEU Cardenal Herrera University

Dr. Morante Valverde, Rocío

- ◆ Specialist in Pediatric Surgery at the 12 de Octubre University Hospital
- ◆ Specialist in Pediatric Surgery at the Donostia University Hospital
- ◆ Graduate in Medicine from the University of Granada
- ◆ Specialism in Pediatric Surgery
- ◆ Master's Degree in Pediatric Urology
- ◆ Master's Degree in Minimally Invasive Surgery in Pediatrics

Dr. Gómez Cervantes, Juan Manuel

- ◆ Specialist in Pediatric Surgery at the San Carlos Hospital
- ◆ Specialist in the Maternal and Infant Section of the Gregorio Marañón Hospital
- ◆ Degree in Medicine from the University of Navarra
- ◆ Specialty in Pediatric Surgery at La Paz Hospital
- ◆ Practical stay at the Karmanos Center of the Wayne State University of Michigan
- ◆ Fellowship in Minimally Invasive Surgery at the World Laparoscopy Hospital
- ◆ Master's in Minimally Invasive Surgery at the CEU Cardenal Herrera University

04

Structure and Content

The syllabus of this Postgraduate Certificate has been designed to provide the student with recent advances in the field of Pediatric Neonatal Surgery. The didactic materials offered during the program are available in different formats for your convenience, such as videos, readings and interactive summaries. Additionally, the online teaching methodology allows the professional to manage their study schedules and receive instruction tailored to their preferences and academic needs.





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The syllabus of this program has been designed by excellent specialists in Pediatric Surgery to provide you with the most advanced knowledge in this field"

Module 1. Fetal and Neonatal Pediatric Surgery

- 1.1. The Fetus as a Patient
 - 1.1.1. Prenatal Diagnosis. Mother and Fetus Management
 - 1.1.2. Video-endoscopic Fetal Surgery
 - 1.1.3. Fetal Problems Amenable to Prenatal Treatment
 - 1.1.4. Ethical and Legal Considerations
 - 1.1.5. Fetal and Exit Surgery
- 1.2. Pediatric Neonatal Surgery
 - 1.2.1. Functional and Structural Organization of the Pediatric Surgery Unit
 - 1.2.2. Neonatal Surgical Area Skills
 - 1.2.3. Neonatal Intensive Care Units Characteristics
 - 1.2.4. Surgery in Neonatal Units
- 1.3. Congenital Diaphragmatic Hernia (CDH)
 - 1.3.1. Embryology and Epidemiology
 - 1.3.2. Associated Anomalies Genetic Associations
 - 1.3.3. Pathophysiology. Pulmonary Hypoplasia and Hypertension
 - 1.3.4. Prenatal Diagnosis
 - 1.3.4.1. Prognostic Factors
 - 1.3.4.2. Prenatal Care
 - 1.3.5. Postnatal Resuscitation
 - 1.3.5.1. Medical and Ventilatory Treatment. ECMO
 - 1.3.6. Surgical Management
 - 1.3.6.1. Abdominal and Thoracic Approaches
 - 1.3.6.2. Open and Minimally Invasive
 - 1.3.6.3. Diaphragmatic Substitutes
 - 1.3.7. Evolution. Mortality
 - 1.3.7.1. Pulmonary Morbidity
 - 1.3.7.2. Neurological
 - 1.3.7.3. Digestive
 - 1.3.7.4. Osteomuscular
 - 1.3.8. Morgagni's Hernia or Anterior Diaphragmatic Hernia
 - 1.3.8.1. Congenital Diaphragmatic Eventration





- 1.4. Esophageal Atresia Tracheoesophageal Fistula
 - 1.4.1. Embryology. Epidemiology
 - 1.4.2. Clinical Associated Anomalies. Classification
 - 1.4.3. Prenatal and Postnatal Diagnosis
 - 1.4.4. Surgical Management
 - 1.4.4.1. Pre-operative Bronchoscopy
 - 1.4.5. Surgical approaches
 - 1.4.5.1. Thoracotomy
 - 1.4.5.2. Thoracoscopy
 - 1.4.6. Long-gap Esophageal Atresia
 - 1.4.6.1. Treatment Options
 - 1.4.6.2. Elongation
 - 1.4.7. Complications
 - 1.4.7.1. Recurrence of Tracheoesophageal Fistula
 - 1.4.7.2. Stenosis
 - 1.4.8. After-effects
- 1.5. Congenital Abdominal Wall Defects
 - 1.5.1. Gastroschisis. Incidence
 - 1.5.1.1. Embryology
 - 1.5.1.2. Etiology
 - 1.5.1.3. Prenatal Management
 - 1.5.2. Neonatal Resuscitation
 - 1.5.2.1. Surgical Management
 - 1.5.2.2. Primary Closure
 - 1.5.2.3. Staged Closure
 - 1.5.3. Associated Intestinal Atresia Treatment
 - 1.5.3.1. Evolution
 - 1.5.3.2. Intestinal Morbidity
 - 1.5.4. Omphalocele
 - 1.5.4.1. Incidence
 - 1.5.4.2. Embryology
 - 1.5.4.3. Etiology

- 1.5.5. Prenatal Management
 - 1.5.5.1. Associated Anomalies
 - 1.5.5.2. Genetic Counseling
- 1.5.6. Neonatal Resuscitation
 - 1.5.6.1. Surgical Management
 - 1.5.6.2. Primary Closure
 - 1.5.6.3. Staged Closure
 - 1.5.6.4. Deferred Stage Closure
- 1.5.7. Short and Long-Term Evolution. Survival
- 1.6. Pyloric and Gastric Pathology in the Neonate
 - 1.6.1. Hypertrophic Pyloric Stenosis
 - 1.6.1.1. Etiology
 - 1.6.1.2. Diagnosis
 - 1.6.2. Surgical Approach
 - 1.6.2.1. Open vs. Laparoscopy
 - 1.6.3. Pyloric Atresia
 - 1.6.4. Spontaneous Gastric Perforation
 - 1.6.5. Gastric Volvulus
 - 1.6.6. Gastric Duplication
- 1.7. Duodenal Obstruction
 - 1.7.1. Embryology
 - 1.7.1.1. Etiology
 - 1.7.2. Epidemiology
 - 1.7.2.1. Associated Anomalies
 - 1.7.3. Duodenal Atresia and Stenosis
 - 1.7.3.1. Annular Pancreas
 - 1.7.4. Clinical Presentation
 - 1.7.4.1. Diagnosis
 - 1.7.5. Surgical Management
- 1.8. Congenital Intestinal Obstruction
 - 1.8.1. Jejunioileal Atresia and Stenosis
 - 1.8.1.1. Embryology
 - 1.8.1.2. Incidence
 - 1.8.1.3. Types





- 1.8.2. Clinical and Radiological Diagnosis
 - 1.8.2.1. Surgical Management
 - 1.8.2.2. Prognosis
- 1.8.3. Colic Atresia and Stenosis
- 1.8.4. Meconium Plug Syndrome
 - 1.8.4.1. Left Colon Syndrome
- 1.8.5. Meconium Ileus
 - 1.8.5.1. Etiopathogenesis
 - 1.8.5.2. Genetics
 - 1.8.5.3. Cystic fibrosis
- 1.8.6. Simple and Complicated Meconium Ileus
- 1.8.7. Medical and Surgical Treatment
- 1.8.8. Complications
- 1.9. Minimally Invasive Neonatal Surgery
 - 1.9.1. Material and General Information
 - 1.9.2. Esophageal Atresia/Long-gap Esophageal Atresia
 - 1.9.3. Neonatal Diaphragmatic Pathology
 - 1.9.4. Duodenal Atresia
 - 1.9.5. Intestinal Atresia
 - 1.9.6. Intestinal Malrotation
 - 1.9.7. Neonatal Ovarian Cysts
 - 1.9.8. Other Specifications
- 1.10. Necrotizing Enterocolitis
 - 1.10.1. Epidemiology
 - 1.10.1.1. Pathophysiology
 - 1.10.2. Classification
 - 1.10.2.1. Prognostic Factors
 - 1.10.3. Clinical diagnosis
 - 1.10.3.1. Differential Diagnosis
 - 1.10.4. Spontaneous Bowel Perforation
 - 1.10.5. Medical Treatment
 - 1.10.5.1. Surgical Management
 - 1.10.6. Evolution. Prevention

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 Technological University 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 Pediatric Neonatal Surgery 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 Pediatric Neonatal Surgery** 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 Pediatric Neonatal Surgery**

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.



**Postgraduate
Certificate**
Pediatric Neonatal Surgery

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

Postgraduate Certificate Pediatric Neonatal Surgery

