

# Postgraduate Certificate Surgical Site Infections in Reconstructive Surgery



## Postgraduate Certificate Surgical Site Infections in Reconstructive Surgery

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

Website: [www.techtute.com/pk/medicine/postgraduate-certificate/postgraduate-certificate-surgical-site-infections-reconstructive-surgery](http://www.techtute.com/pk/medicine/postgraduate-certificate/postgraduate-certificate-surgical-site-infections-reconstructive-surgery)

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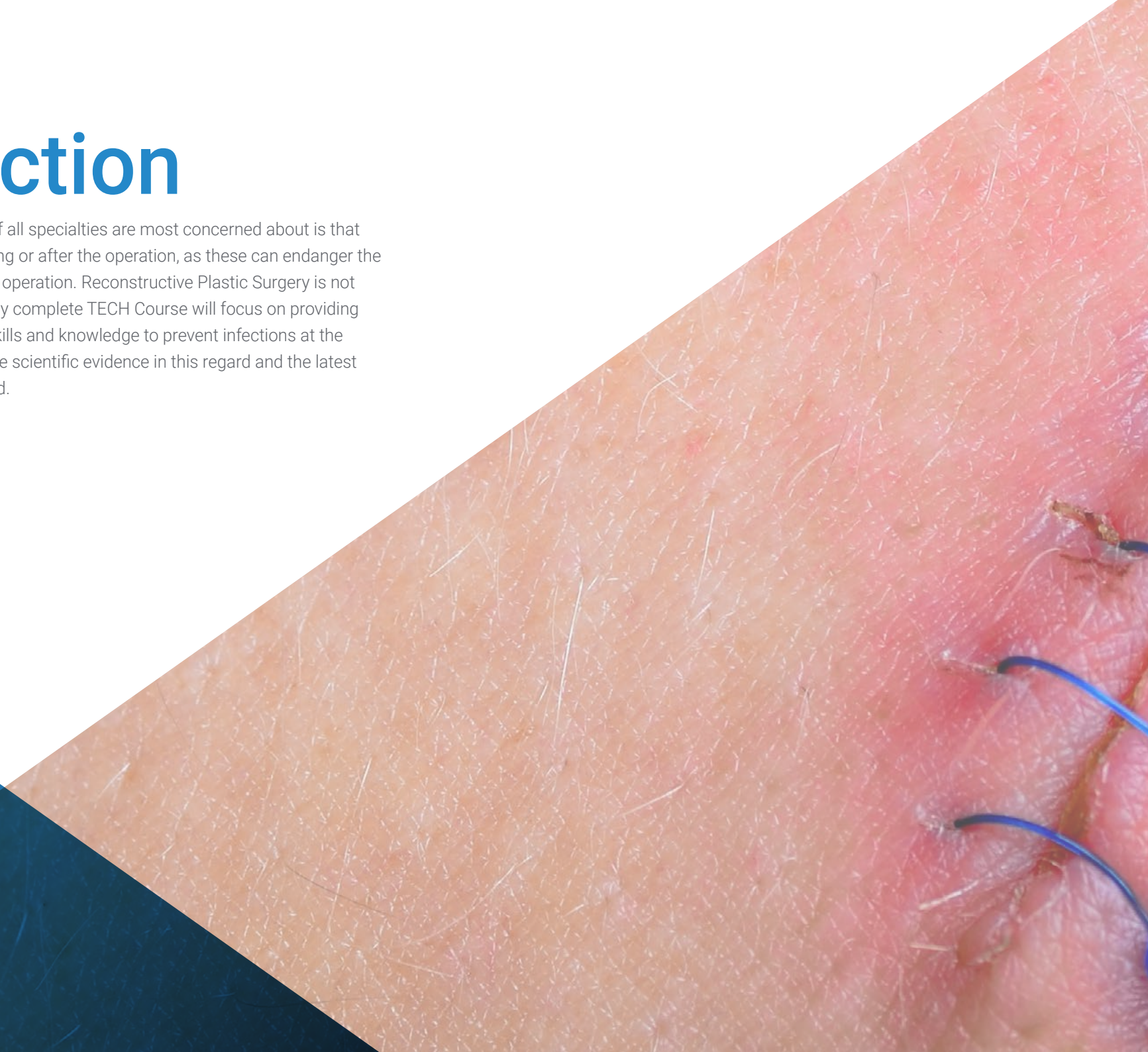
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# 01

# Introduction

One of the aspects that surgeons of all specialties are most concerned about is that infections do not occur before, during or after the operation, as these can endanger the patient's life and the success of the operation. Reconstructive Plastic Surgery is not exempt from this, therefore, this very complete TECH Course will focus on providing professionals with the necessary skills and knowledge to prevent infections at the surgical site, addressing in depth the scientific evidence in this regard and the latest protocols of the sector in this regard.





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*Learn, with this course, everything you need to know about surgical site infections and become a prestigious professional in this field"*

Reconstructive Surgery is a branch of Plastic Surgery aimed at restoring the functionality of the human being after an unfortunate event or condition. In this sense, this TECH Course addresses the basic principles of Reconstructive Plastic Surgery, developing specialized knowledge about skin, basic suturing techniques, grafts and flaps, as well as examining the psychological aspect of reconstructive surgery patients.

Likewise, the course will delve into the basics of reconstructive surgery, its history, evolution and adaptation to current times. This knowledge provides physicians with advanced training that will help them put into practice the most current techniques in Reconstructive Plastic Surgery.

Moreover, this comprehensive training will address one of the issues that surgeons are most concerned about: surgical site infections. A theoretical approach will be made to their concept and importance as the most frequent complication of surgery and an important source of clinical and economic problems for health systems. In this regard, we will look at how over the centuries a great effort has been made to prevent surgical site infections (SSIs) through different scientifically proven approaches, which can work.

Throughout the training, updated tools will be studied and current controversies in the prevention, diagnosis and treatment of SSIs will be highlighted. This will give the surgical professional a broad overview of this issue and enable him or her to implement the most effective protocols for preventing surgical site infections.

All this, through a 100% online training that makes it easier to combine studies with other daily activities in the life of the surgeon. Thus, the doctor will only need an electronic device (Smartphone, Tablet, PC) with Internet connection to open up a wide horizon of knowledge that will allow him to position himself as a professional of reference in the sector.

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

- ♦ Development of more than 80 clinical cases, recorded with POV (Point Of View) systems from different angles, presented by experts in surgery and other specialities. The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice.
- ♦ Presentation of practical workshops on procedures and techniques.
- ♦ Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- ♦ Action protocols and clinical practice guidelines, where to disseminate the most important developments in the specialty.
- ♦ All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- ♦ Special emphasis on test-based medicine and research methodologies in surgical procedures.
- ♦ Content that is accessible from any fixed or portable device with an Internet connection.



*The Online Course on Surgical Site Infections in Reconstructive Surgery contains the most complete and up-to-date scientific program on the market"*

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*Thanks to this complete course that TECH has prepared for you, you will acquire the best and most updated training in Surgical Site Infections in Reconstructive Surgery"*

The teaching staff includes a team of prestigious healthcare professionals, who bring their experience to this training program, as well as renowned specialists from leading scientific societies.

The multimedia content developed with the latest educational technology will provide the surgeon with situated and contextual learning, i.e., a simulated environment that will provide immersive training program to train in real situations.

This program is designed around Problem Based Learning, whereby the surgeon must try to solve the different professional practice situations that arise during the course. For this purpose, you will be assisted by an innovative interactive video system created by renowned experts in the field of Reconstructive Plastic Surgery, with extensive teaching experience.

*It is the best value for money training program on the market.*

*Improve your specialized surgical practice with this training that will catapult you to success in your profession.*



# 02 Objectives

The most prestigious professionals in the field of Reconstructive Plastic Surgery have designed for TECH this complete professional update and recertification program with the aim of ensuring that doctors in the sector are up to date with the new scientific and technical knowledge in the field of reconstructive plastic surgery that mitigates infections at the surgical site. This refresher in surgeons' professional competencies and the acquisition of new skills and abilities will be the professional's main asset when it comes to successfully entering a sector that is increasingly demanding specialized professionals in this field.







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*TECH puts this title in your hand with a single objective: to help you achieve all the advances you deserve in your career”*



## General Objectives

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- Fundamentals of the theoretical basis of Reconstructive Surgery.
- Develop specialized knowledge about the different techniques and their uses in medical practice.
- Evaluate the psychological aspects of reconstructive surgery patients.
- Analyze surgical site infections
- Identify current predisposing factors in surgical site infections.
- Compile preventive measures for surgical site infections.
- Propose the adequate management of surgical site infections.



*Seize the moment and take the step to get up to speed on the latest developments in surgical site infections and become a surgeon of prestige"*





## Specific Objectives

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- ♦ Examine the historical background of reconstructive surgery.
- ♦ Analyze the evolution of reconstructive surgery.
- ♦ Determine the characteristics of the skin and their relevance in reconstructive surgery.
- ♦ Address the use of the most relevant techniques for reconstructive surgery.
- ♦ Show the usefulness of microsurgery in reconstructive surgery.
- ♦ Rationale for the use of flaps in reconstructive surgery.
- ♦ Specify the usefulness of the use of grafts in reconstructive surgery.
- ♦ Deepen the importance of understanding the psychological aspect of reconstructive plastic surgery patients.
- ♦ Develop current aspects of microbiology applied to surgical site infections.
- ♦ Analyze the pathophysiological aspects and classification of surgical site infections.
- ♦ Identify risk factors and severity in surgical site infections.
- ♦ Compile effective preoperative, operative and postoperative preventive measures.
- ♦ Establishing antibiotic prophylaxis and its main aspects
- ♦ Generate strategies for pharmacological and surgical management of SSIs.
- ♦ Examine the most frequent infections associated with the most commonly used materials in reconstructive surgery.

# 03

## Course Management

These materials have been developed by a team of leading professionals in the surgical field, who work in the most important national and international hospitals. Bringing to the program the experience they have gained throughout their careers. Likewise, this great teaching team also includes a series of specialists who complete the contents of the course in an interdisciplinary and transversal way that will help the student to acquire complete knowledge and take into account each and every one of the important factors in the prevention of infections in the surgical site.



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*With this training you will have at your disposal the best teaching staff in the market that will train you and guide you towards success in your practice as a reconstructive surgeon"*

## International Guest Director

Peter Henderson, M.D. is a reconstructive surgeon and microsurgeon based in New York City who focuses on breast reconstruction and lymphedema treatment. He is Chief Executive Officer and Director of Surgical Services for Henderson Breast Reconstruction. In addition, he is an Associate Professor of Surgery (Plastic and Reconstructive Surgery) and Director of Research at the Icahn School of Medicine at Mount Sinai.

Dr. Henderson received a Bachelor of Fine Arts degree from Harvard University, a medical degree from Weill Cornell Medical College and an MBA from the Stern School of Business at New York University.

He completed his residencies in general surgery and plastic surgery at NewYork-Presbyterian/Weill Cornell. He then completed a fellowship in reconstructive microsurgery at Memorial Sloan Kettering Cancer Center. In addition, he was Chief of Research in the Laboratory of Bioregenerative Medicine and Surgery during his residency in general surgery.

Through a variety of surgical approaches and techniques, he is committed to helping patients restore, maintain or improve their function and appearance. Dr. Henderson's clinical care is supported by his research and scholarly activities in the field of microsurgery and breast reconstruction.

Dr. Henderson is a Fellow of the American College of Surgeons and a member of many professional societies. He is a recipient of the Dicran Goulian Award for Academic Excellence in Plastic Surgery and the Bush Award for Excellence in Vascular Biology. He has authored or co-authored over 75 peer-reviewed publications and textbook chapters, as well as over 120 research abstracts, and has guest lectured nationally and internationally.



## Dr. Henderson, Peter

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- Director of Surgical Services at Henderson Breast Reconstruction
- Director of Research at Icahn School of Medicine at Mount Sinai
- Chief of Research, Laboratory of Bioregenerative Medicine and Surgery at Memorial Sloan Kettering Cancer Center
- M.D. from Weill Cornell Medical College
- Bachelor of Fine Arts from Harvard University
- Bush Award for Excellence in Vascular Biology

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*A unique training experience,  
key and decisive to boost your  
professional development”*

## Management



### Dr. Castro de Rojas, Ligia Irene

- ♦ Doctor specialized in Obstetrics and Gynecology.
- ♦ Professor of Morphophysiology I and II at the Experimental School of Nursing, Faculty of Medicine, Universidad Central de Venezuela.
- ♦ Medical School Counselor
- ♦ Medical sonographer
- ♦ Resident physician at the Palo Negro outpatient clinic
- ♦ General Practitioner at Policlínica Coromoto



### Dr. Piña Rojas, Juan Luis

- ♦ Plastic and reconstructive surgeon. Maracay Central Hospital.
- ♦ Secretary of Academic Affairs, 2004-2005 period, Student Center, La Morita branch, Carabobo University.
- ♦ Chief Resident 2012-2014 Postgraduate of Plastic Surgery Maracay's Central Hospital.
- ♦ Academic Teaching Coordinator 2016-2018 postgraduate course in Plastic Surgery, Maracay Central Hospital.
- ♦ Postgraduate resident doctor of the 1st level in the department of Surgery at Maracay's central hospital from March 3, 2008 to December 2010. (Position earned by credential competition)
- ♦ Academic Teaching Coordinator 2016-2018 postgraduate course in Plastic Surgery, Maracay Central Hospital.





## Professors

### **Dr. Piña Aponte, Enzo Raúl**

- ♦ Oral and Maxillofacial Surgeon
- ♦ Oral and Maxillofacial Surgeon in Private Clinic
- ♦ Postgraduate Professor of Oral and Maxillofacial Surgery UC-IVSS,
- ♦ Assistant of the Oral and Maxillofacial Surgery Service "Dr. Atilio Perdomo", University Hospital "Dr. Ángel Larralde"; Valencia, Edo. Carabobo.
- ♦ Undergraduate Teaching, Subject "Comprehensive Adult Clinic II",
- ♦ Rotation of Oral Surgery, 5th year, School of Dentistry, Carabobo University. Valencia, Edo. Carabobo.

### **Dr. Rivas Zambrano, Aura Lorena**

- ♦ Pediatric Infectious Diseases Specialist
- ♦ Medical School. Carabobo University, Venezuela. Promotion position: 2. Magna Cum Laude
- ♦ Pediatrics Residency at Maracay Hospital Central de Maracay. Carabobo University, Venezuela
- ♦ Pediatric Infectious Diseases Residency at the José Manuel de los Ríos Children's Hospital. Venezuela.
- ♦ Pediatric Infectiologist. Maracay Central Hospital. Venezuela
- ♦ Professor of Pediatric Infectious Diseases. Carabobo University. U Venezuela.
- ♦ Lecturer in National and Regional Congresses and Conferences.

# 04

## Structure and Content

The structure and contents of this complete curriculum have been designed by a team of professionals knowledgeable about the implications of medical training in the approach to the surgical patient, aware of the relevance of current training and committed to quality teaching through new educational technologies. This very broad compendium of contents will be the main asset of the professional when it comes to deep training in the steps and protocols to follow when it comes to avoiding infections in the surgical site.



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*This Course in Surgical Site Infections in Reconstructive Surgery contains the most complete and up-to-date scientific program on the market"*

## Module 1. Reconstructive plastic surgery

- 1.1. History of reconstructive surgery
  - 1.1.1. Beginnings of reconstructive surgery
  - 1.1.2. Personalities of reconstructive surgery
  - 1.1.3. Historic sites
- 1.2. Evolution of reconstructive surgery
  - 1.2.1. World War I
  - 1.2.2. World War II
  - 1.2.3. Modern age
- 1.3. Skin and skin irrigation
  - 1.3.1. Skin Anatomy
  - 1.3.2. Skin dermatomes
  - 1.3.3. Skin irrigation
  - 1.3.4. Phases of Healing
- 1.4. Grafts
  - 1.4.1. Concepts
    - 1.4.1.1. Integration phases
  - 1.4.2. Types
    - 1.4.2.1. Cutaneous
    - 1.4.2.2. Compounds
  - 1.4.3. Classification
  - 1.4.4. Uses
  - 1.4.5. Post-Operative Care
- 1.5. Flaps
  - 1.5.1. Concepts
  - 1.5.2. Types
    - 1.5.2.1. Cutaneous
    - 1.5.2.2. Fasciocutaneous
    - 1.5.2.3. Muscular
  - 1.5.3. Classification
  - 1.5.4. Uses
  - 1.5.5. Post-Operative Care
- 1.6. Microsurgery in reconstructive surgery.
  - 1.6.1. Concepts
  - 1.6.2. Types
    - 1.6.2.1. Anastomosis arterial
    - 1.6.2.2. Anastomosis venosa
    - 1.6.2.3. Microsurgery of lymphatic vessels
    - 1.6.2.4. Peripheral nerve microsurgery
  - 1.6.3. Uses
    - 1.6.3.1. Free flaps
    - 1.6.3.1. Reimplantation surgeries
  - 1.6.4. Post-Operative Care
- 1.7. Tissue expanders.
  - 1.7.1. Concepts
  - 1.7.2. Indications
  - 1.7.3. Applications
  - 1.7.4. Surgical Technique
  - 1.7.5. Post-Operative Care
- 1.8. Psychological aspects of the reconstructive patient.
  - 1.8.1. Evaluation
  - 1.8.2. Behaviour
- 1.9. Medical-legal aspects of reconstructive surgery.
  - 1.9.1. Legal Framework
  - 1.9.2. Informed Consent
  - 1.9.3. Importance of the clinical history
- 1.10. Rehabilitation in Reconstructive Surgery
  - 1.10.1. Current Rehabilitation Techniques
  - 1.10.2. Use of post-surgical bandages and girdles
  - 1.10.3. Use of Ultra sound and post-surgical drains

**Module 2. Surgical Site Infections in Reconstructive Surgery**

- 2.1. Applied microbiology
  - 2.1.1. Microorganisms of the host's normal flora
  - 2.1.2. Differences between colonization and infection
    - 2.1.2.1. Pathogenesis of microorganisms involved in infection
    - 2.1.2.2. Biofilm Paper
  - 2.1.3. Identification of the causal microorganism
    - 2.1.3.1. Sample collection and transfer
    - 2.1.3.2. Identification of typical and atypical microorganisms
    - 2.1.3.3. Evaluation of antibiogram and resistance patterns
- 2.2. Inflammatory and immune response factors in the surgical patient.
  - 2.2.1. Updating of concepts
    - 2.2.1.1. Cellular mechanisms of the inflammatory response
    - 2.2.1.2. Adequacy and dysregulation of the immune-inflammatory response.
  - 2.2.2. Utility of the inflammatory response in the evaluation of the surgical patient.
  - 2.2.3. Main parameters of the inflammatory response
    - 2.2.3.1. Biomarkers in clinical practice
- 2.3. Surgical site infection
  - 2.3.1. Updated definitions and classifications
    - 2.3.1.1. Surveillance of ISQ and risk indexes.
  - 2.3.2. Risk factors
    - 2.3.2.1. Endogenous or non-modifiable
    - 2.3.2.2. Exogenous or modifiable
  - 2.3.3. Severity classification of SSI
    - 2.3.3.1. Asepsia score
- 2.4. Effectiveness of preoperative surgical site infection prevention measures:
  - 2.4.1. Hand Hygiene
  - 2.4.2. Decontamination
  - 2.4.3. dressing, handling and movement in the surgical area
- 2.5. Effectiveness of intraoperative measures for surgical site prevention.
  - 2.5.1. Non-parenteral antimicrobial prophylaxis
  - 2.5.2. Appropriate control and accepted glycemia limits
  - 2.5.3. Body temperature optimization
  - 2.5.5. Oxygenation
    - 2.5.5. Antiseptic prophylaxis
  - 2.5.6. Prosthetic arthroplasty
    - 2.5.2.6.1. Risk vs. benefits of blood transfusions
    - 2.5.2.6.2. Corticosteroidintraarticular
    - 2.5.2.6.3. Anticoagulation
    - 2.5.2.6.5. Anti-biofilm measures
- 2.6. Postoperative measures to prevent infection.
  - 2.6.1. Wound care
  - 2.6.2. Antimicrobial dressings
  - 2.6.3. Surgical cleaning of infected surgical sites
- 2.7. Antibiotic Prophylaxis
  - 2.7.1. Trends in microbiology
    - 2.7.1.1. Colonization and resistance
  - 2.7.2. Allergy to beta-lactams
  - 2.7.3. Administration updates.
    - 2.7.3.1. Start time
    - 2.7.3.2. Dosage
    - 2.7.3.3. Duration.
    - 2.7.3.4. Redosification
- 2.8. Antimicrobial treatment and control of focus in the surgical patient.
  - 2.8.1. Treatment duration
  - 2.8.2. Empirical regimen according to surgical site and type of infection
    - 2.8.2.1. Large-positive spectrum, types of antimicrobial agents
    - 2.8.2.2. Large negative spectrum of antimicrobial types
  - 2.8.3. Surgical control of the focus
    - 2.8.3.1. Relevance of percutaneous and endoscopic management
    - 2.8.3.2. Surgical focus control maneuvers
- 2.9. Surgical site infection according to procedures
  - 2.9.1. Face and neck surgeries
  - 2.9.2. Breast surgeries
  - 2.9.3. Skin and integument surgeries
  - 2.9.9. Limb arthroplasties
- 2.10. Surgical site infection based on prosthetic biomaterials
  - 2.10.1. Metals
  - 2.10.2. Ceramics
  - 2.10.3. Polymers

05

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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 Re-learning, 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

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

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



According to Dr. Gervas, 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 potential 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 professional medical 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 grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the 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.



## Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.



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

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

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Re-learning 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



In this program you will have access to the best educational material, prepared with you 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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### Interactive Summaries

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.





**Expert-Led Case Studies and Case Analysis**

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Re-testing**

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



**Classes**

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence in our future difficult decisions.



**Quick Action Guides**

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



# 06 Certificate

Through a different and stimulating learning experience, you will be able to acquire the necessary skills to take a big step in your training. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.



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*Include in your training a Course in Surgical Site Infections in Reconstructive Surgery: a highly qualified added value for any medical professional"*

This **Postgraduate Certificate in Site Infections in Reconstructive Surgery** contains the most complete and updated 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 course of this program does not qualify, in any case, to perform the surgical techniques and procedures described in this syllabus.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Progression's Degree, and meets the requirements commonly demanded by job exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Surgical Site Infections in Reconstructive Surgery**  
Official N° of Hours: **300 h**.





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



**Postgraduate Certificate**  
Surgical Site Infections in  
Reconstructive Surgery

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

# Postgraduate Certificate Surgical Site Infections in Reconstructive Surgery

