

# Postgraduate Certificate

## Pathology and Therapeutics of Dental Caries in Pediatric Dentistry





## Postgraduate Certificate Pathology and Therapeutics of Dental Caries in Pediatric Dentistry

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

Website: [www.techtute.com/us/dentistry/postgraduate-certificate/pathology-therapeutics-dental-caries-pediatric-dentistry](http://www.techtute.com/us/dentistry/postgraduate-certificate/pathology-therapeutics-dental-caries-pediatric-dentistry)

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# 01

# Introduction

A dental professional is aware that a child with caries in primary teeth will probably become an adult with multiple cavities. Good oral health habits are not always adopted by the population, so inevitably this pathology has become one of the most frequent in the world. A problem that, in turn, affects general health and requires qualified professionals for its correct intervention. This 100% online program shows students the latest advances in the techniques and tools used through innovative multimedia teaching material taught by a large team of teachers with extensive experience in this field.



A close-up photograph of a dental procedure. A dental handpiece is visible on the left, and a dental mirror is being used to inspect the lingual surface of a tooth. The tooth has a white filling. The background is a blurred dental office setting.

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*A Postgraduate Certificate that will allow you to keep abreast of the most recent advances in the diagnosis and treatment of dental caries"*

Among the main factors that influence the appearance of caries are the lack of oral hygiene, bottle or breast feeding, frequent consumption of fermentable carbohydrates or bacterial plaque. A long list and on which the dental professional must have a broad knowledge to be able to make the diagnosis and appropriate treatment. This Postgraduate Certificate was created in response to the need for professionals to update their knowledge in this field. To achieve this, this 2-month program offers students an exhaustive and advanced syllabus complemented with multimedia material based on video summaries, interactive diagrams, detailed videos and specialized readings.

In this way, the professional will be able to renew their knowledge on the etiological factors of caries disease, the detection and diagnosis of caries lesions, lesion treatment, atraumatic restorative treatment or new bioactive materials. All this, with a theoretical-practical approach that will favor the refreshing of knowledge in a much more agile and simple way.

Likewise, simulations of real cases become a key element in this Postgraduate Certificate, since they place the dental professional in a situation where they will be faced with problems that they may encounter in their usual clinical practice.

It is, therefore, an excellent opportunity offered by TECH to dental professionals who wish to study a quality program comfortably. It only requires an electronic device (computer, tablet or cell phone) to connect to the virtual platform and access the entire syllabus available from the first day. In addition, the Relearning system, based on the reiteration of content, facilitates the reduction of study hours, much more frequent in other teaching methods. Therefore, this Postgraduate Certificate is at the academic forefront and allows students to combine their work and/or personal responsibilities with a high-level program.

Finally, it will be supported by a teaching team versed in pediatric dentistry headed by an international expert. This is a prestigious figure who has agreed to collaborate with TECH for the advancement of the profession, developing 10 exclusive masterclasses for this program. Therefore, the graduate will have access to more than an hour of videos in which different sections of the syllabus will be explained based on his experience and successful strategies.

This **Postgraduate Certificate in Pathology and Therapeutics of Dental Caries in Pediatric Dentistry** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- ♦ Practical cases presented by experts in Dentistry
- ♦ 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 self-assessment can be used 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 have a library of multimedia resources that you can access 24 hours a day"*

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*A 100% program where you can renew your knowledge about treatment options for primary and permanent dentition"*

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.

The 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 knowledge 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 student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Delve into the treatment of large cavity caries lesions in pediatric dentistry.*

*A program in which you will be able to gain in-depth knowledge about dental erosion and systemic diseases that have repercussions in the oral cavity.*



# 02 Objectives

At the end of the 150 teaching hours in which this Postgraduate Certificate is developed, the dental professional will have reached the update of their knowledge on the pathology and therapy of dental caries. The syllabus with advanced content provided by the team of experts that offers this teaching program, as well as the accompaniment that will accompany the students throughout this online program, will be key for the participant to achieve their goals in a simpler and more agile way.







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*For 2 months, you will have the opportunity to delve into the pathology of dental caries with a team of professionals in this field”*



## General Objectives

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- Update the professional's knowledge in the different areas covered by comprehensive dental care in pediatric patients from birth to 14 years of age, with data-based scientific evidence
- Promote work strategies based on a comprehensive approach to the patient and individualized attention to each child according to their age and medical, dental and emotional needs
- Encourage the acquisition of technical skills and abilities, through a powerful audiovisual system, and the possibility of development through online simulation workshops and/or specific training
- Encourage professional stimulation through continuing education and research
- Promote understanding of the integral and multidisciplinary nature of pediatric dentistry, the importance of orderly, systematized and ethical teamwork and the role of the dentist working with the pediatric population as a health educator for children and their families



*Refresh your knowledge on the most recently used tools in the diagnosis of caries lesions"*





## Specific Objectives

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- Describe dental erosion
- Understand the role of each etiological factor in the development of erosive lesions
- Reflect on the current epidemiology of dental erosion and its multifactorial nature
- Apply available tools to diagnose erosive lesions and establish their severity
- Understand the role of each etiological factor in the development of caries lesions
- Reflect on the current epidemiology of dental caries and its multifactorial nature
- Apply the available tools to diagnose caries lesions
- Differentiate the different evolutionary stages of caries lesions
- Describe the concept of early onset or early childhood caries and their characteristics
- Explain the procedure and the steps to be taken for the correct obturation of cavities prepared for composite
- Define some systemic diseases that impact the oral cavity
- Learn to decide when it is necessary to use a preformed steel crown for the restoration of primary molars
- Learn to determine when it would be possible to use a preformed posterior or anterior aesthetic crown for the restoration of temporary teeth
- Be able to determine when it would be necessary to restore an anterior tooth using composite and an acetate crown
- Describe the necessary steps (procedure, material and criteria) for the preparation of an anterior temporary tooth to be restored with composite and an acetate crown

# 03

## Course Management

TECH offers all its students a quality education within everyone's reach. To this end, it provides its programs with the latest technology applied to education and the most specialized teaching teams in each area. Therefore, students who study this Postgraduate Certificate will have in front of them a management and teaching staff expert in pediatric dentistry. Their experience in this field and in the field of teaching will be fundamental in the development of this Postgraduate Certificate.





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*TECH selects only experienced and highly qualified professionals for all its programs, in order to offer quality teaching”*

## International Guest Director

Professor Raman Bedi is the Chairman of the Global Child Dental Fund and was previously Chief Dental Officer in England, i.e. the most senior advisor on dentistry in each of the four UK governments and head of the dental profession.

Since 2012 Raman has been the founding chair of the oral health working group of the World Federation of Public Health Associations, which raises the importance of oral health issues affecting global public health. He is a practicing specialist, focusing exclusively on the comprehensive oral rehabilitation of young children. He was a consultant to the NHS in pediatric dentistry from 1991 to 2005 and is on the General Dental Council's list of specialists in pediatric dentistry and dental public health. He is a consultant to WHO on curriculum development in the field of patient safety and dentistry, and was co-chair of the World Expert Committee on the management and prevention of dental caries. Recently, he was asked by WHO to review dental services in Oman.

Raman served as head of dental public health at the Eastman Dental Institute at University College London and director of the National Centre for Transcultural Oral Health. He was also co-director of the World Health Organization Collaborating Centre at the Eastman Dental Institute. He is currently professor emeritus at King's College London. He is one of the few researchers to have been awarded a Doctor of Science degree by the University of Bristol (2003) for his contribution to dental research and a Doctor of Humane Letters degree (2010) by AT Still University (Arizona) for his scholarly contribution to the social sciences.



## Dr. Bedi, Raman

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- ♦ Professor Emeritus of King's College London.
- ♦ Formerly Director of Dentistry England.
- ♦ Extraordinary Professor of Pediatric Dentistry at the University of the Western Cape, South Africa
- ♦ Adjunct Professor at the University of Pennsylvania
- ♦ Doctor of Dental Surgery, University of Bristol
- ♦ Doctor of Humane Letters from AT Still, U.S.A.
- ♦ Doctor of Science, University of Bristol
- ♦ Honorary Fellow of Dental Surgery of the Royal College of Physicians and Surgeons of Glasgow
- ♦ Honorary Fellow of the Faculty of Public Health, UK.

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Professors

### Dr. Del Campo Rodríguez, Angel

- ◆ Specialist in Pediatric Dentistry and Preventive and Interceptive Orthodontics
- ◆ Ad Honorem collaborating professor in the Master of Aesthetic, Adhesive and Minimally Invasive Dentistry at the Lluís Alcanyis Foundation Dental Clinic, University of Valencia
- ◆ Member of the American Academy of Pediatric Dentistry
- ◆ Member of the Spanish Society of Pediatric Dentistry
- ◆ PhD in Dentistry from the University of Valencia
- ◆ Degree in Dentistry from the Intercontinental University of Mexico City
- ◆ Postgraduate degree in Pediatric Dentistry from New York University College of Dentistry
- ◆ Master in Gestalt Therapy and Diploma in Child and Adolescent Gestalt Therapy from the Gestalt Therapy Institute of Valencia

### Dr. Gianni, Manfredi

- ◆ Degree in Dentistry. European University of Valencia. Spain
- ◆ Master's Degree in Pediatric Dentistry. San Vicente Mártir Catholic University Spain
- ◆ Official Master's Degree in Advanced Orthodontics European University of Valencia. Spain
- ◆ Certificate of conscious sedation and basic instrumental cardiopulmonary resuscitation San Vicente Mártir Catholic University Spain
- ◆ Refresher course on dental care guidelines for patients with special needs Sant Joan de Déu hospital. Barcelona: Spain
- ◆ Associate Professor of Orthodontics at undergraduate and postgraduate levels European University of Valencia
- ◆ Professor of Pediatric Dentistry at Postgraduate level San Vicente Mártir Catholic University Spain
- ◆ Oral communication at the 36th, 38th, 39th Annual Meeting of the Spanish Society of Pediatric Dentistry (SEOP)
- ◆ Exclusive private practice in Pediatric Dentistry and Orthodontics





**Dr. Del Campo Rodríguez, Angel**

- ◆ Specialist in Pediatric Dentistry and Preventive and Interceptive Orthodontics
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- ◆ Member of the Spanish Society of Pediatric Dentistry
- ◆ PhD in Dentistry from the University of Valencia
- ◆ Degree in Dentistry from the Intercontinental University of Mexico City
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- ◆ Private practice in Comprehensive dentistry
- ◆ Degree in Dentistry. Faculty of Medicine and Dentistry, University of Valencia. Spain
- ◆ PhD in Dentistry Outstanding Cum Laude. Faculty of Medicine and Dentistry, University of Valencia. Spain
- ◆ Master's Degree in Aesthetic Dentistry Faculty of Medicine and Dentistry, University of Valencia. University-Company foundation (ADEIT). Valencia, Spain
- ◆ Master's Degree in Forensic sciences. Faculty of Medicine and Dentistry, University of Valencia. University-Company foundation (ADEIT). Valencia, Spain
- ◆ Biomaterials teacher, Spanish and English degree. European University of Valencia. Valencia, Spain
- ◆ Associate Professor of Dental Pathology and Therapeutics. Faculty of Medicine and Dentistry, University of Valencia. Valencia, Spain
- ◆ Publication of several scientific articles in JCR journals

**Dr. Barreda Ramos, Isai**

- ◆ Dental Surgeon, Popular Autonomous University of the State of Puebla (UAEP)
- ◆ Specialty in Orthodontics, UNITEC
- ◆ Research Award 2003 by the Mexican Association of Orthodontics (AMO)

**Ms. Cargill Foster, Nelly Ruth**

- ◆ Specialist in Dentistry

**Dr. Lozano Pajares, Melanie**

- ◆ Degree in Dentistry. Central University of Venezuela. Caracas, Venezuela
- ◆ Degree in Dentistry. Degree from the European University of Valencia
- ◆ Degree in Dentistry. European University of Valencia. Valencia, Spain
- ◆ Diploma in Pediatric Dentistry. Advanced training in Minimally Interventionist Multidisciplinary Dentistry. Barcelona, Spain
- ◆ Course on Conscious sedation in Dentistry. YaCare institute. Valencia, Spain
- ◆ Certification from Invisalign, Invisalign Essentials course in Madrid, Spain
- ◆ Member of the Spanish Society of Pediatric Dentistry
- ◆ Communications and presentations in different courses and congresses at national level.
- ◆ Exclusive private practice in Pediatric Dentistry with specialized attention in special patients with the use of Nitrous Oxide Sedation or anxiolysis

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- ◆ Degree in Dentistry. Complutense University of Madrid
- ◆ PhD in Dentistry Complutense University of Madrid
- ◆ Master's Degree in Pediatric Dentistry. Complutense University of Madrid
- ◆ Master's Degree in Dental Sciences. Complutense University of Madrid
- ◆ Collaborating Professor of the Master's Degree in Pediatric Dentistry. Faculty of Dentistry, Complutense University of Madrid
- ◆ Associate Professor in Pediatric Dentistry. Faculty of Dentistry at the Complutense University of Madrid
- ◆ Exclusive private practice in pediatric dentistry in Madrid (Spain)

**Dr. Cruz Pamplona, Marta**

- ♦ Degree in Dentistry. Faculty of Experimental and Health Sciences, Cardenal - Herrera CEU, Moncada, Valencia, Spain
- ♦ Master's Degree in Medicine and Oral Surgery Faculty of Medicine and Dentistry, University of Valencia. Spain
- ♦ Diploma in Oral Medicine, General University Hospital Consortium in Valencia. Spain
- ♦ Associate Professor of Oral Medicine (international degree) (CEU-Cardenal Herrera University), Moncada, Valencia. Spain
- ♦ Professor of the degree in Dentistry (regular degree and international degree) at the European University of Valencia, Valencia, Spain
- ♦ Professor of Adult and Child Clinical Practice" at the European University of Valencia, Valencia, Spain
- ♦ Author of several research papers, publications and oral communications
- ♦ Private clinical practice of general dentistry

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- ♦ Degree in Dentistry from the University of Valencia
- ♦ Degree in Veterinary Medicine at the Cardenal-Herrera CEU University
- ♦ Diploma of Advanced Studies in the Program in Human Tumor Pathology at the University of Valencia
- ♦ Master in Molecular Oncology by the National Cancer Research Center and the European School of Oncology
- ♦ Official Master's Degree in Health Management from the Catholic University of Valencia
- ♦ Master's Degree in Individual and Community Clinical Dentistry at the University of Valencia
- ♦ Associate Professor of Oral Medicine. Prosthesis III Minimally Invasive Dentistry, Legal and Forensic Dentistry Faculty of Experimental and Health Sciences, CEU Cardenal-Herrera University, Moncada, Valencia, Spain
- ♦ Member of SEOP, SESPO, SEPA and SECIB

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- ♦ Degree in Dentistry, Los Andes University, Merida, Venezuela
- ♦ Master in Periodontics, Faculty of Medicine and Dentistry, University of Valencia, Spain
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- ♦ Degree in Dentistry Faculty of Medicine and Dentistry, University of Valencia. Valencia, Spain
- ♦ Master's Degree in Dentistry in special patients. University of Valencia. Dr. Peset Aleixandre hospital. Valencia, Spain
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- ♦ Former Associate Professor Master's Degree in Dentistry in Special Patients. University of Valencia. Valencia, Spain
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- ◆ Member of the European Board of Minimum Intervention Dentistry
- ◆ Frequent lecturer of courses on Restorative and Aesthetic Dentistry, Pediatric Dentistry and Dental Materials at national and international level
- ◆ Director of Advanced Training in Multidisciplinary Minor Interventional Dentistry. Barcelona, Spain

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- ◆ Private practice in general dentistry
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- ◆ Master's Degree in Health Education for Patients and Dependent People. Faculty of Medicine and Dentistry, University of Valencia. Spain
- ◆ Course on Pedagogical Adaptation. University of Valencia. Spain
- ◆ Professor of Gerodontology and Oral Medicine. Faculty of Experimental and Health Sciences, Cardenal - Herrera CEU, Moncada, Valencia, Spain
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- ◆ Course on Conscious sedation and Advanced life support for dentistry. InsvaCare training center. Paterna, Valencia
- ◆ Course on aesthetic pediatric crowns taught by NuSmile
- ◆ Oral communications at congresses of the Spanish Society of Pediatric Dentistry (SEOP)

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- ◆ University Diploma in Implantology and Oral Rehabilitation. Paris XII University. Faculty of Medicine. Paris France
- ◆ Doctor in Dentistry. Faculty of Medicine and Dentistry, University of Valencia. Spain
- ◆ Executive Program in Management and Marketing for Dental Clinics. E-Universitas
- ◆ Professor in charge of the Endodontics course for the international group at the European University of Valencia
- ◆ Director of the postgraduate course in Management and Direction of Dental Clinics of Plan Synergia
- ◆ Lecturer of courses on Management and Marketing for dental clinics nationwide

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- ◆ Active pharmacist in a Pharmacy
- ◆ Degree in Pharmacy from the University of Valencia
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- ◆ Associate Professor of General Pharmacology, Anesthesia, Resuscitation; Human Nutrition and General Pathology I and II (Spanish and English degree) at the Faculty of Health Sciences, Department of Dentistry of the European University of Valencia
- ◆ Author of several publications
- ◆ Director of Undergraduate Final Projects
- ◆ Participation in various specialized training programs in pharmacology

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- ◆ Expert degree in surgery and prosthesis on implants at the European Center of Orthodontics (CEOSA)
- ◆ PhD in Dentistry University of Granada. Granada, Spain
- ◆ Associate Professor at the European University of Valencia. International Line. Valencia, Spain
- ◆ Member of the Spanish Association of Endodontics (AEDE)
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- ◆ Spanish Society of Periodontics and Osseointegration (SEPA)
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- ◆ Master's Degree in Individual and Community Clinical Dentistry. Faculty of Medicine and Dentistry, University of Valencia. University-Company foundation (ADEIT). Valencia, Spain
- ◆ Author of several scientific articles in impact journals
- ◆ Communications in several Conferences (SESPO, SEOP)
- ◆ Best Novel Communication Award SEOP 2015



**Dr. Palma Carrió, Cristina**

- ◆ Doctor at the University of Valladolid
- ◆ Diploma in Diagnosis and SEPA Foundation (Madrid)
- ◆ Periodontal treatment
- ◆ Diploma in Rotational and Microscopic Endodontics University of Valencia
- ◆ Master's Degree in Oral Surgery and Implantology University of Valencia
- ◆ Degree in Dentistry University of Valencia
- ◆ Intern in the Department of Oral Surgery during the 5th year

**Dr. Pérez Chicote, Víctor**

- ◆ Degree in Dentistry 95 -00 at the University of Valencia
- ◆ Cum Laude Doctor in Dentistry from the University of Valencia
- ◆ Master's Degree in Dentistry in Special Patients. University of Valencia
- ◆ Master's Degree in Oral Implantology and Rehabilitation E.S.O.R.I.B
- ◆ University Diploma in Implantology and Maxillofacial Surgery. Fac. de Créteil, París
- ◆ Master's Degree in Dental Sciences University of Valencia
- ◆ Postgraduate course in Oral Surgery and Implantology at Univ. of Santa Clara, Cuba
- ◆ Postgraduate course in Advanced Surgery and Zygomatic Implants in Maringá -Brazil
- ◆ Member of SEI
- ◆ Experience: private practice in Valencia since 2000 and teaching training courses in oral surgery and Implantology in a private clinic.

**Dr. Ramírez Mendoza, Jeannette**

- ♦ Dentist surgeon. Juárez Autonomous University of Tabasco, Villahermosa, Tabasco, Mexico
- ♦ Specialist in Pediatric Dentistry. Juárez Autonomous University of Tabasco. Villahermosa, Tabasco, México
- ♦ Specialist in Dentistry. Mexican Dentistry Association for Teaching and Research
- ♦ Diploma in Dentofacial Orthopedics, AOMEI. Mexico City, Mexico
- ♦ Master's Degree in Medical Education. Higher Institute in Medical Sciences of La Habana, Habana, Cuba
- ♦ Doctor in Education. Iberoamericana University Foundation
- ♦ Diploma in Emotional Intelligence. Center for Human Development- Juárez Autonomous University of Tabasco (CSUM-UJAT), Villahermosa, Tabasco, Mexico
- ♦ Research Professor of the Postgraduate Course in Orthodontics and Pediatric Dentistry. Juárez Autonomous University of Tabasco. Villahermosa, Tabasco, México
- ♦ Certification and Recertification. National Council of Children's Dentistry and National Council of Orthodontics of Mexico
- ♦ Exclusive consultation for Babies, Children and Adolescents

**Dr. Saavedra Marbán, Gloria**

- ♦ Degree in Dentistry. Complutense University of Madrid, Spain
- ♦ Master's Degree in Pediatric Dentistry. Complutense University of Madrid, Spain
- ♦ Specialist in Dental Care for children at high biological risk. Complutense University of Madrid. Spain
- ♦ PhD in Dentistry Complutense University of Madrid, Spain
- ♦ Professor at the Master's Degree in Pediatric Dentistry. Complutense University of Madrid, Spain
- ♦ Associate Professor of the Department of Stomatology IV of the Faculty of Dentistry, Complutense University of Madrid, Spain
- ♦ Member of the Pediatric Dentistry Scientific Commission of the Illustrious College of Dentists and Stomatologists of the I Region
- ♦ Private Practice in Pediatric Dentistry



**Dr. Sastriques Mateu, Cristina**

- ◆ Degree in Dentistry. Faculty of Medicine and Dentistry, University of Valencia. Spain
- ◆ Master's Degree in Endodontics Faculty of Experimental and Health Sciences, Cardenal - Herrera CEU, Moncada, Valencia, Spain
- ◆ Postgraduate course in Implantology and Basic Oral Surgery, Coppel Doctors. Rubber Clinic. Madrid, Spain
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- ◆ Conscious Sedation Course. Dentist Council of Barcelona Spain
- ◆ Professor of Pediatric Dentistry. European University of Valencia
- ◆ Member of the Spanish Association of Endodontics (AEDE)
- ◆ Author of Communications and Posters in several Conferences
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- ◆ Master's Degree in Oral Medicine and Surgery, Faculty of Medicine and Dentistry, University of Valencia, Spain.
- ◆ Master in Aesthetic, Adhesive and Minimally Invasive Dentistry, University of Valencia, Faculty of Medicine and Dentistry, University of Valencia, Spain.
- ◆ Postgraduate course in Occlusion, Temporomandibular Dysfunction and Orofacial Pain by the Catalan Society of Odontology and Stomatology (SCOE)
- ◆ Ad Honorem Adhesive and Minimally Invasive Aesthetic Dentistry Master, Dental Clinic Lluís Alcanyis Foundation, University of Valencia, Valencia, Spain.
- ◆ Private practice in General Dentistry specializing in Oral Medicine and Aesthetic Dentistry.

**Dr. Serrano Martínez, Concepción**

- ◆ Degree in Medicine and General Surgery. Murcia University. Spain
- ◆ Specialist in Stomatology. Murcia University. Spain
- ◆ Postgraduate Course in Dentistry for the special and medically compromised patient. Faculty of Medicine and Dentistry, University of Valencia. Spain
- ◆ PhD in Medicine and General Surgery. Faculty of Medicine and Dentistry, University of Valencia. Spain
- ◆ National reference specialist. DEBRA Spain Association, for dental care in patients with epidermolysis bullosa
- ◆ Private practice in general dentistry

**Dr. Ureña Cirret, Jose Luis**

- ◆ Master of Science. (M.S.) Pediatric Dentistry. University of Michigan, Ann Harbor, Mi. USA
- ◆ Dental Surgeon, National Autonomous University of Mexico, Mexico City, Mexico.
- ◆ Mini-residency in adhesive materials. University of Minnesota. Minneapolis, MN. USA
- ◆ Postgraduate Professor of Pediatric Dentistry, Technological University of México (UNITEC), Mexico City, Mexico.
- ◆ Professor of the Degree in Pediatric Dentistry. Faculty of Dentistry, Intercontinental University (UIC), Mexico City, Mexico.
- ◆ Visiting Professor at the Faculty of Dentistry Autonomous University of Tamaulipas, Tampico, Tamps. Mexico
- ◆ Former Director of the Faculty of Dentistry. Faculty of Dentistry, Intercontinental University (UIC), Mexico City, Mexico.
- ◆ Representative of the Mexican Dental Association (ADM) in the program for the accreditation of dental degree programs

# 04

## Structure and Content

The syllabus of this Postgraduate Certificate has been developed by a specialized teaching team, who have poured all its knowledge in the treatment of dental caries into the content of this syllabus. Therefore, students who study this Postgraduate Certificate will have at their disposal multimedia content with the most up-to-date knowledge on this pathology, its etiology, approach and treatment by applying the most common techniques, tools and materials. The Relearning system, which TECH applies to all its programs, will allow students to progress through the program in a more natural way.







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*You will update your knowledge through real cases and the resolution of complex situations in simulated learning environments"*

## Module 1. Pathology and Treatment of Dental Caries

- 1.1. Dental Caries. Etiology, Pathogenesis and Clinical Manifestations
  - 1.1.1. Concept of Caries Disease
  - 1.1.2. Host-Related Factors: Teeth and Saliva
  - 1.1.3. Etiological Factors of Caries Disease
    - 1.1.3.1. Host-Related Factors: Teeth and Saliva
    - 1.1.3.2. Factors Related to Plaque Microbiology
    - 1.1.3.3. Diet-Related Factors: Factors Dependent on the Food Ingested. Dietary Factors Dependent on the Individual
    - 1.1.3.4. Factors Dependent on the Individual's Cultural and Socioeconomic Context
  - 1.1.4. Pathogenesis of the Caries Lesion
    - 1.1.4.1. Demineralization/Remineralization Process. Critical pH
    - 1.1.4.2. Oral Regulation of pH Fluctuations and Remineralization
  - 1.1.5. Clinical Manifestations of Caries Lesions
    - 1.1.5.1. Incipient Caries Lesions
    - 1.1.5.2. Cavitated Caries Lesions
  - 1.1.6. Epidemiology of Dental Caries
    - 1.1.6.1. Caries in Primary Dentition
    - 1.1.6.2. Caries in Mixed Dentition
    - 1.1.6.3. Caries in Young Permanent Dentition
- 1.2. Diagnosis of Dental Caries
  - 1.2.1. Detecting and Monitoring Caries Lesions
    - 1.2.1.1. Methods That Do Not Require Technological Support: Visual Method and Tactile Method
    - 1.2.1.2. Methods that Require Technological Support: Radiological Methods, Methods Based on Visible Light, Methods Based on Laser Light, Methods Based on Ultrasound and Methods Based on Electric Current
    - 1.2.1.3. Injury Activity Assessment: ICDAS System
    - 1.2.1.4. Establishing the Patient's Risk of Caries
- 1.3. Early Childhood Caries. Caries de la Primera Infancia, in Spanish (ECC)
  - 1.3.1. Feeding Up to 6 Months of Age
    - 1.3.1.1. Exclusive Breastfeeding on Demand: Its Influence on Craniofacial Development. Benefits
    - 1.3.1.2. Bottle Feeding: Indications and Consequences of its Use
  - 1.3.2. The Process of Eruption: Timeline
  - 1.3.3. The Tasks of Temporal Dentition
  - 1.3.4. Feeding After the Eruption of the First Tooth: Ablactation
  - 1.3.5. Feeding After the Eruption of the Second Temporal Molar
  - 1.3.6. Prolonged Breastfeeding: Concept and Risks
  - 1.3.7. Early Childhood Caries
    - 1.3.7.1. Concept
    - 1.3.7.2. Types
    - 1.3.7.3. Transmissibility Habits and Infectivity Window
    - 1.3.7.4. Characteristics: Rapid Progression: Reasons
    - 1.3.7.5. Consequences
- 1.4. Therapeutic Remineralization in Incipient Caries Lesions
  - 1.4.1. Objectives and Requirements of Therapeutic Remineralization
  - 1.4.2. Remineralization Products and Systems
    - 1.4.2.1. Fluoride: Mechanisms of Action for Remineralization
    - 1.4.2.2. Casein Phosphopeptide-Amorphous Calcium Phosphate Phosphopeptide Complexes (CPP-ACP): Nature, Mechanisms of Action, Presentations and Mode of Use
    - 1.4.2.3. New Materials in Remineralization. Materials Derived From Nanotechnology: Nano-Hydroxyapatite and Nano-Carbonateapatite. Bioactive Crystals Based on Amorphous Sodium Phosphosilicate and Calcium Phosphates
    - 1.4.2.4. Alternative Products to Favour Remineralization
- 1.5. Treatment of Cavitated Caries Lesions. Principles
  - 1.5.1. Objectives of Dental Surgery in Children

- 1.5.2. Factors That Modify Dental Surgery in Children
  - 1.5.2.1. Behaviour
  - 1.5.2.2. Dentition Development
  - 1.5.2.3. Extent and Depth of Cavitated Caries Lesions
  - 1.5.2.4. Systemic Status of the Patient
  - 1.5.2.5. Morphological Characteristics of Temporary Teeth
- 1.5.3. Principles of Minimally Invasive Dentistry
  - 1.5.3.1. Removal of the Least Amount of Tooth Tissue Necessary
  - 1.5.3.2. Preservation of Pulp Vitality
  - 1.5.3.3. Using Bioactive Materials
- 1.5.4. Absolute Isolation
  - 1.5.4.1. Objectives
  - 1.5.4.2. Materials and Their Adaptation to Children: Dike, Clamps and Young's Arc
  - 1.5.4.3. Placement Techniques by Age: Preschoolers, Schoolchildren and Adolescents
- 1.6. Pit and Fissure Sealants (PFS). Preventive Resin Restorations (PRR)
  - 1.6.1. Introduction. Historical Background of Fissure Sealants
    - 1.6.1.1. Types of Fissures
    - 1.6.1.2. Cariostatic Properties
    - 1.6.1.3. Types of Sealants
    - 1.6.1.4. Patient Selection.: Indications and Contraindications
    - 1.6.1.5. Placement Technique
    - 1.6.1.6. How to Prevent Fissure Sealants From Fracturing and Falling Off
  - 1.6.2. Preventive Resin Restorations (PRR)
    - 1.6.2.1. Concept
    - 1.6.2.2. Types
    - 1.6.2.3. Placement Technique
- 1.7. Atraumatic Restorative Treatment (ART) Temporary Therapeutic Restorations (TTR)
  - 1.7.1. Introduction Concept
  - 1.7.2. Principles of ART and its Evolution to TTR
- 1.8. Treatment of Cavitated Caries Lesions Materials
  - 1.8.1. Pulp Protection Materials
    - 1.8.1.1. Calcium Hydroxide: Mechanism of Action Indications. Advantages and Disadvantages
  - 1.8.2. Glass Ionomer: Self-Curing and Light Curing
    - 1.8.2.1. New Bioactive Materials
  - 1.8.3. Materials for Dental Restoration
    - 1.8.3.1. Restorative Glass Ionomer: Characteristics, Indications, Contraindications, Advantages, Disadvantages and Mode of Use
    - 1.8.3.2. Composite Resins or Composites. Concept and Types
    - 1.8.3.3. Principles of Use
    - 1.8.3.4. Preparation of the Remaining Tooth Structure for the Use of Composites: Dentin Adhesives: Types Available Today and Selection Criteria
- 1.9. Treatment of Large Cavitated Caries Lesions in Pediatric Dentistry
  - 1.9.1. Complex Lesions in Temporary and Permanent Teeth
    - 1.9.1.1. Characteristics and Consequences
    - 1.9.1.2. Treatment Options in Temporary and Permanent Dentition
  - 1.9.2. Treatment of Molars: Preformed Crowns
    - 1.9.2.1. Indications. Advantages and Disadvantages
    - 1.9.2.2. Types: Metallic Preformed Crowns. Pediatric Aesthetic Crowns
    - 1.9.2.3. Technique of Preparation, Adaptation and Cementation of Metal Crowns. Defective Crowns and Complications
    - 1.9.2.4. Technique of Preparation and Cementation of Aesthetic Pediatric Crowns
    - 1.9.2.5. Defective Crowns and Complications
  - 1.9.3. Treatment of Anterior Teeth
    - 1.9.3.1. Preformed Acetate Crowns. Indications and Contraindications. Procedure. Complications
    - 1.9.3.2. Aesthetic Pediatric Crowns. Aesthetic Pediatric Crown Preparation and Cementation Technique
    - 1.9.3.3. Defective Crowns and Complications
  - 1.9.4. Treatment of Anterior Teeth
    - 1.9.4.1. Preformed Acetate Crowns
    - 1.9.4.2. Indications and Contraindications
    - 1.9.4.3. Procedure
    - 1.9.4.4. Complications

# 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.





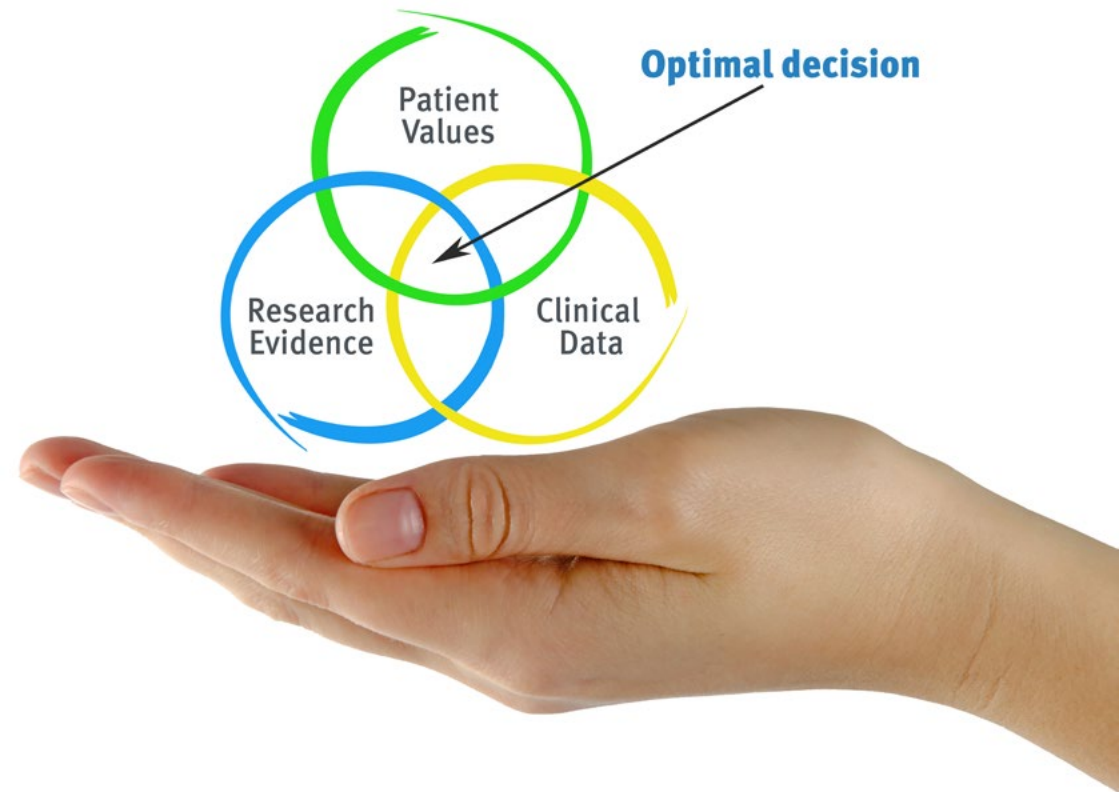
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

In a given situation, what should a professional do? 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 dentist'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. Dentists who follow this method not only grasp concepts, but also develop their mental capacity by means of exercises to evaluate real situations and apply their 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.

*The student 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 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 we have trained more than 115,000 dentists with unprecedented success, in all specialties regardless of the workload. 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 training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for 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.



#### Educational Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances, and to the forefront of 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

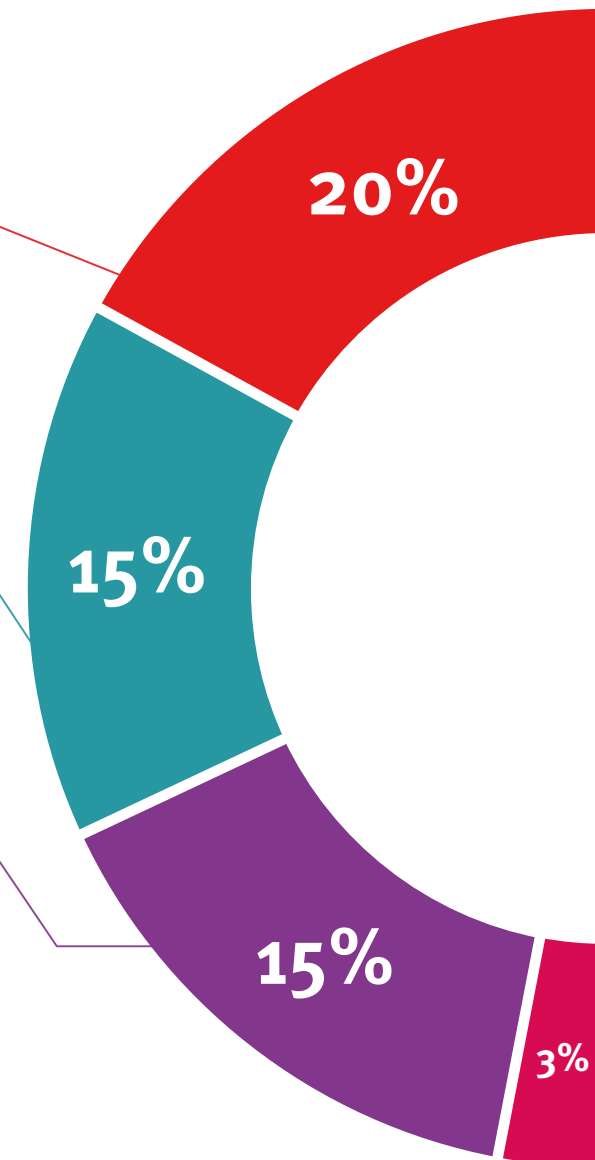
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

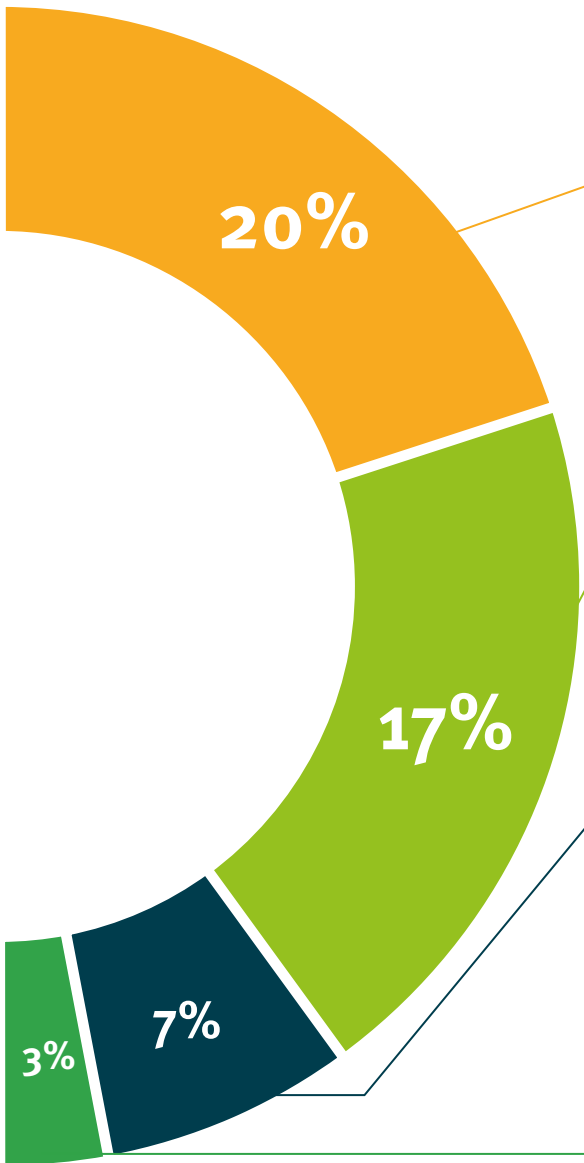
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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 suggesting that observing third-party experts can be useful.

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 Pathology and Therapeutics of Dental Cavities in Pediatric Dentistry guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Technological University.



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*Successfully complete this program  
and receive your university degree  
without travel or laborious paperwork”*

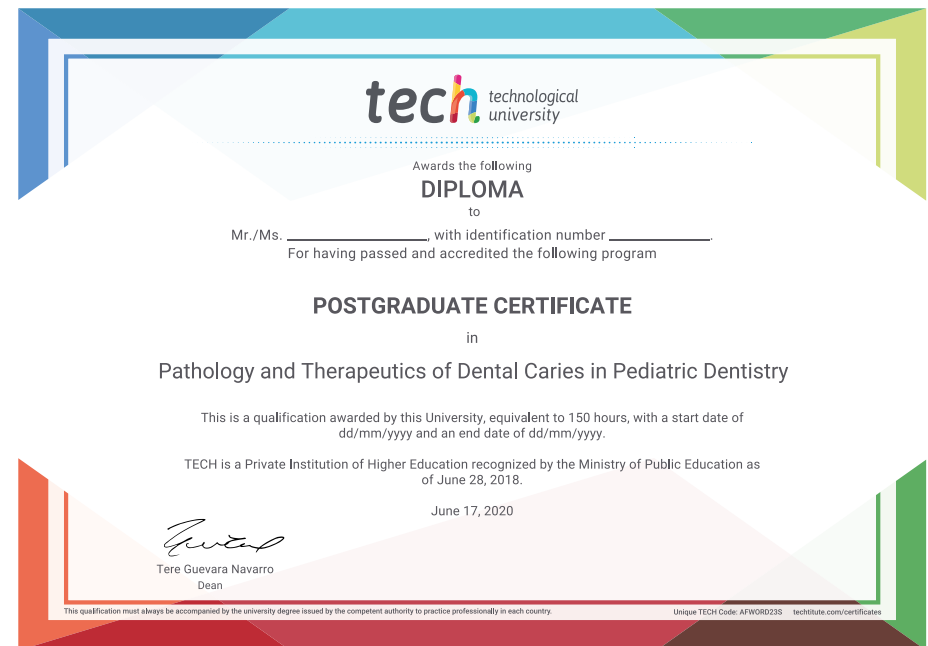
This **Postgraduate Certificate in Pathology and Therapeutics of Dental Caries in Pediatric Dentistry** contains the most complete and updated scientific program on the market.

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

The 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 Pathology and Therapeutics of Dental Cavities in Pediatric Dentistry**

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**  
Pathology and Therapeutics  
of Dental Caries  
in Pediatric Dentistry

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

# Postgraduate Certificate

## Pathology and Therapeutics of Dental Caries in Pediatric Dentistry

