

Advanced Master's Degree  
Endodontics, Periodontics  
and Oral Surgery





## Advanced Master's Degree Endodontics, Periodontics and Oral Surgery

- » Modality: online
- » Duration: 2 years
- » Certificate: TECH Global University
- » Credits: 120 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/dentistry/advanced-mastes-degree/advanced-mastes-degree-endodontics-periodontics-oral-surgery](http://www.techtute.com/us/dentistry/advanced-mastes-degree/advanced-mastes-degree-endodontics-periodontics-oral-surgery)

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# 01

# Introduction

Oral pathologies occur in practically all people and can affect them from childhood onwards. Therefore, it is necessary for dental professionals to specialize in each area of knowledge in this field, so that they can offer more personalized treatments to their patients. This program offers professionals the most complete specialization in Endodontics, Periodontics and Oral Surgery so that they are able to develop professionally among the best.





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*At TECH we only offer quality programs. For this reason, in this Advanced Master's Degree we have brought together the best of periodontics and mucogingival surgery with the most advanced knowledge in endodontics and apical microsurgery”*

More and more patients are coming to dental clinics seeking treatments that restore the optimal conditions of their oral health, not only from a functional point of view, but also from an esthetic point of view.

This Advanced Master's Degree aims to cover the specialization of the dentist, by providing the necessary skills to prepare them as a highly qualified professional in the field of Endodontics, Periodontics and Oral Surgery. And it is proposed not only as a specialization designed to meet the needs of students, but also those of society, anticipating its future demands.

This Advanced Master's Degree is therefore proposed as a solution to the growing demand of patients requesting endodontic, periodontal and implantological treatment in dental clinics, as well as to the increase of professionals seeking in this field a solution to the problems posed in their clinics. In this way, the knowledge acquired will give the student the ability to face working life from a position of higher qualification, giving them a clear advantage when it comes to accessing a job, since they will be able to offer the application of the latest technological and scientific advances that surround the field of Endodontics, Periodontics and Oral Surgery.

Throughout this specialization, the student will learn all of the current approaches to the different challenges posed by their profession. A high-level step that will become a process of improvement, not only on a professional level, but also on a personal level. We will not only take them through the theoretical knowledge, but we will show them a more organic, simpler and efficient way of studying and learning.

This Advanced Master's Degree is designed to give them access to the specific knowledge of this discipline in an intensive and practical way. A great value for any professional. In addition, as it is a 100% online specialization, it is the student himself who decides where and when to study. No fixed schedules and no obligation to move to the classroom, which facilitates the reconciliation with family and work life.

This **Advanced Master's Degree in Endodontics, Periodontics and Oral Surgery** contains the most complete and up-to-date scientific program on the market. Its most outstanding features are:

- The latest technology in e-learning software
- Intensely visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand.
- Practical case studies presented by practising experts
- State-of-the-art interactive video systems
- Teaching supported by telepractice
- Continuous updating and recycling systems
- Self organised learning which makes the course completely compatible with other commitments
- Practical exercises for self-assessment and learning verification
- Support groups and educational synergies: questions to the expert, debate and knowledge forums
- Communication with the teacher and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection
- Supplementary documentation databases are permanently available, even after the program.



*Dentistry has undergone great changes in recent years, with a high increase in the number of people who come to dental offices to improve their oral health"*



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*We offer you the best training at the moment so that you can carry out an in-depth study in this field, in such a way that you will be able to develop your profession with total guarantees of success"*

Our teaching staff is made up of working professionals. In this way, at TECH we ensure that we provide you with the up-to-date training we are aiming for. A multidisciplinary team of trained and experienced professionals in different environments, who will develop the theoretical knowledge efficiently, but, above all, will put at the service of the program the practical knowledge derived from their own experience.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Advanced Master's Degree. Developed by a multidisciplinary team of *E-Learning*, integrates the latest advances in educational technology. In this way, you will be able to study with a range of easy-to-use and versatile multimedia tools that will give you the necessary skills you need for your specialization.

The design of this program is based on Problem-Based Learning, an approach that conceives learning as a highly practical process. To achieve this remotely, TECH will use telepractice. With the help of an innovative interactive video system and *Learning From an Expert* the student will be able to acquire the knowledge as if they were facing the scenario they are learning at that moment. A concept that will allow students to integrate and memorize what they have learnt in a more realistic and permanent way.

*A program created for professionals who aspire to excellence and that will allow you to acquire new skills and strategies in a fluid and effective way.*

*A high-level scientific program, supported by advanced technological development and the teaching experience of the best professionals.*



# 02

# Objectives

The objective is to enable highly qualified professionals for work experience. An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is focused on helping professionals reach a much higher level of expertise and control. A goal that the student will be able to take for granted, with a high intensity and precision specialization.







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*If your goal is to improve in your profession and acquire a qualification that will enable you to compete with the best, then look no further: Welcome to TECH”*



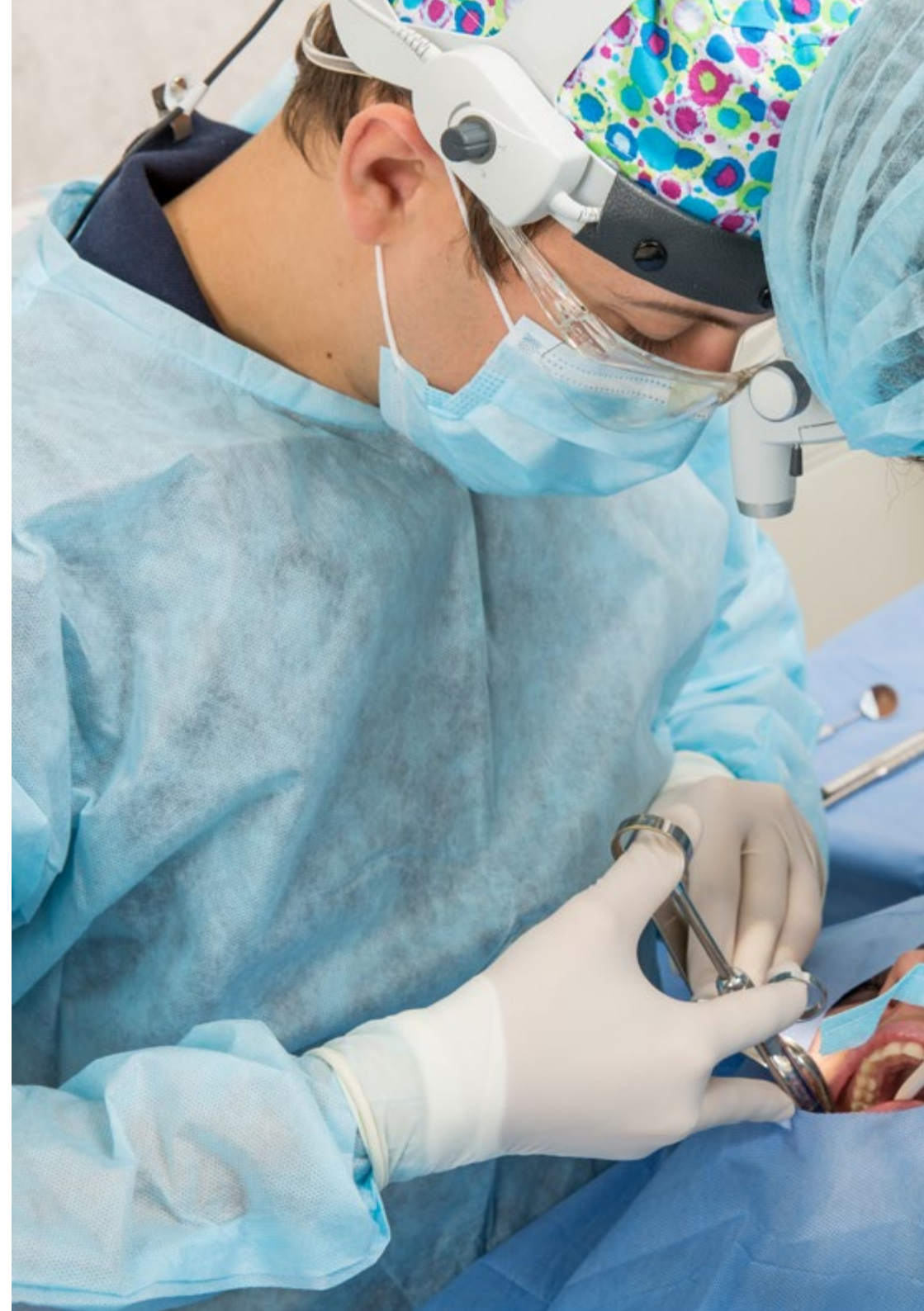
## General Objectives

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- Update the theoretical and practical knowledge of the dentist in the different areas of periodontics, endodontics, apical microsurgery and implant dentistry, through evidence-based dentistry
- Promote work strategies based on a multidisciplinary approach to the patient who is a candidate for periodontal or implant therapy, as well as endodontic treatment or apical surgery
- 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 education
- Encourage professional stimulation through continued education and research
- Train the professional to reach levels of excellence based on the attentive observation of the patient and their circumstances, extraction of the appropriate clinical and exploratory data, elaboration of a diagnostic process and therapeutic plan that will lead them to offer the patient the best possible option in that situation

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*Quality specialized training for outstanding students. At TECH, we offer the perfect education for high level specialization in your field”*







## Specific Objectives

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### Module 1. Basic Periodontics

- ◆ Explain the macroscopic and microscopic anatomy of the periodontium, jaws and adjacent tissues and know how to apply this knowledge in diagnosis and periodontal and implantological treatments
- ◆ Describe the biology of osseointegration and be able to establish the biological differences between periodontal and peri-implant tissues
- ◆ Perform pre-surgical clinical history, pharmacological interactions and radiological techniques for periodontal diagnosis

### Module 2. Periodontal Diseases

- ◆ Describe the etiopathogenesis and epidemiology of periodontal diseases, as well as the mechanisms of immune response and the role of cellular and molecular mediators in the evolution of periodontitis

### Module 3. Examination, Diagnosis and Treatment Plan

- ◆ Describe basic surgical procedures: incisions, types of flaps, sutures, etc.
- ◆ Learn about each of the pathologies and alterations that can affect the periodontium, as well as the available means for their diagnosis
- ◆ Define each of the diagnostic means to study patients susceptible of being rehabilitated with implants

### Module 4. Basic Non-Surgical Periodontal Treatment Initial Phase

- ◆ Explain the non-surgical procedures of the initial phase
- ◆ Identify the main therapeutic techniques that allow non-surgical treatment of dental treatments.

#### **Module 5. Surgical Periodontal Treatment Periodontal Surgery Access Therapy**

- ♦ Explain one- and two-stage surgical procedures, prepare the surgical field and master sterilization protocols.
- ♦ Know how to perform a complete periodontal and adnexal tissue examination
- ♦ Know how to perform and interpret a complete periapical series with parallelism technique

#### **Module 6. Periodontal Reconstructive Treatment I: Periodontal Regeneration (RTG)**

- ♦ Define systemic diseases that are related and may interfere with the management of periodontitis
- ♦ Explain bacterial plaque control methods and be able to motivate the patient in their use
- ♦ Master periodontal instrumentation techniques
- ♦ Establish in each patient a general prognosis of the periodontal disease and an individual prognosis of each affected tooth

#### **Module 7. Reconstructive Periodontal Treatment II: Periodontal Surgery Treatment of Furcation Lesions**

- ♦ Identify the main lesions affecting multirooted teeth that can be treated from different surgical approaches.
- ♦ Analyze regenerative techniques in the practice of plastia, tunneling and radectomy.
- ♦ Identify tooth extraction as a last option

#### **Module 8. Reconstructive Periodontal Treatment III: Periodontal and Mucogingival Plastic Surgery Basic Principles**

- ♦ Define bone biological mechanisms in guided bone regeneration.
- ♦ Perform the surgical techniques of sinus lift, ramus bone grafting and mandibular symphysis

#### **Module 9. Reconstructive Periodontal Treatment IV: Periodontal and Mucogingival Plastic Surgery Autografts and Displaced Flaps for Root Resurfacing**

- ♦ Interrelate Periodontics and Implantology with the patient's medical pathologies and the rest of the dental specialties, as well as to take samples
- ♦ Explain maintenance techniques, as well as peri-implant alterations and their treatment
- ♦ Perform regenerative procedures after extraction of impacted periodontal insertion of included teeth

#### **Module 10. Periodontal Reconstructive Treatment V: Periodontal and Mucogingival Plastic Surgery Bilaminar techniques for root canal veneering**

- ♦ Apply pre-implantological alveolar ridge augmentation techniques with both hard and soft tissue regeneration
- ♦ Identify the main techniques in dental root canal veneers
- ♦ Develop techniques that allow for the practice of plastic surgery and oral reconstruction

#### **Module 11. Reconstructive Periodontal Treatment VI: Periodontal and Mucogingival Plastic Surgery Corrective plastic surgery**

- ♦ Describe the different soft tissue management techniques used during implant and regenerative surgery.
- ♦ Explain the surgical process of periodontal and mucogingival plastic correction.
- ♦ Delve into surgical process and develop techniques to replicate the process.

#### **Module 12. Implant Dentistry and Osseointegration**

- ♦ Explain the process of implant dentistry and osseointegration
- ♦ Describe the main techniques of implantology and osseointegration for its correct medical process.

**Module 13. Mucogingival Surgery in Implant Dentistry**

- ♦ Identify the main mucogingival surgery techniques.
- ♦ Explain the process of root canal veneering for aesthetic procedures.
- ♦ Analyze and replicate the different gingival grafting techniques described step by step in the new dental advances.

**Module 14. Peri-Implantitis**

- ♦ Identify the main tissues surrounding a dental implant and their state of inflammation.
- ♦ Delve into the state of the soft tissues and their possible redness after implantation.
- ♦ Explain the treatment process on the affected tissue.

**Module 15. Periodontics and Endodontics**

- ♦ Identify with an estimated period of time the possible diseases affecting the gums.
- ♦ Apply the different concepts and studies that develop pulpal diseases.

**Module 16. Periodontics, Orthodontics and Occlusion**

- ♦ Develop new concepts to treat gum, teeth and oral tissue pathologies.
- ♦ Identify the correct orthodontic process and its effectiveness in oral therapies.
- ♦ Explain the orthodontic instruments that improve the different malformations.

**Module 17. Laser in Periodontics**

- ♦ Conduct research on lasers in the periodontal process.
- ♦ Identify the improvements offered by lasers in periodontics.

**Module 18. Maintenance of Periodontal and Implant Dentistry Patients**

- ♦ Perform a maintenance schedule for the periodontal patient.
- ♦ Identify the principal post-implant care procedures
- ♦ Develop a process of care that allows for rapid improvement after implants

**Module 19. Modern Concept of Endodontics**

- ♦ Describe the biological principles of Endodontics.
- ♦ Perform a correct clinical history in endodontics, taking into account the risk diseases as well as the various radiological techniques available to us to make a correct diagnosis.
- ♦ Explain the interrelationships of Endodontics with other areas of Dentistry.

**Module 20. Diagnosis, Treatment Plan and Dental Anesthesia**

- ♦ Correctly prepare the surgical field in apical surgery as well as master the sterilization protocols.
- ♦ Know the treating emergencies in Endodontics

**Module 21. Opening, Location, and Morphology of the Root Canal System**

- ♦ Perform the procedure for insulation by means of a rubber dam.
- ♦ Know how to differentiate the different treatment options for open apex tooth.

**Module 22. Current protocol in canal irrigation**

- ♦ Define the different types of root resorptions.
- ♦ Identify the main irrigation solutions and irrigation methods

**Module 23. Biomechanical Preparation of the Root Canal**

- ♦ Explain the anatomy and location of root canals.
- ♦ Perform a correct conformation of the root canal system through the different techniques and instruments available to us.
- ♦ Properly disinfect the root canal system using the different dispensing techniques and irrigation systems available to us.



**Module 24. Root canal system sealing**

- ◆ Perform obturation of canals according to the appropriate technique for each clinical situation
- ◆ Perform endodontic retreatment by removing existing root anchors if necessary

**Module 25. Use of calcium hydroxide and its ions in modern Dentistry**

- ◆ Know biomaterials as a current evolution to Calcium Hydroxide
- ◆ Identify the methods of pulp prevention in young molars and other teeth

**Module 26. Dental trauma Diagnosis, Treatment and Prevention**

- ◆ Solve possible operative accidents in Endodontics.
- ◆ Describe dental traumatology in emergency situations.

**Module 27. Endodontic treatment of deciduous teeth**

- ◆ Explore the technique of pulp therapy for deciduous and permanent teeth diagnosed with healthy pulp or reversible pulpitis.
- ◆ Deepen in root canal Treatment

**Module 28. Pulpo-Periodontal Pathology and Endoperiodontal Relationships.**

- ◆ Perform a differential diagnosis between endodontic and Periodontal lesions.
- ◆ Identify endoperiodontal lesions due to resorption.

**Module 29. Retreatments**

- ◆ Detect predisposing factors for post-treatment disease
- ◆ Delve into non-surgical clinical Retreatment





**Module 30. Endodontic Problems and Complications in Endodontics**

- ◆ Delve into the Etiopathogenesis of large periapical lesions and their treatment in a single session
- ◆ Perform an adequate differential diagnosis, chamber opening, permeabilization, cleaning, disinfection, apical permeabilization and drying of the duct.

**Module 31. Surgery and Microsurgery in Endodontics**

- ◆ Explain the indications for endodontic surgery
- ◆ Managing the flap and controlling bleeding

**Module 32. Making Decisions Between Root Canal Treatment, Retreatment, Apical Surgery, or Implant**

- ◆ Define the different techniques and agents when performing tooth whitening.
- ◆ Detecting the causes for tooth extraction

**Module 33. Endodontics in elderly patients**

- ◆ Perfect clinical management of canal calcification and useful treatment considerations
- ◆ Know the different pathologies present in elderly patients

# 03 Skills

Once all the contents have been studied and the objectives of the Advanced Master's Degree in Endodontics, Periodontics and Oral Surgery have been achieved, the professional will have superior skill and performance in this area. A very complete approach, in a high-level Advanced Master's Degree, which makes the difference.





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*In all these areas, we offer you the best specialization and the best teaching staff so that you can acquire the necessary skills for the development of your daily work"*



## General Skills

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- ♦ Possess and understand knowledge in their field of study that builds on the foundation of general secondary education. While relying on advanced textbooks, it also includes some aspects that involve knowledge from the forefront of this field of study.
- ♦ Apply their skills and abilities to their work in a professional manner and possess the abilities usually demonstrated through the development and defence of arguments and problem solving within their area of study
- ♦ Gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.
- ♦ Convey information, ideas, problems, and solutions to both specialized and non-specialized audiences.
- ♦ Develop the learning skills necessary to undertake further studies with a high degree of autonomy

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*Our goal is very simple: to offer you quality studies, with the best teaching system of the moment, so that you can achieve excellence in your profession”*







## Specific Skills

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- ◆ Knowledge the general processes of the disease, including infection, inflammation, immune system alterations, degeneration, neoplasia, metabolic alterations and genetic disorders
- ◆ Develop an initial diagnostic judgment and establish a reasoned diagnostic strategy, being competent in recognizing situations that require urgent dental care.
- ◆ Know and apply the basic treatment of the most common oral and dental pathology in patients of all ages. Therapeutic procedures should be based on the minimally invasive concept and on a comprehensive and integrated approach to oral treatment
- ◆ Know how to plan and perform multidisciplinary, sequential and integrated dental treatments of limited complexity in patients of all ages and conditions and patients requiring special care
- ◆ Plan and propose the appropriate preventive measures for each clinical situation.
- ◆ Recognize the role of the dentist in the prevention and protection against oral diseases, as well as in the maintenance and promotion of health, both at individual and community level.
- ◆ Understand and recognize the social and psychological aspects relevant to the treatment of patients
- ◆ Develop the learning skills necessary to undertake further studies with a high degree of autonomy

- ♦ Be competent in evaluating the periodontium, establishing a diagnosis, a prognosis and the formulation of a periodontal treatment plan
- ♦ Learn the indications, contraindications, adverse effects, interactions and posology of anti-inflammatory drugs, analgesics and antibiotics used in periodontics
- ♦ Know how to apply radiological techniques for diagnosis
- ♦ Know the fundamentals of non-surgical periodontal therapy and be proficient in all periodontal instrumentation techniques, both supragingival and subgingival, using appropriate instruments
- ♦ Have knowledge of the fundamentals of surgical periodontal therapy and periodontal surgical techniques
- ♦ Understand the biological mechanisms of bone formation
- ♦ Learn and apply guided bone regeneration with membranes and lyophilized bone and the technique for obtaining plasma rich in growth factors
- ♦ Perform sinus lift surgical techniques, both traumatically and atraumatically
- ♦ Perform immediate post-extraction implantology.
- ♦ Perform the technique of bone grafting on the mandibular ramus and symphysis.
- ♦ Manage complex and demanding clinical situations whether they are aesthetic or functional.
- ♦ Perform the necessary occlusal adjustment in immediate loading.
- ♦ Diagnose the periodontal alterations that can occur around implants.
- ♦ Apply the techniques of soft tissue alveolar ridge augmentation and preprosthetic periodontal surgery.
- ♦ Master the mucoperiosteal flap technique, the epithelium and connective tissue free gingival graft technique, pedicle grafting and esthetic periodontal surgery.
- ♦ Learn peri-implant maintenance techniques
- ♦ Know the surgical procedures in one and two phases and to prepare the surgical field and master the sterilization protocols.
- ♦ Explain the evolution of endodontics
- ♦ Describe the anatomy of root canals as applied to endodontics
- ♦ Perform data collection and examination of the patient for the preparation of a correct medical history
- ♦ Perform adequate dental management of patients at risk in Endodontics
- ♦ Know how to apply radiological techniques for endodontic diagnosis
- ♦ Perform the different access cavities according to the clinical situation
- ♦ Obtain a working length in our treatments according to the use of conventional Rx
- ♦ Know how to use EALs correctly
- ♦ Describe the biological principles of Endodontics.
- ♦ Perform endodontic treatment of the open apex tooth
- ♦ Explain revascularization in Endodontics
- ♦ Apply the different duct shaping techniques
- ♦ Perform chemical cleaning of the root canals by activating the irrigants
- ♦ Perform canal obturation using thermoplastic techniques



- ◆ Perform removal of threaded metal poles, cast stubs, and fiberglass or carbon fiber poles using ultrasonics.
- ◆ Explain the system to be applied when removing a fractured instrument from the inside of the canal
- ◆ Describe the endodontic management of a case of dental traumatology
- ◆ Handle emergency situations in the event of an accident during Endodontic surgery. Make the most of the opportunity and take the step to get up to date on the latest developments in endodontics management
- ◆ Apply incision techniques in Apical surgery
- ◆ Perform retro-preparation and retro-obturation in Apical surgery
- ◆ Apply their knowledge in regeneration in Apical surgery
- ◆ Interrelate Endodontics with other dental specialties
- ◆ Reconstruct endodontically treated teeth, knowing that the use of intra-radicular anchors is not always necessary
- ◆ Perform laser teeth whitening
- ◆ Explain the importance of communication with the referrer



04

# Course Management

Within the concept of total quality, TECH is proud to offer students a teaching staff of the highest level, chosen for their proven experience in the educational field. Professionals from different areas and fields of expertise that make up a comprehensive multidisciplinary team. A unique opportunity to learn from the best.



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*Our professors bring their vast experience and their teaching skills to offer you a stimulating and creative specialized training program”*



## International Guest Director

Dr. Leena Palomo is an eminent educator, clinician and dental researcher, internationally recognized. With a solid academic background and a career marked by excellence, she stands out as a leading figure in Periodontology, committed to innovation, research and excellence in patient care. She currently holds a senior position as Chair of the Arthur Ashman Department of Periodontology and Implant Dentistry, one of the leading programs in periodontology, whose primary mission is to educate undergraduate and graduate students; engage in clinical and laboratory and provide comprehensive and optimal periodontal care to the people of New York. His research focus has centered on vital areas such as women's health, aesthetics and quality of life. Of particular note is her leadership in collaborating with the Cleveland Clinic and the Center for Specialized Women's Health. In addition, she has played a key role in periodontal research and treatment for rheumatoid spectrum diseases, speaking at numerous national and international conferences on Sjögren's and Rheumatology, as well as publishing her wellness findings in multidisciplinary and interprofessional journals. His commitment to educational excellence and mentoring has led numerous dental and medical students to achieve recognition for the quality of their theses.

In this context, Dr. Palomo's educational philosophy emphasizes the importance of curiosity and constant questioning to drive discovery and continuous learning in the field of contemporary periodontology. Likewise, her outstanding career in the field of Dentistry and Periodontology has been rewarded with several awards for her work and research. Some examples are the "Strides in Science", American Association of Dental Research November Researcher (2012), and the American Academy of Periodontology, Board of Trustees, Special Citation Award (2019). She also actively collaborates with the American Academy of Periodontology (AAP) Foundation to improve the dental health of society through the dissemination of periodontal diseases and their therapies.



## Dr. Leena Palomo

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- ♦ Chair of the Arthur Ashman Department of Periodontology and Implant Dentistry.
- ♦ Professional Master's Degree in Periodontology from Case Western Reserve University
- ♦ Bachelor of Science in Dentistry from Case Western Reserve University. Awards:
- ♦ Strides in Science," American Association of Dental Research November Researcher (2012)
- ♦ American Academy of Periodontology, Board of Trustees, Special Citation Award (2019)
- ♦ Member of:
- ♦ North East Society of Periodontology
- ♦ American Board of Periodontology
- ♦ Levi Award, American Academy of Periodontology Foundation
- ♦ College of Dentistry
- ♦ American Academy of Periodontology (AAP) Foundation

## International Guest Director

Dr. Federico Foschi is an outstanding authority in the field of Endodontics and Oral Surgery. His doctorate, in collaboration with the prestigious Forsyth Institute of Boston in the United States, earned him the IADR Pulp Biology award for his contributions in the field of Endodontic Microbiology.

For more than two decades he has developed his practice in the United Kingdom. In that country he completed an exhaustive five-year training in Restorative Dentistry at Guy's Hospital in London. He has also maintained a constant practice based on Endodontic referral, root canal management, primary and secondary treatments and Apical Surgery.

Dr. Foschi has also collaborated as a consultant in different clinics where he continuously demonstrates his extensive knowledge of all aspects of oral health. He has also been associated as a research fellow with the Faculty of Dentistry, Oral and Craniofacial Sciences at King's College London and has served as director of academic programs on behalf of Health Education England. He has also been appointed Professor at the University of Plymouth.

This expert, who graduated from the University of Bologna with honors, has published 50 peer-reviewed articles, two book chapters and a volume of his own. Among other contributions, he has extensively investigated the source of "toothache" and participated in the development of a new method for the detection of bacteria during root canal treatment. A project thanks to which the failure of some treatments and the need for follow-ups could be reduced.

At the same time, Dr. Foschi is a member of the Higher Education Academy of the United Kingdom, as well as of the British Endodontic Society. He has also shared his therapeutic innovations at numerous congresses, making him a reference for dentists all over the world.



## Dr. Foschi, Federico

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- ◆ Consultant and academic collaborator at King's College London
- ◆ Consultant and academic collaborator at the University of Plymouth
- ◆ Director of the Endodontic Training Program at Health Education England
- ◆ PhD in Endodontic Microbiology at the Forsyth Institute, Boston, USA
- ◆ Degree in Dentistry from the University of Bologna
- ◆ Member of:
  - ◆ Higher Education Academy of the United Kingdom
  - ◆ Royal College of Surgeons of England
  - ◆ British Endodontic Society

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

## Management



### Dr. Bellver Fernández, Ricardo

- ♦ Degree in Dentistry Cardenal Herrera University
- ♦ Associate dentist in the Oral Surgery, Periodontics and Implant Dentistry Service Unit Ricardo Bellver Dental Clinic
- ♦ Master's Degree in Implant Dentistry and Oral Surgery Cardenal Herrera University
- ♦ Master's Degree in Dental Sciences University of Valencia
- ♦ Master's Degree in Periodontics. Claudio Gioia Dental Clinic
- ♦ .Surgical training at the Maxillofacial Service of the La Fe University Hospital, Maxillofacial and Stomatological Service unit, outpatient and operating rooms, children's and adult unit. Led by Dr. MC Baquero de la Hermosa
- ♦ Member of the Spanish Society of Prosthetics, Stomatology and Aesthetics (SEPA)
- ♦ Fellowship in bone regeneration Brescia, Italy
- ♦ Training in Mucogingival Surgery at the University of Bologna. Italy





### **Dr. Martínez Gómez, Berta**

- ♦ Graduate in Dentistry at the Service of PRODENTAL, Dental Clinic, Dr. Mateo & Dr. Ribas
- ♦ Degree in Dentistry from the University of Barcelona
- ♦ Master's Degree in Comprehensive Periodontics C.G. Ongoing Training with Prof. Raúl G. Caffesse
- ♦ Master's Degree in Implantology and Prosthodontics CIDESID
- ♦ Postgraduate course in Endodontics Dr. Hipólito Fabra
- ♦ Diploma in Endodontics CIDESID
- ♦ Advanced Multidisciplinary Course. Dr. Iñaki Gamborena, San Sebastián, Spain
- ♦ Course in Prosthodontics and Dental Aesthetics CIDESID
- ♦ Layering course on posterior and anterior teeth by CIDESID
- ♦ Theoretical-practical course of Parodontale surgery: Periodontal and Peri-implant tissue reconstruction. Professor. Massimo de Sanctis - Dr. Fabio Vignoletti. Italian Society of Dental Training. Forli, Italy
- ♦ Collaborating Professor Master's Degree in Comprehensive Periodontics C.G. Training. Professor. Dr. Raúl Caffesse
- ♦ Private practice dedicated to Periodontics and Conservative Dentistry
- ♦ Member of the SEPA and Fellowship in Bone Regeneration. Dr. Carlo Tinti. Brescia. Italy



### Dr. Fabra Campos, Hipólito

- ♦ Dentist specializing in Endodontics and Periodontics at Fabra Dental Clinic
- ♦ Founder of Fabra Dental Clinic
- ♦ Speaker at multiple congresses, conferences and training courses in Spain, Portugal, Argentina, Ecuador and Brazil.
- ♦ Co-author of the New Etymological Medical Dictionary of Dentistry.
- ♦ Author of numerous scientific articles published in national and international journals
- ♦ President of the Spanish Society for the Study of Dental Materials
- ♦ Vice-president of the Center for Stomatological Studies of the III Region.
- ♦ Doctor of Medicine and Surgery from the Complutense University of Madrid.
- ♦ Degree in Medicine and Surgery from the University of Valencia
- ♦ Degree in Stomatology from the School of Stomatology at the Complutense University of Madrid.
- ♦ He is a founding member of the Spanish Society of Endodontics, European Society of Endodontics, American Society of Endodontics, Academy of Dental Materials, Spanish Society of Periodontology. Spanish Section of the Pierre Fauchard Academy



### **Dr. García Rielo, Manuel Miguel**

- ♦ Clinical Tutor Professor at the University of Santiago de Compostela in the Teaching Unit of Dental Pathology and Therapeutics.
- ♦ Director and dentist in García Rielo Clinic
- ♦ Collaborating Professor at the Faculty of Dentistry of USC
- ♦ Master's Degree in Advanced Endodontics from the University of Santiago de Compostela
- ♦ Professional Master's Degree in Implantology, Periodontics and Oral Surgery from the University of León
- ♦ Diploma of Advanced Studies from the of Santiago de Compostela University
- ♦ Degree in Dentistry from the University of Santiago de Compostela
- ♦ National research awards granted by the Spanish Society of Conservative Dentistry (SEOC)
- ♦ He is a member of the Spanish Society of Stomatological and Aesthetic Prosthetics, Spanish Society of Periodontology, Spanish Society of Conservative and Aesthetic Dentistry, Spanish Society of Gerodontology, Spanish Society of Oral Medicine



### Dr. Baroni Cañizares, Luís

- ♦ Director of Baroni Dental Clinic
- ♦ Dentist at Dr. Ruiz de Gopegui Clinic
- ♦ Master's Degree teacher in Endodontics at the University of Zaragoza, Spain
- ♦ Degree in Dentistry from the European University of Madrid
- ♦ Official Master's Degree in Advanced Endodontics by the European University of Madrid.
- ♦ Diploma in Implant Dentistry Clínica Aparicio, endorsed by the University of Gotteborg
- ♦ He is a member of the Spanish Association of Endodontics (AEDE).



## Professors

### Dr. García-Sala Bonmatí, Fernando

- ◆ Dentist Specialist in Rehabilitation, Periodontics and Advanced Oral Implant at the Ilzarbe García Sala Clinic
- ◆ Specialist in Surgery, Periodontics and Implants
- ◆ Co-director of the Master's Degree in Advanced Oral Implantology at the European University of Valencia
- ◆ Associate Professor, University of Valencia, Department of Stomatology
- ◆ Professor of Oral Surgical Pathology at the UEV
- ◆ Official Master's Degree in Advanced Oral Implantology from the European University of Madrid.
- ◆ Training in Dr Zucchelli Mucogingival Surgery at the University of Bologna Italy
- ◆ Training in Bone Regeneration, Dr Urban Budapest, Hungary
- ◆ Certificate in Advances in Implant Dentistry and Oral Rehabilitation Faculty of Dentistry at New York University
- ◆ Graduate in Dentistry
- ◆ Member of ITI (International Team Implantology), SEPES

### Dr. Ruíz-Oriol, Carlota

- ◆ Degree in Dentistry from the University of Barcelona
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- ◆ Postgraduate course in Advanced Dental Esthetics. Dr. Padrós. Catalan Society of Odontostomatology of the Academy of Medical Sciences
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- ◆ Master's Degree in Clinical Implantology and Oral Prosthetics. University of Barcelona
- ◆ Collaborating Professor Master's Degree in Comprehensive Periodontics C.G. Ongoing training

### Dr. Contreras Coy, Lluís

- ◆ Degree in Dentistry International University of Catalonia. Catalonia, Spain
- ◆ Master's Degree in Soft tissue management around teeth and implants. University of Bologna. Italy
- ◆ Master's Degree in Endodontics International University of Catalonia. Catalonia, Spain
- ◆ Postgraduate course in Advanced Dental Aesthetics by SCOE
- ◆ Honorable Mention by the SEI 2012 jury for communication: "ROG when placing implants in ridges with alveolar fenestrations"
- ◆ Member of SEPA and SCOE
- ◆ Degree in Dentistry Rey Juan Carlos University. Madrid, Spain
- ◆ Dentist Specialist in Periodontics and Osseointegration of the General Council of Dentists and Stomatologists of Spain
- ◆ Modular Master's Degree in Clinical Endodontics. Dr. C. Stambolsky. Postgraduate Dental Athenaeum. Madrid, Spain
- ◆ Specialist in Implantoprosthesis. Rey Juan Carlos University. Madrid, Spain
- ◆ Expert in Dental Clinic Management. Udimá
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- ◆ Member of SEPES, Spanish Society of Stomatological Prosthesis

**Dr. Aragüés, Alfredo**

- ◆ President of the College of Dentists of Burgos
- ◆ Degree in Dentistry from the ISCS University in Portugal
- ◆ Certificate in Periodontics from the Autonomous University of Nuevo León in Mexico
- ◆ Master's Degree in Periodontics from the University of Paris in France.
- ◆ Master's Degree in Smoking from the University of Cantabria
- ◆ Master's Degree in Laser from the University of Barcelona
- ◆ European Interuniversity Master's Degree
- ◆ Member of World Clinical Laser Institute, Spanish Society of Periodontics and Osseointegration, European Federation of Periodontology, American Academy of Periodontics, Spanish Laser Society, International Society for Oral Laser Applications, World Association For Oral Therapy Adriatic Laser Academy and Founder of the National Association of Self-Employed Dentists

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**Dr. García Martínez, Gonzalo**

- ◆ Graduate in Dentistry
- ◆ Postgraduate Course in Orthodontics. Gnathos Orthodontics Study Center
- ◆ Expert in Orthognathic Surgery. Ramón y Cajal Hospital. University of Alcalá
- ◆ Postgraduate course in Orthognathic Surgery. Roth-Williams Center for Functional Occlusion
- ◆ Postgraduate Course on Surgical Orthodontics in Orthognathic Surgery
- ◆ Collaborating Professor for the Master's Degree in Implantology at the Miguel Hernández University. Elche
- ◆ Private practice with exclusive dedication to Orthodontics at C. D. TREES. Cartagena

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- ◆ Doctor in Dentistry
- ◆ Degree in Dentistry National University of La Plata. Buenos Aires, Argentina
- ◆ Certificate in Periodontics. University of Texas. Houston, USA
- ◆ Specialist in Integrated Dentistry and Implants. Murcia University. Murcia, Spain
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- ◆ Member of SEPA, Spanish Society of Periodontology and Osseointegration
- ◆ Member of EFP, European Federation of Periodontology
- ◆ Member of AAP, American Academy of Periodontology
- ◆ Member of SEPES, Spanish Society of Stomatological Prosthesis

**Dr. Hernández Cobo, Álvaro**

- ◆ General dentist specialized in periodontics and prosthodontics. Model
- ◆ Degree in Dentistry at the University of Alfonso X el Sabio. Madrid
- ◆ University specialist in implants by the Miguel Hernández University. Elche
- ◆ Master's Degree in Comprehensive Periodontics C.G. Ongoing Training. Professor. Raúl G. Caffesse
- ◆ Master's Degree in Occlusion and Prosthodontics from the European School of Oral Rehabilitation Implant Dentistry and Biomaterials
- ◆ Advanced course in aesthetic mucogingival surgery Dr. Giovanni Zucchelli
- ◆ Advanced multidisciplinary course Dr. Iñaki Gamborena
- ◆ Private practice specializing in periodontics, implants and high complexity oral rehabilitation
- ◆ Collaborating Professor of the Master's Degree in Periodontics Dr. Raúl Caffesse at CG. Education

**Dr. María Martínez, Ana**

- ◆ Specialist in Dentistry
- ◆ Specialist in Periodontics, Implants and Oral Rehabilitation of high complexity in private clinic.
- ◆ PhD in Dentistry at the University of Murcia..
- ◆ Degree in Dentistry from the University of Murcia
- ◆ Professor of Comprehensive Periodontics, Oral Implantology and Implant-Assisted Prosthodonticsat CG Continuing Education
- ◆ Member of SEPA and EFP

# 05

## Structure and Content

The contents of this Advanced Master's Degree have been developed by the different experts on this course, with a clear purpose: to ensure that our students acquire each and every one of the necessary skills to become true experts in this field. The content of this education will allow the student to learn all aspects of the different disciplines involved in this area. A complete and well-structured program that will take you to the highest standards of quality and success.







“

*Our curriculum has been designed with teaching efficiency in so that you learn faster, more efficiently and on a more permanent”*

## Module 1. Basic Periodontics

- 1.1. Anatomy of the Periodontium
  - 1.1.1. Gingivae: Keratinized, Free, Inserted, Interdental
  - 1.1.2. Alveolar Mucosa
  - 1.1.3. Periodontal Ligament
  - 1.1.4. Root Cement
  - 1.1.5. Alveolar Bone
  - 1.1.6. Blood, Lymphatic and Nervous System of the Periodontium
  - 1.1.7. Periodontal Biotypes
  - 1.1.8. Biological Space
- 1.2. Epidemiology of Periodontal Disease
  - 1.2.1. Prevalence of Periodontal Diseases
  - 1.2.2. Risk Factors for Periodontitis
  - 1.2.3. Periodontal Diseases and Their Relation to Systemic Diseases
- 1.3. Microbiology of Periodontal Disease
  - 1.3.1. Biofilm and Dental Calculus Microbiological and Clinical Aspects
  - 1.3.2. Periodontal Infections
  - 1.3.3. Periodontal Pathogens
  - 1.3.4. Bacterial Plaque and Biofilm Disease Onset and Progression
- 1.4. Host-Parasite Interaction
  - 1.4.1. Disease Onset and Progression
  - 1.4.2. Pathogenesis of Periodontitis
  - 1.4.3. Host-Parasite Interaction
- 1.5. Factors Associated with Periodontal Disease
  - 1.5.1. Diabetes Mellitus
  - 1.5.2. Puberty, Pregnancy, Menopause
  - 1.5.3. Tobacco Use



**Module 2. Periodontal Diseases**

- 2.1. Non-Plaque-Induced Inflammatory Gingival Lesions
  - 2.1.1. Gingival Diseases of Bacterial Origin
  - 2.1.2. Gingival Injuries of Viral Origin
  - 2.1.3. Gingival Diseases of Mycotic Origin
  - 2.1.4. Gingival Diseases of Genetic Origin
  - 2.1.5. Gingival Diseases of Systemic Origin
  - 2.1.6. Trauma Lesions
- 2.2. Plaque-Induced Gingival Lesions
  - 2.2.1. Classification of Gingival Diseases
  - 2.2.2. Plaque-Induced Gingivitis
  - 2.2.3. Gingival Diseases Associated with Medications
  - 2.2.4. Gingival Diseases Associated with Systemic Diseases
- 2.3. Chronic Periodontitis
  - 2.3.1. General and Clinical Characteristics
  - 2.3.2. Susceptibility and Progression
  - 2.3.3. Risk Factors
- 2.4. Aggressive Periodontitis
  - 2.4.1. Classification
  - 2.4.2. Etiology and Pathogenesis
  - 2.4.3. Diagnosis
  - 2.4.4. Therapeutic Principles
- 2.5. Ulceronecrotizing Periodontal Disease
  - 2.5.1. General and Clinical Characteristics Classification
  - 2.5.2. Etiology and Pathogenesis
  - 2.5.3. Diagnosis
  - 2.5.4. Therapeutic Principles
- 2.6. Periodontal Abscess
  - 2.6.1. Introduction
  - 2.6.2. Classification
  - 2.6.3. Etiology, Pathogenesis, Histopathology and Microbiology
  - 2.6.4. Diagnosis
  - 2.6.5. Treatment

- 2.7. Endodontic Lesion
  - 2.7.1. Introduction
  - 2.7.2. Classification
  - 2.7.3. Etiology, Pulp Pathogenesis and Microbiology
  - 2.7.4. Diagnosis
  - 2.7.5. Effects of Periodontal Treatment on the Pulp
  - 2.7.6. Treatment
- 2.8. Halitosis

### Module 3. Examination, Diagnosis and Treatment Plan

- 3.1. Anamnesis of the Patient with Periodontal Disease
  - 3.1.1. Dental, Social and Family History. Smoking Status, Hygiene Habits, etc
  - 3.1.2. Oral Hygiene Status
  - 3.1.3. Signs and Symptoms of Periodontal Disease: Gingiva, Periodontal Ligament and Alveolar Bone
- 3.2. Intraoral and Radiographic Examination
  - 3.2.1. Intraoral Examination: Periodontogram
  - 3.2.2. X-Ray Examination: Periapical Radiographic Series
  - 3.2.3. Screening for Periodontal Disease
- 3.3. Diagnosis
  - 3.3.1. Diagnosis of Periodontal Lesions
  - 3.3.2. Gingivitis
  - 3.3.3. Mild Periodontitis
  - 3.3.4. Moderate or Advanced Periodontitis
- 3.4. Treatment Plan
  - 3.4.1. Initial Treatment Plan
  - 3.4.2. Pretherapeutic Prognosis
  - 3.4.3. Re-evaluation
  - 3.4.4. Corrective or Reconstructive Therapy
  - 3.4.5. Maintenance Therapy

### Module 4. Basic Non-Surgical Periodontal Treatment Initial Phase

- 4.1. Mechanical Control of Supragingival Plaque
  - 4.1.1. Plaque Control: Brushing and Interdental Cleaning. Techniques
  - 4.1.2. Instruction and Motivation in Plaque Control
- 4.2. Chemical Control of Supragingival Plaque Use of Antiseptics in Periodontics
  - 4.2.1. Chemical Control Concept, Agents, Mechanisms of Action and Drivers
  - 4.2.2. Chemical Plaque Control Agent Classification
  - 4.2.3. Chlorhexidine: Toxicity, Pigmentation, Mechanism of Action, Clinical Use
- 4.3. Non-Surgical Treatment of Periodontal Disease
  - 4.3.1. Calculus Detection and Removal
  - 4.3.2. Debridement Techniques. Mechanical and Manual
  - 4.3.3. Postoperative Care and Control of Tooth Sensitivity
- 4.4. Pharmacological Treatment. Use of Antibiotics in Periodontics
  - 4.4.1. Principles of Antibiotics Therapy Specific Characteristics and Limitations
  - 4.4.2. Evaluation of Antimicrobials for Periodontal Therapy
- 4.5. Re-evaluation
  - 4.5.1. Interpretation of Results Treatment Evaluation
- 4.6. Periodontal Maintenance
  - 4.6.1. Risk Assessment: Patient, Tooth, Progression
  - 4.6.2. Objectives of Maintenance in Gingivitis and Periodontitis
  - 4.6.3. Continuous Review and Reassessment
  - 4.6.4. Motivation

### Module 5. Surgical Periodontal Treatment Periodontal Surgery Access Therapy

- 5.1. Periodontal Pocket Reduction Techniques
  - 5.1.1. Gingivectomy
  - 5.1.2. Widman's Flap
  - 5.1.3. Modified Widman's Flap
  - 5.1.4. Neumann's Flap
  - 5.1.5. Apical Repositioning Flap
  - 5.1.6. Papilla Preservation Flap
  - 5.1.7. Distal Wedge Flap
  - 5.1.8. Bone Resective Surgery: Osteoplasty and Ostectomy



- 5.2. General Guidelines in Periodontal Surgery
  - 5.2.1. Objectives of Surgical Treatment
  - 5.2.2. Indications for Surgical Treatment
  - 5.2.3. Contraindications for Surgical Treatment
  - 5.2.4. Anesthesia in Periodontal Surgery
  - 5.2.5. Instruments in Periodontal Surgery
  - 5.2.6. Root Surface Treatment
  - 5.2.7. Suture in Periodontal Access Surgery
  - 5.2.8. Periodontal Dressings
  - 5.2.9. Pain Control and Postoperative Care

### Module 6. Periodontal Reconstructive Treatment I: Periodontal Regeneration (RTG)

- 6.1. Basic Principles of Regeneration
  - 6.1.1. Introduction: Reintegration, New Insertion, Regeneration
  - 6.1.2. Indications for Regenerative Periodontal Surgery
  - 6.1.3. Assessment of Periodontal Regeneration: Probing, Radiographic and Histological
  - 6.1.4. Periodontal Wound Healing Regenerative Capabilities
    - 6.1.4.1. Bone Cells
    - 6.1.4.2. Gingival Connective Tissue
    - 6.1.4.3. Periodontal Ligament
    - 6.1.4.4. Epithelium
- 6.2. Regenerative Procedures
  - 6.2.1. Scaling and Root Planing and Flap Surgeries - New Insertion
  - 6.2.2. Grafting - Regeneration Procedures
    - 6.2.2.1. Autogenous Grafts
    - 6.2.2.2. Allografts
    - 6.2.2.3. Xenografts
    - 6.2.2.4. Alloplastic Materials
  - 6.2.3. Root Surface Biomodification
  - 6.2.4. Membranes in Periodontal Regeneration Barrier Function
  - 6.2.5. Amelogenins in Periodontal Regeneration

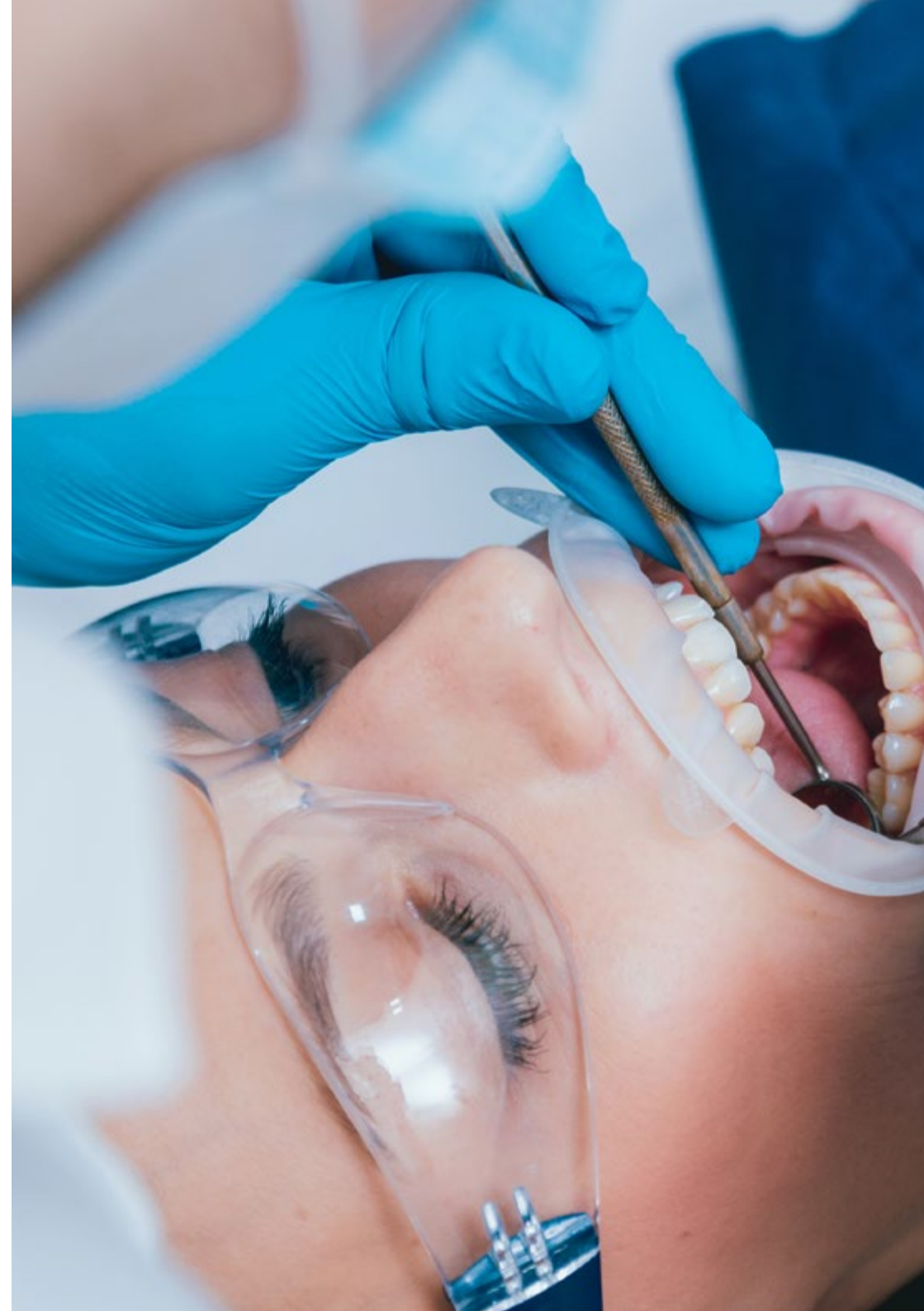
- 6.3. Guided Tissue Regeneration (GTR)
  - 6.3.1. Clinical Application of GTR Intraosseous Defects
  - 6.3.2. GTR Technique Guidelines
    - 6.3.2.1. Design of the Flap
    - 6.3.2.2. Characteristics of the Defect to be Treated
    - 6.3.2.3. Preparation of the Defect
    - 6.3.2.4. Suture of the Membranes
    - 6.3.2.5. Flap Closure
    - 6.3.2.6. Postoperative Indications
  - 6.3.3. Influencing Factors: Patient, Defect, Technique and Healing
  - 6.3.4. Barrier Materials in GTR
  - 6.3.5. Resorbable Membranes

### Module 7. Reconstructive Periodontal Treatment II: Periodontal Surgery Treatment of Furcation Lesions

- 7.1. Furcations Concept and Anatomy
  - 7.1.1. Upper Molars
  - 7.1.2. Upper Premolars
  - 7.1.3. Lower Molars
- 7.2. Diagnosis
  - 7.2.1. Periodontogram
  - 7.2.2. Radiographic Tests
- 7.3. Treatment
  - 7.3.1. Grade I Furcation Lesions
  - 7.3.2. Grade II Furcation Lesions
  - 7.3.3. Grade III Furcation Lesions
  - 7.3.4. Plastics of Furcation
  - 7.3.5. Furcation Tunneling
  - 7.3.6. Radectomy
  - 7.3.7. Regeneration of Furcation Lesions
  - 7.3.8. Extraction
- 7.4. Prognosis of Furcation Lesions

## Module 8. Reconstructive Periodontal Treatment III: Periodontal and Mucogingival Plastic Surgery Basic Principles

- 8.1. Etiopathogenesis and Prevalence of Mucogingival Disorders
  - 8.1.1. Eruption Pattern
  - 8.1.2. Fenestration and Dehiscence
  - 8.1.3. Precipitating and Predisposing Factors
  - 8.1.4. Prevalence of Gingival Recession
- 8.2. Diagnosis and Indications in Mucogingival Surgery
  - 8.2.1. Diagnosing a Mucogingival Problem
  - 8.2.2. Performance Criteria in Pediatric, Young and Adult Patients
- 8.3. Gingival Recession
  - 8.3.1. Classification
- 8.4. Prognosis and Predetermination in Root Canal Veneering
- 8.5. Surgical Technique Selection
  - 8.5.1. Criteria for Choosing a Surgical Technique
  - 8.5.2. Anatomical Factors that Affect Prognosis
  - 8.5.3. Scientific Evidence
  - 8.5.4. Variables to Consider Depending on the Technique
- 8.6. Root Surface Treatment
- 8.7. Amelogenins in Mucogingival Surgery
- 8.8. Surgical Principles in Periodontal Plastic Surgery
  - 8.8.1. Incisions and Bevels
  - 8.8.2. Flaps
- 8.9. Sutures, Surgical Instruments and Postoperative Care
  - 8.9.1. Sutures, Materials, Characteristics, Knots and Suturing Techniques
  - 8.9.2. Surgical Instruments in Mucogingival Surgery
  - 8.9.3. Postoperative Care



**Module 9. Reconstructive Periodontal Treatment IV: Periodontal and Mucogingival Plastic Surgery Autografts and Displaced Flaps for Root Resurfacing**

- 9.1. Epithelialized Free Autograft
  - 9.1.1. Basic Principles
    - 9.1.1.1. Indications and Contraindications
    - 9.1.1.2. Advantages and Disadvantages
    - 9.1.1.3. Phases when Performing Epithelialized Autografts
    - 9.1.1.4. Donor Site Treatment
    - 9.1.1.5. Nourishment and Healing of the Graft and Donor Site
    - 9.1.1.6. Immediate Postoperative Complications
  - 9.1.2. Step-by-Step Technique
    - 9.1.2.1. Prophylactic Autograft
    - 9.1.2.2. Therapeutic Autograft
    - 9.1.2.3. Technique for Obtaining an Epithelialized Graft
    - 9.1.2.4. - *Creeping Attachment*
- 9.2. Displaced Flaps Indications, Advantages and Disadvantages and Technique
  - 9.2.1. Coronal Displaced Flap (Single or Multiple)
  - 9.2.2. Multiple Coronal Displaced Flap with No Offloading
  - 9.2.3. Laterally Displaced and Coronally Advanced Flap
  - 9.2.4. Semilunar Flap
  - 9.2.5. Bipediculated Flap

**Module 10. Periodontal Reconstructive Treatment V: Periodontal and Mucogingival Plastic Surgery Bilaminar techniques for root canal veneering**

- 10.1. Introduction to Bilaminar Techniques
  - 10.1.1. Indications, Contraindications, Advantages, Disadvantages, Classification, Total-Partial Thicknesses
- 10.2. Surgical Techniques for Obtaining Connective Tissue Grafts
  - 10.2.1. Characteristics of the Palatal Fibromucosa
  - 10.2.2. - *Trap-Door* Technique (Three Incisions)
  - 10.2.3. "I" Technique (Two Incisions)
  - 10.2.4. Envelope Technique (One Incision)
  - 10.2.5. De-Epithelialized Epithelial-Connective Tissue Grafting Technique

- 10.3. Connective Tissue Grafts Associated with Displaced Flaps
  - 10.3.1. Coronal Displaced Flap Associated with Subepithelial Connective Tissue Grafting
  - 10.3.2. Multiple Coronal Non-Discharged Displaced Flap Associated with Subepithelial Connective Tissue Grafting
  - 10.3.3. Lateral Displaced Flap Associated with Subepithelial Connective Tissue Grafting
  - 10.3.4. Bipedicled Flap Associated with Subepithelial Connective Tissue Grafting
- 10.4. Pocket or Envelope Connective Tissue Grafting and Tunneling
  - 10.4.1. Indications, Contraindications, Advantages and Disadvantages
  - 10.4.2. Techniques
- 10.5. Biomaterial Substitutes for Autologous Grafts
  - 10.5.1. Soft Tissue Allografts and Xenografts
  - 10.5.2. Indications, Contraindications, Advantages and Disadvantages
  - 10.5.3. Types, Characteristics and Handling

**Module 11. Reconstructive Periodontal Treatment VI: Periodontal and Mucogingival Plastic Surgery Corrective plastic surgery**

- 11.1. Surgical Lengthening of the Dental Crown
  - 11.1.1. Crown Lengthening for Prosthodontic Reasons
  - 11.1.2. Multiple Crown Lengthening for the Treatment of EPA
    - 11.1.2.1. Altered Passive Eruption
    - 11.1.2.2. EPA Treatment
    - 11.1.2.3. Apically Displaced Flap with Vestibular Osteoplasty
    - 11.1.2.4. Apically Displaced Flap with Vestibular Osteoplasty
- 11.2. Frenulum Surgery
  - 11.2.1. Upper Labial Frenulum Surgery
  - 11.2.2. Lower Labial Frenulum Surgery
- 11.3. Vestibular Plastic Surgery Vestibuloplasty
  - 11.3.1. Vestibuloplasty
  - 11.3.2. Vestibuloplasty Associated with Grafting
- 11.4. Treatment of Cervical Abrasions and Caries Associated with Gingival Recession
- 11.5. Treatment of Gingival Clefts
- 11.6. Composite Restorative Treatment in Conjunction with Surgical Root Canal Veneering
- 11.7. Treatment of Alveolar Ridge Defects Using Soft Tissue Augmentation
  - 11.7.1. Etiology and Classification of Alveolar Ridge Defects
  - 11.7.2. Surgical Techniques for Volume and Keratinized Gingival Augmentation

## Module 12. Implant Dentistry and Osseointegration

- 12.1. Historical Review and Generic Terminology of Dental Implants
  - 12.1.1. Evolution of Implant Dentistry up to the 21st Century
  - 12.1.2. Generic Terminology of Dental Implants: Components and Nomenclature
- 12.2. Biology of Osseointegration:
  - 12.2.1. Inflammatory Phase
  - 12.2.2. Proliferative Phase
  - 12.2.3. Maturation Phase
  - 12.2.4. Contact and Remote Osteogenesis
- 12.3. Anatomy in Implant Dentistry
  - 12.3.1. Anatomy of the Upper Jaw
  - 12.3.2. Anatomy of the Mandible
- 12.4. Histology of Bone Tissue, Periodontium and Peri-implant Tissue
- 12.5. Bone Availability in Implant Dentistry
- 12.6. Incision Techniques in Implant Dentistry
  - 12.6.1. Incisions in a Total Edentulous Patient
  - 12.6.2. Incisions in a Partial Edentulous Patient
  - 12.6.3. Incisions in the Aesthetic Sector
  - 12.6.4. Incisions in Bone Guided Regeneration Techniques
  - 12.6.5. *Flapless*
- 12.7. Surgical Instruments Detachment, Separation and Bone Regularization
- 12.8. Drilling Techniques in Implant Dentistry
  - 12.8.1. Drills and Components of the Surgical Trays
  - 12.8.2. Sequential Drilling
  - 12.8.3. Biological Drilling
- 12.9. Single-Stage Implants and Two-stage Implants

## Module 13. Mucogingival Surgery in Implant Dentistry

- 13.1. Morphologic Differences Between Periodontal and Peri-Implant Soft Tissues
  - 13.1.1. Morphological
  - 13.1.2. Vascularization

- 13.2. Influence of Gingival Biotype and Keratinized Gingiva in Implant Dentistry
  - 13.2.1. Fine Biotype in Implant Dentistry
  - 13.2.2. Coarse Biotype in Implant Dentistry
  - 13.2.3. Risk Areas Implant-Soft Tissue Junction
  - 13.2.4. Keratinized Gingiva vs. Mucous
- 13.3. Tissue Reconstruction Simultaneous to Implant Placement
  - 13.3.1. Tissue Reconstruction Simultaneous to Implant Placement immediately After an Extraction
    - 13.3.1.1. Clinical Benefits vs. Biological Limits
  - 13.3.2. Tissue Reconstruction Simultaneous to Implant Placement Delayed After an Extraction
- 13.4. Delayed Tissue Reconstruction is After Placing an Implant
  - 13.4.1. Delayed Tissue Reconstruction After an Implant Placement During Surgical Reopening - Second Phase
  - 13.4.2. Delayed Tissue Reconstruction After Placing an Implant Approach to Aesthetic Implant Failure
- 13.5. Surgical Techniques
  - 13.5.1. Alveolar Ridge Preservation Techniques
    - 13.5.1.1. Collagen Matrix
    - 13.5.1.2. Alveolar Sealing by Free Grafting
    - 13.5.1.3. Alveolar Sealing by Pedicle Grafting of the Palate
    - 13.5.1.4. Temporary Alveolar Sealing (Bio-Col)
    - 13.5.1.5. Combined Soft-Tissue-Bone Graft Tuber-Trephine Technique
  - 13.5.2. Surgical Techniques for Obtaining Keratinized Gingiva Over Implants
    - 13.5.2.1. Palatal to Vestibular Fibromucosa Displacement
    - 13.5.2.2. Interproximal Pedicles
    - 13.5.2.3. Vestibular Pocket Pedicles
    - 13.5.2.4. Free Grafting on Implants
  - 13.5.3. Surgical Techniques to Obtain Connective Tissue Volume
    - 13.5.3.1. Envelope Connective Tissue Grafting
    - 13.5.3.2. Pedicle Graft of the Palate



**Module 14. Peri-Implantitis**

- 14.1. Structural Differences Between Peri-Implant and Periodontal Tissues
  - 14.1.1. Tooth-gum Interface vs. Implant-gum
  - 14.1.2. Connective Tissue
  - 14.1.3. Vascularization
  - 14.1.4. Biological Space
  - 14.1.5. Microbiology
- 14.2. Mucositis
- 14.3. Mucositis vs. Peri-Implantitis
- 14.4. Peri-Implantitis
  - 14.4.1. Risk Factors
- 14.5. Treatment of Peri-Implant Diseases
  - 14.5.1. Mucositis Treatment
  - 14.5.2. Peri-Implantitis Treatment
  - 14.5.3. Non-Surgical Treatment
  - 14.5.4. Surgical Management
- 14.6. Maintenance of Peri-Implant Diseases

**Module 15. Periodontics and Endodontics**

- 15.1. Interactions Between Pulpal Disease and Periodontal Disease
- 15.2. Anatomic Considerations
  - 15.2.1. Dentinal Tubules
  - 15.2.2. Periodontium
  - 15.2.3. Disease Interactions
- 15.3. Etiology
  - 15.3.1. Bacteria
  - 15.3.2. Fungi
  - 15.3.3. Virus
  - 15.3.4. Other Pathogens: Intrinsic and Extrinsic
- 15.4. Contributing Factors
  - 15.4.1. Incorrect Endodontic Treatment
  - 15.4.2. Incorrect Restorations

- 15.4.3. Trauma
  - 15.4.3.1. Enamel Fracture
  - 15.4.3.2. Crown Fractures without Pulp Exposure
  - 15.4.3.3. Crown Fractures with Pulp Exposure
  - 15.4.3.4. Corono-Radicular Fracture
  - 15.4.3.5. Root Fracture
  - 15.4.3.6. Dislocation
  - 15.4.3.7. Avulsion
- 15.4.4. Perforation
- 15.4.5. Dental Malformation
- 15.5. Differential Diagnosis
  - 15.5.1. Endodontic Lesions
  - 15.5.2. Periodontal Injuries
    - 15.5.3. Combined Injuries
      - 15.5.3.1. Primary Endodontic Lesions with Secondary Periodontal Involvement
      - 15.5.3.2. Primary Periodontal Lesions with Secondary Periodontal Involvement
      - 15.5.3.3. Concomitant Lesion: Independent or Communicated
- 15.6. Prognosis

**Module 16. Periodontics, Orthodontics and Occlusion**

- 16.1. Indications and Contraindications for Orthodontic Treatment in the Periodontal Patient
  - 16.1.1. Indications
  - 16.1.2. Contraindications
  - 16.1.3. Orthodontic Planning in the Periodontal Patient
- 16.2. Advantages and Disadvantages of Orthodontic Forces in the Patient with Controlled Periodontitis
- 16.3. Biological Considerations
  - 16.3.1. Periodontal and Bone Response to Normal Function
  - 16.3.2. Structure and Function of the Periodontal Ligament
  - 16.3.3. Response of the Periodontal Ligament and Alveolar Bone to Maintained Orthodontic Forces
  - 16.3.4. Biological Control of Tooth Movement - Bioelectrical and Pressure-Strain Theory
  - 16.3.5. Orthodontic Basics: Center of Resistance, Center of Rotation, Controlled Forces, Force-Transfer, Anchorage

- 16.4. Orthodontic Tooth Movement in Patients with Periodontal Tissue Destruction
  - 16.4.1. Considerations
  - 16.4.2. Tooth Movement into Infraosseous Pockets
  - 16.4.3. Types of Orthodontic Movements and their Influence on Periodontal Teeth
- 16.5. Symptomatology of Trauma due to Occlusion
  - 16.5.1. Angular Bone Defects
  - 16.5.2. Increased Tooth Mobility
- 16.6. Treatment of Increased Tooth Mobility
  - 16.6.1. Classification According to the Degree of Mobility, Periodontal Ligament Status and Alveolar Bone Status
  - 16.6.2. Treatment of Tooth Mobility

### Module 17. Laser in Periodontics

- 17.1. Introduction to the Laser
  - 17.1.1. History of the Laser
  - 17.1.2. Low-Power Laser
  - 17.1.3. High-Power of Surgical Laser
  - 17.1.4. Laser Safety
- 17.2. Types of Laser Features
  - 17.2.1. Diode Laser
  - 17.2.2. Erbium Laser
- 17.3. Indications and Applications of Lasers in Periodontics
  - 17.3.1. As a Stand-Alone Treatment
  - 17.3.2. As a Complement to Conventional Treatment
- 17.4. Laser Therapy - Photobiomodulation

### Module 18. Maintenance of Periodontal and Implant Dentistry Patients

- 18.1. Maintenance of Periodontal Patients
  - 18.1.1. Periodontal Maintenance in Patients with Gingivitis
  - 18.1.2. Periodontal Maintenance in Patients with Periodontitis
  - 18.1.3. Objectives of Periodontal Maintenance Therapy
  - 18.1.4. Risk Assessment

- 18.1.5. Periodontal Maintenance Therapy in the Clinic
  - 18.1.5.1. Examination, Reassessment and Diagnosis
  - 18.1.5.2. Motivation, Reinstruction and Instrumentation
  - 18.1.5.3. Site-Specific Treatment
  - 18.1.5.4. Establishing Periodic Maintenance Intervals
- 18.2. Maintenance of Implant Patients
  - 18.2.1. Maintenance of Patients with Dental Implants
  - 18.2.2. Objectives of Implant Dentistry Maintenance Therapy
  - 18.2.3. Diagnosis of the Peri-Implant Problem
    - 18.2.3.1. Bleeding, Suppuration, Probing Depth, Radiographic Interpretation, Mobility
  - 18.2.4. Preventive and Therapeutic Strategies

### Module 19. Modern Concept of Endodontics

- 19.1. Reviewing the Concept of Dentinal Canal, Cementary Canal and Pulp Stump, Pulp Cap, or Differentiated Apical Periodontium
  - 19.1.1. Dentinal Canal
  - 19.1.2. Cementary Canal
  - 19.1.3. Pulp Stump, Pulp Cap, or Differentiated Apical Periodontium
- 19.2. Reviewing the Concept of Root Cementum, Apical Foramen, Periodontal Membrane, and Alveolar Bone
  - 19.2.1. Cementodentinal Junction
  - 19.2.2. Root Apex
  - 19.2.3. Root Cement
  - 19.2.4. Apical Foramen
  - 19.2.5. Periodontal Membrane

### Module 20. Diagnosis, Treatment Plan and Dental Anesthesia

- 20.1. Clinical Examination and Differential Diagnosis of Pulpal Pain
  - 20.1.1. Introduction
  - 20.1.2. Odontogenic Pain
  - 20.1.3. Pulp and Periapical Diagnosis
  - 20.1.4. Pulpal Pathology
  - 20.1.5. Periapical Pathology

- 20.2. Conventional Radiological Exploration
  - 20.2.1. Occlusal and Panoramic X-Rays
  - 20.2.2. Interproximal and Periapical X-Rays
  - 20.2.3. Structure Identification
- 20.3. Computerized Dental Radiography CBCT
  - 20.3.1. Introduction
  - 20.3.2. Diagnosis in Dentistry
  - 20.3.3. CBCT
    - 20.3.3.1. Features of a CBCT
    - 20.3.3.2. Advantages of a CBCT
    - 20.3.3.3. Radiological Dose of a CBCT
    - 20.3.3.4. Voxels
    - 20.3.3.5. Limitations of a CBCT
  - 20.3.4. CBCT in Endodontics
    - 20.3.4.1. Determination and Localization of Ducts
    - 20.3.4.2. Periapical Lesions
    - 20.3.4.3. Dental Trauma
    - 20.3.4.4. Root Resorptions
    - 20.3.4.5. Pre-Surgery Planning
    - 20.3.4.6. Diagnosis of Failures and Complications
    - 20.3.4.7. The Use of CBCT
- 20.4. Treating Emergencies in Endodontics
  - 20.4.1. Reversible and Irreversible Pulpitis
  - 20.4.2. Necrosis
  - 20.4.3. Acute Refractory Apical Periodontitis and Apical Abscess
- 20.5. Anesthetizing the Tooth to be Endodontized
  - 20.5.1. Intraligament Anesthesia
  - 20.5.2. Intraosseous Anesthesia and Self-Injected Anesthesia
  - 20.5.3. Locoregional Anesthesia
  - 20.5.4. Topical and Periapical Anesthesia

## Module 21. Opening, Location, and Morphology of the Root Canal System

- 21.1. Access Cavities in Uniradicular Teeth and Access to the Root Canal System
  - 21.1.1. Opening in the Central Incisors, Lateral Incisors, and Upper Canines
  - 21.1.2. Opening in the Central Incisors, Lateral Incisors, and Lower Canines
  - 21.1.3. Opening in Upper and Lower Premolars
- 21.2. Access Cavities in Molars and Access to the Root Canal System
  - 21.2.1. Opening in Upper Molars
  - 21.2.2. Opening in Lower Molars
- 21.3. Determination of Root Canal Characteristics
  - 21.3.1. Canal Localization
  - 21.3.2. Canal Permeabilization
  - 21.3.3. Extraction and Cleaning of the Root Pulp
  - 21.3.4. Determination of Working Length or Conductometry
- 21.4. The Rubber Dam
  - 21.4.1. Staples, Staple Holder, Drill, and Dam Holder
  - 21.4.2. The Different Types of Rubber Dam
  - 21.4.3. Placement Techniques

## Module 22. Current protocol in canal irrigation

- 22.1. Treatment Considerations on Irrigation in Vital and Necrotic Teeth (the Biofilm Concept)
  - 22.1.1. Biopulpectomy Concept and Fundamental Principles
  - 22.1.2. Necropulpectomy Concept and Fundamental Principles
- 22.2. Considerations on Irrigating Substances
  - 22.2.1. Objectives of Irrigation
  - 22.2.2. Fundamentals to Follow with Irrigants
  - 22.2.3. Physical-Chemical Properties of Irrigants
- 22.3. Irrigation Solutions and Irrigation Methods
  - 22.3.1. Sodium Hypochlorite, Chlorhexidine and Others
  - 22.3.2. Simple Irrigation, with Aspiration, with Vibration or with Cavitation

- 22.4. Removing the Smear Layer and Performing the Apical Permeabilization (PATENCY)
  - 22.4.1. Methods of Removing the Smear Layer. When and Why
  - 22.4.2. Methods of Permeabilizing. When and Why

### Module 23. Biomechanical Preparation of the Root Canal

- 23.1. New Concepts in the Design of Nickel Titanium (NiTi)
  - 23.1.1. Superelasticity and Shape Memory
  - 23.1.2. Morphological Characteristics of NiTi Rotary Instruments
  - 23.1.3. Rotary Files Manual
- 23.2. Protocols for Manual Canal Preparation
  - 23.2.1. Manual with Pulsation and Traction Maneuvers Only
  - 23.2.2. Associated with the Use of Gates Burs
  - 23.2.3. Manual Associated with the use of the Batt Milling Cutter
  - 23.2.4. Manual Associated with Ultrasounds
  - 23.2.5. Manual Associated with Titanium Files
- 23.3. Protocols for Manual and Mechanical Canal Preparation
  - 23.3.1. Standardization Rules
  - 23.3.2. Characteristics of Rotary Systems
  - 23.3.3. Manual Technique Associated with Mechanics
  - 23.3.4. Initial Canal Permeabilization
  - 23.3.5. Ductometry
  - 23.3.6. Oval or Laminated Ducts
  - 23.3.7. Working System
- 23.4. Protocols in Mechanical Canal Preparation
  - 23.4.1. Mechanical Technique for Canal Preparation
  - 23.4.2. Hypothesis: Types and Characteristics
  - 23.4.3. Handling of ducts according to their difficulty
  - 23.4.4. Clinical Criteria for Canal Instrumentation
- 23.5. Causes and Prevention in Rotary Instruments Breakage
  - 23.5.1. Causes of Instrument Breakage
  - 23.5.2. Clinical Causes
  - 23.5.3. Metallographic Causes
  - 23.5.4. Prevention of Instrument Breakage
  - 23.5.5. Mandatory Standards

### Module 24. Root canal system sealing

- 24.1. One or More Sessions in Endodontics
  - 24.1.1. Compilation of the Surgical Procedure
  - 24.1.2. Requirements That Must Be Met in Order to Perform Endodontics in One Session
  - 24.1.3. Drying and Dentin Preparation Prior to Sealing
- 24.2. Canal Sealing Materials
  - 24.2.1. Gutta-Percha Tips
  - 24.2.2. Classic Sealing Cements
  - 24.2.3. Sealing Biocements
- 24.3. Technique of Obturation with Gutta-Percha Tips (Lateral Condensation). Part I. General Conditions
  - 24.3.1. Gutta-Percha Tips and Ergonomics in the Technique
  - 24.3.2. Types of Spacers and Calipers
  - 24.3.3. Placing Sealing Cement
  - 24.3.4. Working System
- 24.4. Technique of Obturation with Gutta-Percha Tips (Lateral Condensation). Part II. Specific Considerations
  - 24.4.1. Specifications on the Lateral Condensation Technique
  - 24.4.2. Combined Technique of Lateral and Vertical Condensation with Heat
  - 24.4.3. Apical Sealing with Lateral Condensation
  - 24.4.4. Management of Occlusion after Endodontics
- 24.5. Materials and Techniques of Obturation with Thermoplasticized Gutta-Percha (Vertical Condensation with Hot Gutta-Percha)
  - 24.5.1. Introduction
  - 24.5.2. Considerations on the Classic Schilder Technique
  - 24.5.3. Considerations on the "McSpadden" Technique and the "Hybrid Tagger Technique"
  - 24.5.4. Considerations on Buchanan's Continuous Wave Condensation Technique
  - 24.5.5. Considerations on the Technique of Direct Injection of Thermoplasticized Gutta-Percha
  - 24.5.6. Considerations on the Technique of Canal Obturation with Resin Cement Sealant after Acid Etching of the Canal Walls



- 24.6. Materials and Techniques for Obturation with Thermoplasticized Gutta-percha (Thermafil® System and Others)
  - 24.6.1. Considerations on the Technique of Direct Injection of Thermoplasticized Gutta-percha with Previous MTA Apical Plug
  - 24.6.2. Technical Considerations of the Thermafil and/or Guttacore® System
  - 24.6.3. Technical Considerations for the GuttaFlow System
  - 24.6.4. Considerations on the Use of Expandable Polymer Tips
- 24.7. Apical Sealing as the Objective of Treatment. Scarring and Apical Remodeling
  - 24.7.1. Technical and Biological Techniques of Obturation
  - 24.7.2. Concepts of Overextension, Overfilling and Underfilling
  - 24.7.3. The Concept of Permeabilization and Apical Puff
  - 24.7.4. Sealing and Obturation of the Two Coronary Thirds of the Canal and of the Occlusal Cavity
  - 24.7.5. Remodeling of the Root Apex
- 24.8. Postoperative Pain Management and Final Patient Information
  - 24.8.1. Inflammatory Reactivation
  - 24.8.2. What to Do in Case of Inflammatory Reactivation or "Flare-Up"
  - 24.8.3. What Can Be Done to Prevent Inflammatory Reactivation or "Flare-Up"?
  - 24.8.4. Is the Tooth Milled to Free it from Occlusion or is it Left as it Is?

### Module 25. Use of calcium hydroxide and its ions in modern Dentistry

- 25.1. Is Calcium Hydroxide an Obsolete Product?
  - 25.1.1. Calcium Hydroxide in Solution, Suspension, and Paste
  - 25.1.2. Calcium Hydroxide Combined with Other Substances
  - 25.1.3. Calcium Hydroxide as Cement
- 25.2. Methods of Pulp Prevention in Young Molars and Other Teeth
  - 25.2.1. Indirect Pulp Protection
  - 25.2.2. Direct Pulp Protection
  - 25.2.3. Pulp Curettage, Pulpotomy or Partial Pulpectomy
- 25.3. Biomaterials as a Current Evolution to Calcium Hydroxide
  - 25.3.1. Biomaterials as Calcium Ion Generators
  - 25.3.2. Use and handling of biomaterials

- 25.4. Uses of Calcium Hydroxide to Treat Pathologies and Other Intraduct Medications
  - 25.4.1. Calcium Hydroxide Used as an Antibacterial
  - 25.4.2. Calcium Hydroxide Used as a Repair Inducer
  - 25.4.3. Calcium Hydroxide Used as a Sealer
  - 25.4.4. Intra-duct Medication and its Role
- 25.5. Uses of Biomaterials to Solve the Same Pathologies
  - 25.5.1. Biomaterials Used as Pulp Protectors
  - 25.5.2. Biomaterials Used as Repair Cements
  - 25.5.3. Biomaterials Used as Sealing Materials

### Module 26. Dental trauma Diagnosis, Treatment and Prevention

- 26.1. Trauma Patient
  - 26.1.1. Epidemiology, Etiology, and Prevention
  - 26.1.2. Injury-Related Questionnaire
  - 26.1.3. Clinical Examination
  - 26.1.4. Radiographical Examination
- 26.2. Permanent Tooth Trauma
  - 26.2.1. Periodontal Injuries
  - 26.2.2. Concussion
  - 26.2.3. Subluxation
  - 26.2.4. Intrusion
  - 26.2.5. Lateral Luxation
  - 26.2.6. Extrusion
  - 26.2.7. Avulsion
  - 26.2.8. Alveolar Fracture
  - 26.2.9. Dental Structure Injury
  - 26.2.10. Crown Fracture
  - 26.2.11. Root-Crown Fracture
  - 26.2.12. Root Fracture
  - 26.2.13. Gum Injury
  - 26.2.14. Laceration
  - 26.2.15. Contusion
  - 26.2.16. Laceration
  - 26.2.17. Abrasion

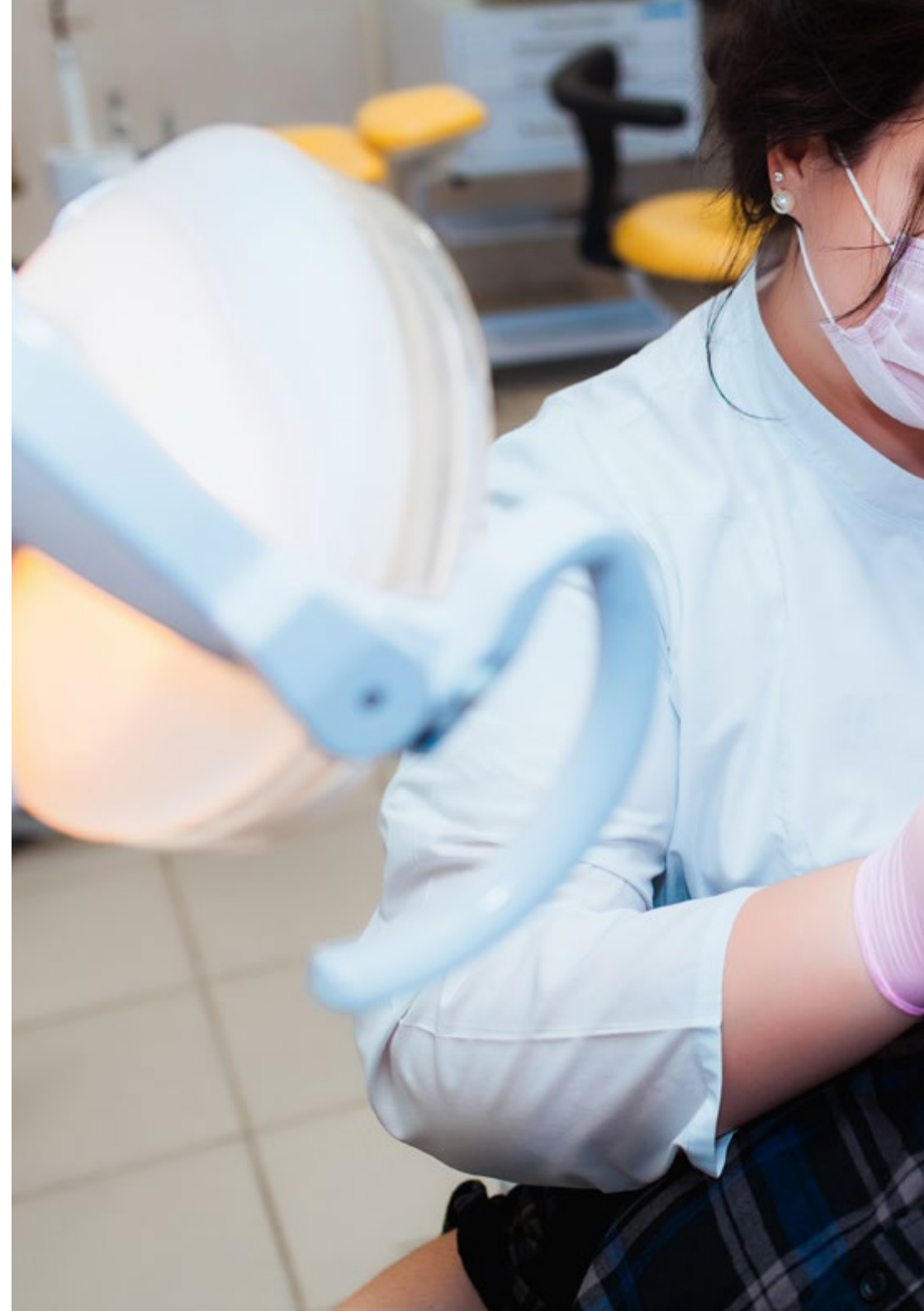
- 26.3. Primary Tooth Trauma
  - 26.3.1. General Considerations in DT in Primary Teeth
  - 26.3.2. Clinical Evaluation and Treatment of Tooth Structure in Primary Teeth
  - 26.3.3. Crown Fractures Without Pulp Exposure
  - 26.3.4. Crown Fractures with Pulp Exposure
  - 26.3.5. Root-Crown Fracture
  - 26.3.6. Root Fracture
  - 26.3.7. Clinical Evaluation and Treatment of the Supporting Structure in Primary Dentition
  - 26.3.8. Concussion and Subluxation
  - 26.3.9. Intrusion
  - 26.3.10. Lateral Luxation
  - 26.3.11. Extrusion
  - 26.3.12. Avulsion
  - 26.3.13. Alveolar Fracture

#### Module 27. Endodontic treatment of deciduous teeth

- 27.1. Considerations on Deciduous and Young Permanent Teeth
- 27.2. Pulp therapy for deciduous and permanent teeth diagnosed with healthy pulp or reversible pulpitis
  - 27.2.1. Indirect Pulp Coating
  - 27.2.2. Direct Pulp Coating
  - 27.2.3. Pulpotomy
- 27.3. Pulp therapy for deciduous and permanent teeth diagnosed with irreversible pulpitis or pulp necrosis
  - 27.3.1. Root Canal Treatment (Pulpectomy)
  - 27.3.2. Apex Formation
- 27.4. Regenerative Therapy. The Role of Stem Cells

#### Module 28. Pulpo-Periodontal Pathology and Endoperiodontal Relationships

- 28.1. Differential Diagnosis between Endodontic and Periodontal Lesions
  - 28.1.1. General Considerations
  - 28.1.2. The Pulpo-Periodontal Communication Pathways
  - 28.1.3. Symptomatology and diagnosis of endo-periodontal syndrome
  - 28.1.4. Classification of Endoperiodontal Lesions





- 28.2. Endoperiodontal Lesions due to Root Abnormalities. Part I
  - 28.2.1. General Considerations
  - 28.2.2. Combined Endo-periodontal Lesions: Diagnosis
  - 28.2.3. Combined Endo-periodontal Lesions: Treatment
- 28.3. Endoperiodontal Lesions due to Root Abnormalities. Part II
  - 28.3.1. Pure Periodontal Lesions: Diagnosis
  - 28.3.2. Pure Periodontal Lesions: Treatment
  - 28.3.3. Conclusions
  - 28.3.4. Other Treatment Options
- 28.4. Cracked Tooth Syndrome and Root Bursting. Part I
  - 28.4.1. Crown Fracture without Pulp Involvement
  - 28.4.2. Crown Fracture with Pulp Involvement
  - 28.4.3. Crown Fracture with Pulp and Periodontal Involvement
  - 28.4.4. Root Burst in an Endodontically Treated Tooth
- 28.5. Cracked Tooth Syndrome and Root Bursting. Part II
  - 28.5.1. Root Fracture due to Excess Pressure or Root Brittleness
  - 28.5.2. Root Fracture due to Excessive Canal Widening
  - 28.5.3. Fracture due to Excessive Occlusal Contact or Overloading
- 28.6. Endoperiodontal Damage due to Accidents and Trauma
  - 28.6.1. Crown-Root Fractures
  - 28.6.2. Vertical and Horizontal Root Fractures
  - 28.6.3. Contusion, Dental Luxation and Fracture of the Alveolar Process
  - 28.6.4. Treatment of alveolar-dental lesions
- 28.7. Endoperiodontal Lesions due to Resorption. Part I
  - 28.7.1. Resorption due to Pressure
  - 28.7.2. Resorption due to Pulp Inflammation or Internal Resorption
  - 28.7.3. Non-Perforated Internal Resorption
  - 28.7.4. Perforated Internal Resorption
  - 28.7.5. Resorption due to Periodontal Inflammation
  - 28.7.6. Inflammatory
  - 28.7.7. Replacement, by Substitution or Ankylosis
  - 28.7.8. Cervical Invasive

- 28.8. Endoperiodontal Lesions due to Resorption. Part II
  - 28.8.1. Invasive Cervical Resorption in Endodontically Treated Teeth
  - 28.8.2. Invasive Cervical Resorption without Pulp Involvement
  - 28.8.3. Etiology and Prognosis of Cervical Resorption
  - 28.8.4. Materials Used for the Treatment of Cervical Resorption
- 28.9. Periodontal Problems Related to Endodontic Surgery in Radicectomies, Hemisections, and Bicuspidations
  - 28.9.1. Radisectomy or Root Amputation
  - 28.9.2. Hemisection
  - 28.9.3. Bicuspidization

## Module 29. Retreatments

- 29.1. What is the Cause of Failure of an Endodontically Treated Tooth?
  - 29.1.1. Persistent or Secondary Endodontic Infections
  - 29.1.2. Microbiology in the Root Filling Phase
- 29.2. Diagnosing Endodontic Failure
  - 29.2.1. Clinical Evaluation of Root Canal Treatment
  - 29.2.2. Radiographic Evaluation of Root Canal Treatment
  - 29.2.3. Acceptable, Questionable, and Radiographically Unacceptable Root Canal Treatment
  - 29.2.4. Diagnosing Apical Periodontitis with Cone Beam Volumetric Tomography (CBCT)
  - 29.2.5. The Role of the Optical Microscope when We Need to Retreat a Tooth
  - 29.2.6. Integration of Evaluative Factors in Determining the Outcome of Root Canal Treatment
- 29.3. Predisposing Factors for Post-Treatment Disease
  - 29.3.1. Preoperative Factors that May Influence the Outcome of Root Canal Treatment
  - 29.3.2. Intraoperative Factors that May Influence the Outcome of Root Canal Treatment
  - 29.3.3. Postoperative Factors that May Influence the Outcome of Root Canal Treatment

- 29.4. Non-Surgical Clinical Retreatment
  - 29.4.1. Preparing the access cavity
  - 29.4.2. The use of ultrasound
  - 29.4.3. Crown removal
  - 29.4.4. Removal of bolts and/or posts
  - 29.4.5. Rotosonic Vibration
  - 29.4.6. Ultrasound
  - 29.4.7. Mechanical Option
  - 29.4.8. Access to the Root Third
  - 29.4.9. Gutta-Percha Solvents
  - 29.4.10. Gutta-percha removal techniques
  - 29.4.11. Hedstroem Filing Technique
  - 29.4.12. Techniques with Rotary Files
  - 29.4.13. Removal via ultrasound
  - 29.4.14. Removal via heat
  - 29.4.15. Removal via preheated instruments
  - 29.4.16. Removal with files, solvents, and paper cones
  - 29.4.17. Paste removal
  - 29.4.18. Single cone Gutta-percha removal with solid stem
  - 29.4.19. Silver tip removal
  - 29.4.20. Removal of broken instruments

## Module 30. Endodontic Problems and Complications in Endodontics

- 30.1. Uncommon Root Anatomy in Different Teeth of the Dental Arch
  - 30.1.1. Variations in the Root Anatomy of the Maxillary Incisors and Canines
  - 30.1.2. Variations in the Root Anatomy of the Maxillary Premolars
  - 30.1.3. Variations in the Root Anatomy of the Mandibular Incisors and Canines
  - 30.1.4. Variations in the Root Anatomy of the Mandibular Premolars



- 30.2. Etiopathogenesis of Large Periapical Lesions and their Treatment in a Single Session
  - 30.2.1. Anatomopathological diagnosis of granuloma
  - 30.2.2. Anatomopathological Diagnosis of Cysts. Odontogenic Cysts
  - 30.2.3. Bacteriological Considerations for Endodontic Treatment of Large Periapical Lesions in a single Session
  - 30.2.4. Clinical Considerations for Performing Endodontic Treatment of Large Periapical Lesions in a Single Session
  - 30.2.5. Clinical considerations on the Management of Fistulous Processes Associated with a Large Periapical Lesion
- 30.3. Treatment of Large Periapical Lesions in Multiple Sessions
  - 30.3.1. Differential Diagnosis, Chamber Opening, Permeabilization, Cleaning, Disinfection, Apical Permeabilization, and Canal Drying
  - 30.3.2. Intra-duct Medication
  - 30.3.3. Temporary Crown Obutration (To close or not to close, that is the question)
  - 30.3.4. Catheterization of the Fistulous Tract or Perforation of the Granuloma and Blind Scraping of the Apical Lesion of the Tooth
  - 30.3.5. Guidelines for a Regulated Approach to a Large Periapical Lesion
- 30.4. Evolution in the Treatment of Large Periapical Lesions in Several Sessions
  - 30.4.1. Positive Evolution and Treatment Control
  - 30.4.2. Uncertain Evolution and Treatment Control
  - 30.4.3. Negative Evolution and Treatment Control
  - 30.4.4. Considerations on the Cause of Failure in the Conservative Treatment of Large Periapical Lesions
  - 30.4.5. Clinical Considerations on Fistulous Processes in Relation to the Tooth of Origin
- 30.5. Location, Origin, and Management of Fistulous Processes
  - 30.5.1. Fistulous Tracts Originating from the Anterosuperior Group
  - 30.5.2. Fistulous Tracts Originating from the Maxillary Molars and Premolars
  - 30.5.3. Fistulous Tracts Originating from the Anteroinferior Group
  - 30.5.4. Fistulous Tracts Originating from the Mandibular Molars and Premolars
  - 30.5.5. Cutaneous Fistulas of Dental Origin
- 30.6. The Problems of Maxillary First and Second Molars in Endodontic Treatment. The 4th Canal
  - 30.6.1. Anatomical Considerations of the Maxillary First Molars of Children or Adolescents
  - 30.6.2. Anatomical Considerations of Adult Maxillary First Molars
  - 30.6.3. The Mesio-Buccal Root in the Maxillary First Molars. The 4th Canal or Mesio-Vesticulo-Palatine Canal and the 5th Canal
    - 30.6.3.1. Ways to Detect the 4th Canal: See it Bleeding
    - 30.6.3.2. Ways to Detect the 4th Canal: See its Entrance
    - 30.6.3.3. Ways to Detect the 4th Canal: With a Manual File
    - 30.6.3.4. Ways to Detect the 4th Canal: Tactilely With Magnified Vision With the Optical Microscope
    - 30.6.3.5. Ways to Detect the 4th Canal: With a Mechanical File
  - 30.6.4. The Disto-Buccal Root in the Maxillary First Molars
  - 30.6.5. The Palatal Root in the Maxillary First Molars
- 30.7. The Problems of Mandibular First and Second Molars in Endodontic Treatment. 3 Ducts in the Mesial Root or the Intermediate Canal
  - 30.7.1. Anatomical Considerations of the Mandibular First Molars of Children or Adolescents
  - 30.7.2. Anatomical Considerations of Adult Mandibular First Molars
    - 30.7.2.1. The Mesial Root in the Mandibular First Molars
    - 30.7.2.2. The Distal Root in the Mandibular First Molars
  - 30.7.3. Mandibular Molars with 5 Ducts
  - 30.7.4. Anatomical Considerations of Adult Mandibular Second Molars
    - 30.7.4.1. C-Shaped Canal
    - 30.7.4.2. Molars with a Single Canal
  - 30.7.5. Anatomical Considerations of the Mandibular Wisdom Teeth

### Module 31. Surgery and Microsurgery in Endodontics

- 31.1. Surgical or Non-Surgical Retreatment. Decision Making
  - 31.1.1. Endodontic Surgery
  - 31.1.2. Non-Surgical Retreatment
  - 31.1.3. Surgical Technique

- 31.2. Basic Instruments
  - 31.2.1. Scanning Tray
  - 31.2.2. Anesthesia Tray
  - 31.2.3. Rotary Instruments
  - 31.2.4. Types of Endodontic Files
- 31.3. Simple incisions for access to the operative site
  - 31.3.1. Incision Through the Gingival Sulcus
  - 31.3.2. Gingival Flap
  - 31.3.3. Triangular Flap
  - 31.3.4. Trapezoidal Flap
  - 31.3.5. Modified Semilunar Incision
  - 31.3.6. Semilunar Incision
- 31.4. Managing the flap and controlling bleeding
  - 31.4.1. Design of the Flap
  - 31.4.2. Surgical Complication
  - 31.4.3. General Considerations
  - 31.4.4. Presurgical Considerations for Controlling Bleeding
  - 31.4.5. Surgical Considerations for Controlling Bleeding
  - 31.4.6. Local Anesthesia
  - 31.4.7. Design and Elevation of the Flap
- 31.5. Techniques and Materials Used for Retropreparation and Retro-Obturation
  - 31.5.1. Mineral Trioxide Aggregate (MTA)
  - 31.5.2. Endodontic Application of MTA
  - 31.5.3. Paraendodontic Surgery
  - 31.5.4. Properties of MTA
  - 31.5.5. Biodentine

- 31.6. Ultrasonic Tips and Optical Microscope as Essential Equipment
  - 31.6.1. Types of Tips
  - 31.6.2. Optical Microscope
  - 31.6.3. Surgical Microscope
  - 31.6.4. Appropriate Use of Instruments
  - 31.6.5. Ultrasonic Devices and Designed Tips
- 31.7. The Maxillary Sinus and Other Anatomical Structures With Which We Can Interact
  - 31.7.1. Neighboring Anatomical Structures
  - 31.7.2. Maxillary Sinus
  - 31.7.3. Inferior Alveolar Nerve
  - 31.7.4. Mental Foramen
- 31.8. Medication and Recommendations for Optimal Postoperative Care

## Module 32. Making Decisions Between Root Canal Treatment, Retreatment, Apical Surgery, or Implant

- 32.1. Treat the Tooth or Extract It?
  - 32.1.1. Reasons to Extract a Tooth
  - 32.1.2. Factors to Consider for Maintaining a Tooth?
- 32.2. Interrelation between Endodontics and Implants
  - 32.2.1. Endodontic-Implant Pathology
  - 32.2.2. Classification of Endodontic-Implant Pathology
  - 32.2.3. Diagnosis of Endodontic-Implant Pathology
  - 32.2.4. Treatment of Endodontic-Implant Pathology
  - 32.2.5. Prevention of Endodontic-Implant Pathology

### Module 33. Endodontics in elderly patients

- 33.1. Involution of Dental Structures and Regressive Pulp Alterations. Physiologic and pathologic pulp canal obliteration
  - 33.1.1. Physiological Calcium Degeneration
  - 33.1.2. Pathologic Calcium Degeneration
- 33.2. Calcium Metamorphosis, Dystrophic Calcification or Calcification of the Pulp of the Canal due to Trauma
  - 33.2.1. No Dental Pathology and Crown Discoloration
  - 33.2.2. Periapical Pathology associated with Calcification of the Canal without Discoloration of the Tooth
  - 33.2.3. Periapical Pathology associated with Calcification of the Canal and Discoloration of the Tooth
  - 33.2.4. Clinical Management of Canal Calcification and Useful Treatment Considerations

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*A complete training that will take you through the knowledge you need to compete among the best”*



06

# 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.

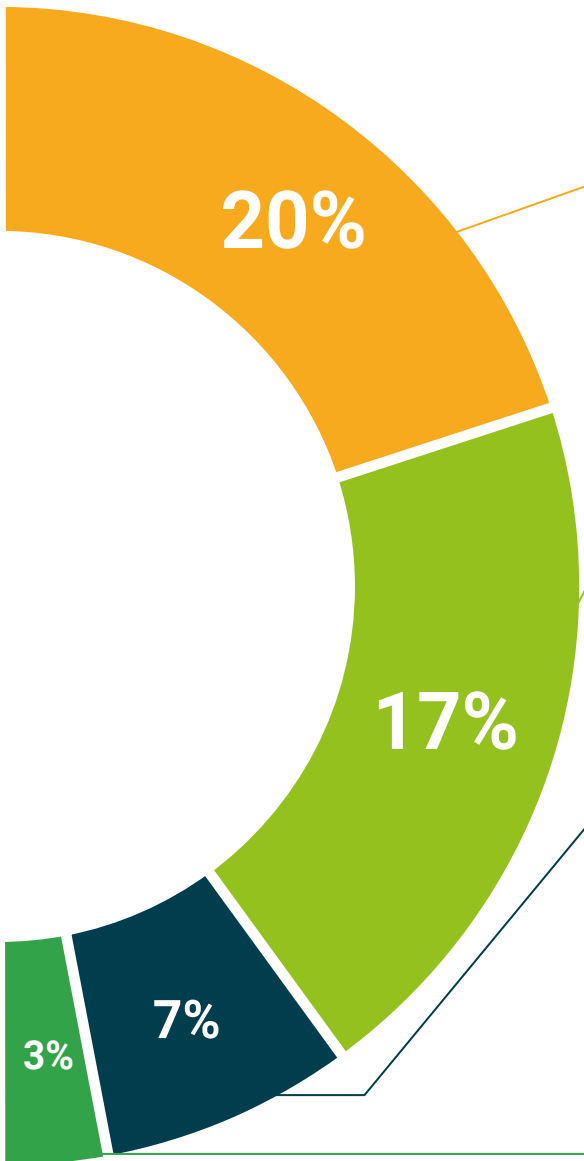
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



### 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.



07

# Certificate

The Advanced Master's Degree in Endodontics, Periodontics and Oral Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to an Advanced Master's Degree's issued by TECH Global University.



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

This program will allow you to obtain your **Advanced Master's Degree diploma in Endodontics, Periodontics and Oral Surgery** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra (**official bulletin**). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

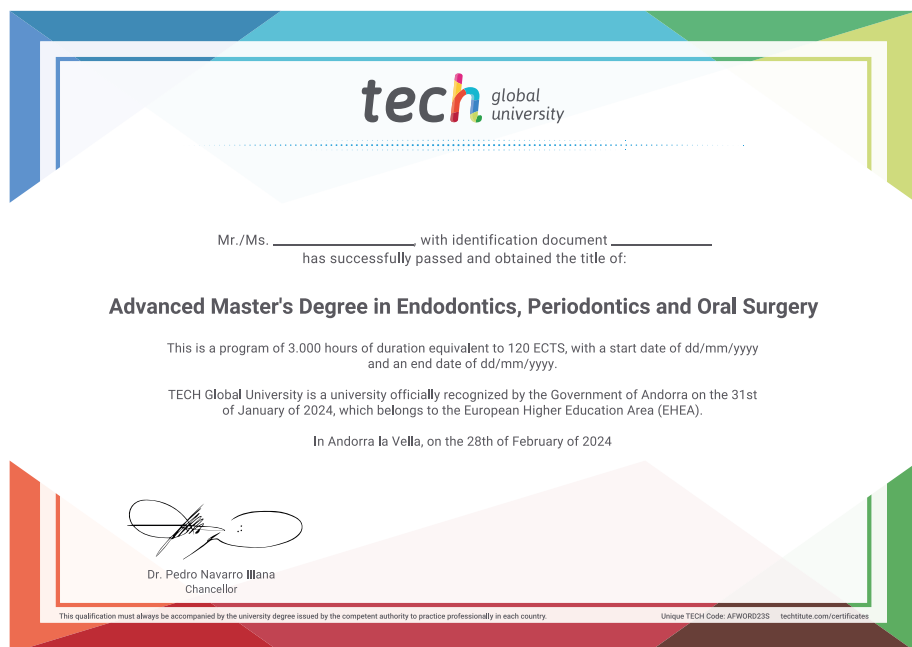
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Advanced Master's Degree in Endodontics, Periodontics and Oral Surgery**

Modality: **online**

Duration: **2 years**

Accreditation: **120 ECTS**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.





## Advanced Master's Degree

Endodontics, Periodontics and Oral Surgery

- » Modality: online
- » Duration: 2 years
- » Certificate: TECH Global University
- » Credits: 120 ECTS
- » Schedule: at your own pace
- » Exams: online

# Advanced Master's Degree Endodontics, Periodontics and Oral Surgery

