OROFACIAL REGENERATIVE THERAPY
and
ORAL IMPLANTOLOGY
The Eduardo Anitua Foundation, University Institute for Regenerative Medicine and Oral Implantology (UIRMI), offers a total immersion in our multidisciplinary team. The objective is the student’s high qualification in regenerative medicine and oral implantology from biomedical research.

It is a professional master, in an international, clinical and research environment (equivalent to the American fellowship). In addition to the biosanitary profile, the student will also acquire the training to develop their professional work in oral implant rehabilitation.

During the two intense years of training, the student will obtain the knowledge in the basis of the regenerative therapy, expertise in the planning with complete digital flow.

**WHY TO CHOOSE THIS MASTER?**

*The institute has the recognition of the largest Spanish scientific production in the last ASEBIO report*, being a benchmark in research at an international level.

To obtain a profile that differentiates you in the labour market and that extends your possibilities: *clinician, researcher and teacher.*

*Innovative clinical profile: implantology implemented with regenerative medicine, sleep medicine and oral pathology.*

*International environment and total immersion method “fellowship type”.*

**APPLICANT’S PROFILE**

*Odontology, Medicine and Surgery degree* (Specialist in Maxillofacial surgery or in stomatology).

*Linguistic profile: fluid communication in English is essential. Knowledge of other languages will be positively valued.*

*“Titles must be approved or in process of approval in Spain/European Union.”*
Basic information:

Sp | En
MP Type
120 credits

PLACE:
University Institute for Regenerative Medicine and Oral Implantology (UIRMI)

CALENDAR:
PRE-ENROLLMENT:
· Till 27th September 2019

MASTER DURATION:
· October 2019 – July 2020
· October 2020 – July 2021

TEACHING TYPE:
Face-to-face

PRICE:
20,000 €

CONTACT
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DOCUMENTATION REQUESTED:
· CV (PDF format)
· Video explaining the reasons why you want to study the master

Due to the multidisciplinary nature of this Master, the career opportunities are also multiple:

Directly into the clinical practice and/or research in the area of regenerative medicine and oral surgery.

Incorporation into the biosanitary/ biotechnological and/or pharmaceutical sector as a researcher in public and private research centers, being able to participate in R&D&i projects in biopharmaceutical companies, science and technology parks.

PRACTICAL WORKSHOPS

Internship will be carried out in the different departments of the UIRMI Institute and Eduardo Anitua Clinic.

· Diagnosis and planning
· Surgeries
· Dental Prosthesis Laboratory with digital flow
· Sleep Unit
· Oral Surgery Unit
· Research project in the R&D+i department
SUMMARY

AREAS OF KNOWLEDGE

1. INTRODUCTION TO REGENERATIVE MEDICINE
   2. PROTEINS AND GROWTH FACTORS
   3. SCAFFOLDS
   4. CELLS
   5. BIOLOGICAL THERAPIES BASED ON HEMATIC DERIVATIVES
   6. EFFICACY AND BIOSAFETY IN REGENERATIVE THERAPY

1. DESIGN, STATISTICS AND DATA PROCESSING
   2. BASIC AND ADVANCED STATISTICAL TESTS
   3. SYSTEMATIC REVIEW OF STUDIES AND META-ANALYSES
   4. MULTIVARIATE ANALYSIS: REGRESSION MODELS
   5. CALCULATION AND INTERPRETATION OF BASIC EPIDEMIOLOGICAL RATES: PREVALENCE, RISKS AND RATES.
   6. QUANTITATIVE DIAGNOSTIC TESTS
   7. ASSOCIATION AND IMPACT MEASURES
   8. DESIGN, ANALYSIS AND INTERPRETATION OF STUDIES
   9. ADVANCED BIBLIOGRAPHICAL SEARCHES

1. ESSENTIAL AREAS OF KNOWLEDGE
   2. SURGICAL BASIS
   3. THE IMPLANT. TYPES
   4. PLANNING IN IMPLANTOLOGY
   5. IMPLANT SURGERY 1
   6. PRE-SURGICAL CARE
   7. IMPLANT SURGERY 2. ADVANCED TECHNIQUES
   8. IMPLANT SURGERY 3.

1. IMPLANT-SUPPORTED PROSTHESIS 1. FUNDAMENTS
   2. IMPLANT-SUPPORTED PROSTHESIS 2
   3. IMPLANT-SUPPORTED PROSTHESIS 3
   4. SLEEP DISORDERS AND ODONTOLOGY
1. INTRODUCTION TO REGENERATIVE MEDICINE

1.1. Definition and historical perspective
1.2. Central axis of regenerative medicine: cells, scaffolds and growth factors.
1.3. Other strategies: tissue engineering, gene therapy and nanotechnology

2. PROTEINS AND GROWTH FACTORS

2.1. Definition and mechanism of action.
2.2. Descriptive classification.
2.3. Presence of growth factors in platelets and plasma
2.4. Potential uses of growth factors in medicine

3. SCAFFOLDS

3.1. Definition and functions.
3.2. Descriptive classification: natural versus synthetic.
3.3. Brief summary of the state of the art in relation to the use of scaffolds in medicine.
3.4. 3D/4D Bioprinting
3.5. Scaffolds from our own biological fluids like blood

4. CELLS

4.1. Definition and functions.
4.2. Types of cells.
4.3. Stem cells: biological types and capacities.
4.4. Mecanotransduction.
4.5. Uses of cell therapy in medicine

5. BIOLOGICAL THERAPIES BASED ON HEMATIC DERIVATIVES

5.1. Blood components.
5.2. Plasma as a source of signaling molecules.
5.3. Role of platelets in tissue regeneration.
5.4. Composition and formulations of hematic derivatives.
5.5. Therapeutic applications.
   5.5.1 Post-extraction socket treatment
   5.5.2 Bone, cartilage
   5.5.3 Skin, mucous membranes
   5.5.4 Other areas of medicine

6. EFFICACY AND BIOSAFETY IN REGENERATIVE THERAPY

7. OROFACIAL REGENERATIVE THERAPY and ORAL IMPLANTOLOGY
1. Design, statistics and data processing

2. Basic and advanced statistical tests

3. Systematic review of studies and meta-analyses

4. Multivariate analysis: regression models

5. Calculation and interpretation of basic epidemiological rates: prevalence, risks and rates.

6. Quantitative diagnostic tests

7. Association and impact measures

8. Design, analysis and interpretation of studies

9. Advanced bibliographical searches
1. ESSENTIAL AREAS OF KNOWLEDGE

1.1. History of implantology.
1.2. Medical history.
1.3. Anatomy oral implantology.
1.4. Bone: biotypes.
1.5. Mucosa: biotypes.
1.7. Implant-tooth differences.

2. SURGICAL FUNDAMENTS

2.1. Pre-operative.
2.2. Basic surgical principles: Asepsis.
2.3. Surgical field preparation.
2.4. Basic surgical instruments.

3. THE IMPLANT. TYPES:

3.1. Designs.
3.2. Surfaces, clinical importance.
3.3. Materials.

4. PLANNING IN IMPLANTOLOGY

4.1. The patient susceptible to implant treatment.
4.2. Assessment of the area prior to exodoncy.
4.3. Diagnostic planning 1
   4.3.1. Documentation.
   4.3.2. Records.
   4.3.3. Photography.
4.4. Diagnostic planning 2
   4.4.1. Diagnosis by image. Intraoral Rx. Orthopantomographies. TAC.
   4.4.2. Assessment of bone quantity and quality
       Modifications of the techniques according to quantity and quality of bone.
   4.4.3. Digital Flow
4.5. Provisional prosthesis.
OOROFACIAL REGENERATIVE THERAPY and ORAL IMPLANTOLOGY

TEACHING GUIDE

5.1. Bases of biological drilling.
5.2. Biological seal.
    Periodontal tissues-periimplant tissues.
5.3. Incisions: types and indications. Flaps types.
5.4. Stability: primary and secondary.
5.5. Sutures types.
    5.6.1 Medical.
    5.6.2 Surgery dependents.

6.1. Pre-surgical physical care.
6.2. Post-surgical physical care.
6.3. Pre and post-surgical medication: antibiotics, NSAIDs, analgesics and others.

7.1. Extra-short implant placement technique.
    7.2. Expansion technique.
    7.3. Alveolar ridge split technique.
    7.4. Particulated bone graft technique
    7.5. Block graft technique
    7.6. Sinus lift technique: lateral and transcrestal access

8.1. Immediate implant placement after tooth extraction.
8.2. Immediate implant placement after implant extraction.
8.3. Implant placement at one or two surgical phases.
8.4. Immediate or delayed loading.
    8.5 Second implant surgery.
    8.6. Implants in a esthetic area.
    The importance of the technique.
    8.7. Implants in posterior sectors.
    The importance of functionality.
    8.8. Orthodontic treatment and implants.
    8.9. Safe oral and implantology medicine.
    8.10. Periodontal surgery in implant treatments
    8.10.1 Pre-treatment assessment.
    8.10.2 Decision making for scheduling periodontal techniques.
    8.10.3 Periodontal surgery techniques.
    8.10.4 Management of periimplant soft tissues.
1. IMPLANT-SUPPORTED PROSTHESIS 1. FUNDAMENTS

1.1. Prosthodontics in implantology. Terminology and basic concepts.
1.1.1. Retention/Support.
1.1.2. Cemented/Screwed.
1.1.3. Passivity/Hermetism.
1.1.4. Abutments/Materials.
1.1.5. Cast/CadCam.
1.1.6. Prosthetic attachments.

1.2. Implant-supported prosthesis types.

1.3. The importance in communicating with the prosthesis laboratory.

2. IMPLANT-SUPPORTED PROSTHESIS 2

2.1. Implant-supported prosthesis printing techniques and materials.

2.2. Prosthesis in a total maxillar/mandibular edentulous.

2.3. Prosthesis in the posterior maxillar/mandibular sector.

2.4. Prosthesis in the maxillar/mandibular esthetic sector.

2.5. Occlusion in implant-supported prosthesis.

2.6. The importance of occlusal sealing.

2.7. Biomechanics in implant-supported prosthesis.

3. IMPLANT-SUPPORTED PROSTHESIS 3

3.1. Printing techniques and impression materials in implant-supported prosthesis.

3.2. Techniques and materials for provisional implants. Steps and laboratory technology.

3.3. Techniques and materials for the definitive prosthesis. Steps and laboratory technology.

4. SLEEP DISORDERS AND ODONTOLOGY

4.1. The role of the dentist in sleep apnea.

4.2. The importance of occlusion in the detection of sleep apnea.

4.3. Sleep apnea diagnostic methods.

FACULTY

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