



University Diploma in Periodontology (30 ECTS)

*This Postgraduate program is divided into 4 obligatory modules, four days each, that will be held in Paris, and an exam module to be presented at the University delivering the Diploma.
One Year Program Leads to University Diploma in Periodontology – 30 Ects*

Modules 1 & 2

Histology & Anatomy of the Periodontium, Classification & Treatments of Periodontal Diseases

The healthy periodontium

- Gingiva
- Periodontal ligament
- Root cement
- Alveolar bone
- Blood supply
- Lymphatic system of the periodontium
- Nerve supply to the periodontium

Definition and classifications of periodontal diseases

- Gingival diseases
- Plaque-induced gingival diseases
- Non plaque-induced gingival diseases
- Chronic periodontitis
- Aggressive periodontitis
- Periodontitis as a manifestation of a systemic disease
- Necrotizing periodontal diseases
- Periodontal abscess
- Periodontitis associated with endodontic lesions
- Congenital or acquired deformities

Epidemiology of periodontal diseases

- Basic terminology
 - o Incidence and prevalence
 - o Age and gender
 - o Patterns of progression
- Epidemiological risk factors of periodontitis
- Epidemiology of plaque-induced periodontal diseases
- Epidemiology of gingival recession
- Epidemiology of peri-implant diseases

Etiology and pathogenesis of periodontal diseases

- Development of pathogenic bacteria
- Periodontal pathogens (microorganisms)
 - o Immunology
 - o Non-specific immune response
 - o Specific immune response
 - o Direct microbe-induced tissue destruction
- Genetic polymorphisms
- Environmental factors associated with host susceptibility
- Biomechanical aspects

Systemic illness and its effect on the periodontium

- Metabolic and endocrine disorders
- Hematological disorders
- Congenital and hereditary general disorders
- Virus infection
- Fungal infection
- Mucocutaneous disorders
- Gastrointestinal disorders
- Drug-induced periodontal manifestations

Histopathology of periodontitis

- Gingival inflammation (gingivitis)
- The initial lesion
- The early lesion
- The established lesion
- The advanced lesion

Microbiology of periodontitis

- Dental plaque as a biofilm
 - o Definition, presence and composition of microbial biofilms
 - o Stages of microbial biofilm development
 - o Microbial communication in biofilms
 - o Presence of microbial biofilms
 - o Composition and structure of oral biofilms
 - o IPeriodontal pathogens

- Actinobacillus actinomycetemcomitans
- Porphyromonas gingivalis
- Prevotella intermedia
- Tannerella forsythensis
- Treponema denticola

Diagnostic microbiology

- Relevance of microbial etiology of periodontitis for the dental practice
 - Validity, sensitivity, specificity, cross reactions, predictive value
 - Microscopy
 - Bacteria cultivation
- Bacteriological DNA analysis
- Immunological assays
- Enzyme assays
- Biological susceptibility
 - Polymorphonuclear (PMN) leucocytes
 - Antibody titer
 - Monocyte reaction to lipopolysaccharides
- Components of sulcus fluid
 - Arachidonic acid metabolites
 - Cytokines
 - Collagenases

Diagnostic procedure for periodontitis patients

- Symptoms of periodontitis
- Clinical findings
- Extraoral findings
- Intraoral findings
- Functional findings
- Periodontal findings
 - Clinical periimplant diagnosis
 - Mucogingival findings
 - Oral hygiene
 - Pocket depth measurement
 - Measurement of the level of attachment
- Possible errors in periodontal probing
- Assessment of furcation involvement
- Assessment of tooth mobility
- Sounding
- Conventional periodontal diagnosis and its limitations
- Progress in traditional diagnostic procedures

- Pressure-calibrated, standardized probes
- Digital radiography

- Radiological findings
 - Panoramic x-ray
 - Dental film
 - Computerized tomography

Treatment planning

Treatment schedule

- Pre-phase – assessment of systemic health, oral hygiene
- Phase 1 – causal, antimicrobial, anti-infective treatment
- Phase 2 – surgical, corrective treatment
- Phase 3 – life-long prophylactic and anti-infective treatment

Plaque control at home

- Mechanical procedures
 - Toothbrushes
 - Brushing techniques
 - Hygiene of interdental spaces
 - Toothpastes

- Chemical procedures
 - Chlorhexidine
 - Volatile oils
 - Cetylpyridinium chloride (CPC)
 - Triclosan
 - Metal ions

Periodontal debridement

- Initial treatment
 - Hand instruments
 - Mechanical instruments and their use
 - Sonic scalers
 - Ultrasonic scalers
 - Technique using ultrasound-activated particles
 - Air abrasion polishing technique
 - Laser

- Antimicrobial photodynamic therapy (aPDT)

- Establishment of patient capability of oral hygiene
- Correction of iatrogenic stimuli

- Hand instruments for scaling and root planing
- Sickle scalers
- Universal curettes
- Area-specific curettes
- Manual sharpening of hand instruments
- Machine sharpening of hand instruments
- Options and limits of closed treatment

Concomitant anti-infective therapy – use of antibiotics in the treatment of periodontitis

Antibiotics – susceptibility and resistance of bacteria

Systemic versus local antimicrobial treatment

Workshop 1

- Oral microbiology and pathogenesis
- Decision as to whether treatment is required
- Use of devices supporting diagnosis, and their interpretation
- Clinical exercises associated with diagnosis and the documentation of findings
- Supragingival and subgingival tooth cleaning in a phantom including presentation explanation of instruments and sharpening course
- Classification of periodontal diseases
- Development of a treatment concept depending on the individual diagnosis
- Case presentation – decision-making

Workshop 2

- Basic principles of digital photography
- Practical exercises for intraoral photography
- Camera equipment
- Sources of light and lighting systems
- Cheek retractor systems and photographic mirrors
- Photo status
- Extraoral photography
- Documentation of dental treatment process
- Photography of soft tissues documentation of mucosal changes
- Intraoral camera
- Digital systems
- Quality analysis

Modules 3 & 4

Interdisciplinary Relationship, Periodontal surgeries, resective periodontology

Prostho - Perio - Relationship

- Biological Width
- Functional Crown Lengthening
- Alternative Passive Eruption
- Aesthetic Crown Lengthening
- Pontic Design
- Prosthetic Design around Implants

Endo - Perio - Relationship

- Pulp influence on the periodontium
- Manifestation of endodontic lesions in the periodontium
- Effects of endodontic treatment on the periodontium
- External root resorption
- Influence of periodontal disease and periodontal treatment on pulp
- Endoperiodontal lesions

Periodontal wound healing

- Periodontal regeneration
- Periodontal repair
- Periodontal reattachment

- Complex factors influencing periodontal wound healing
 - Mitogenic factors
 - Signal transduction
 - Extracellular matrix

- Conditioning of the root surface
 - Regeneration of gingival connective tissue
 - New formation of cementum
 - Osseous remodeling
 - Restoration of the periodontium with fibers inserting into the root surface

External/internal gingivectomy

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|---------------------|-----------------------|
| - Indications | - Approach |
| - Contraindications | - Follow-up treatment |
| - Instruments | - Prognosis |

Gingivoplasty

- Indications
- Contraindications
- Instruments
- Approach
- Electrotome gingivoplasty
- Follow-up treatment
- Prognosis

Apical advancement flap

- Biologic width
- Surgical crown lengthening
- Indications
- Contraindications
- Instruments
- Approach, osteoplasty
- Follow-up treatment
- Prognosis

Treatment of furcation defects

- Formation of multi-rooted teeth (furcation)
- Classifications
- Morphological basic terminology
- Structures in the area of furcation
- Treatment of furcations – aids to decision-making
- Resective treatment of furcations
- Root amputation and hemisection
- Premolarization
- Tunneling
- Regenerative treatment of furcations using guided tissue regeneration (GTR)

Workshop 3

- Surgical techniques in dental surgery - sutures
- Practical endodontic treatment – lecture and practical training
- Options and limits for dental restoration from an endodontic point of view

Workshop 4

Periodontological and surgical suture course

- Incisions, flap designs and various suture techniques

Exercises in surgical resective periodontitis therapy techniques on a pig's jaw

- Mucosal flaps
- Mucoperiosteal flaps
- Gingivectomy techniques
- Osteoplasty
- Ostectomy
- Distal excisions

Flap surgery

- Indications
- Contraindications
- Instruments
- Approach – various techniques
- Approach - modified Widman flap
- Follow-up treatment
- Prognosis

Distal wedge

- Indications
- Contraindications
- Instruments
- Approach
- Follow-up treatment
- Prognosis