



Postgraduate Diploma in Periodontology

Our Postgraduate Diploma in Periodontology program is the ideal course for dentists looking to introduce more advanced periodontal and implant treatment within their daily practice; This Program offers to dentists across the world, the opportunity to acquire intensive knowledge of the basic principles of periodontal and peri-implant diseases, the skills for non-surgical & surgical therapies, the management of Prosthodontic-Periodontal & Endodontic-Periodontal Relationships and the fundamentals of diagnosis and treatment planning in implant dentistry. A modular structure was adopted, taking into consideration time constraints and job responsibilities of dentists. The course is divided into 6 obligatory modules, 2 days each that leads to a *University Diploma in Periodontology*

Modules 1

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

- Old and new classifications

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

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 Periodontal pathogens

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

Diagnostic microbiology

- Relevance of microbial etiology of periodontitis for the dental practice
 - o Validity, sensitivity, specificity, cross reactions, predictive value
 - o Microscopy
 - o 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 Xx-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
- Care of instruments
- 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

Modules 2

Periodontal surgeries, resective and regenerative periodontology

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

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

Gingivoplasty

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

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

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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)

Regenerative Periodontal Therapy

- Defect anatomy
- Regenerative materials and techniques, overview and indication



- Withdrawal and processing of autogenic bone
- Root conditioning and bone replacement materials
- Autografts, allografts, xenografts
- Coronally displaced mucosal and mucoperiosteal flap surgery
- Guided Tissue Regeneration (GTR)
- Guided Bone Regeneration (GBR)
- Selection of normally used membranes
- Membrane placement
- Regeneration with growth and differentiation factors and proteins
- Regeneration using Emdogain
- Regenerative treatment of furcations using guided tissue regeneration (GTR)
- Adjuvant antibiotic therapy

Modules 3

Management of soft tissue and aesthetic aspects in periodontology and implantology

Plastic and esthetic periodontal surgery

- Definition, discourse and differentiation of plastic periodontal surgery procedures
- Free mucosal graft
 - o Epithelialized and deepithelialized grafts
 - o Graft harvesting instruments
 - o Thickness and shaping of grafts
 - o Advantages and disadvantages of free mucosal grafts
- Connective tissue grafts
 - o Methods for connective tissue graft harvesting
 - o Nelson's technique
- Rotation flaps
- Advancement flaps

Periodontal recession defects

- Etiology of recession defects
- Classifications
- Surgical techniques for coverage of recession defects
 - Free soft tissue graft
 - Free mucosal graft
 - Free connective tissue graft
 - Pedicled advancement flap
 - Lateral advancement flap
 - Coronal advancement flap
 - Semilunar flap
 - Acellular dental matrix
 - Enamel matrix proteins



Papillary defects

- Loss of papillary height – classification
- Possible solutions - conservative, prosthodontic, or surgical approach

Increasing keratinized tissue

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

Socket/ridge preservation

- Wound healing following tooth extraction
- Factors influencing healing of alveolar bone
- Bone atrophy following extraction
- Minimal invasive extraction methods
- Loss of soft tissue following extraction
- Immediate implantation
- Delayed immediate implantation
- Alveolar augmentation using autologous bone and bone replacement Materials

Regenerative procedures and periodontal plastic surgery

- Microsurgery techniques, augmentations
- Single and multiple recession defects

Exercises in regenerative and plastic periodontal surgery on a pig's jaw

- Coronally advanced flaps
- Laterally advanced flaps
- Tunneling techniques
- Connective tissue grafts
- Biomaterials

Module 4

Interdisciplinary Relationship

Prostho - Perio - Relationship

- Biological Width
- Functional Crown Lengthening
- Alternative Passive Eruption
- Aesthetic Crown Lengthening
- Indications
- Contraindications
- Instruments
- Approach, osteoplasty
- Follow-up treatment
- Prognosis



- 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
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Implants for successfully treated periodontitis patients

- Criteria for diagnosis and decision-making
- Treatment concepts and results
- Recall – management of implant problems
- Periimplantitis
- Etiopathogenesis
- Diagnosis
- Prevalence
- Early periimplantitis
- Risk factors
- Therapy
- Decontamination
- Implantoplasty
- Soft tissue situation
- Preservative treatment

Periodontology and specialized orthodontics

- Specialized orthodontic tooth movement in adults following periodontitis
- Periodontal aspects in specialized orthodontic treatment of adults
- Orthodontic surgery
- Fibrotomy
- Frenotomy
- Elimination of gingival invaginations (clefts)
- Gingivectomy

Module 5

Laser in periodontology

- Gum depigmentation
- Sulcus decontamination
- Crown lengthening
- gingivectomy

Requirement and Exam