FINAL PROFESSIONAL BDS
SYLLABUS & COURSES

Prosthodontics
Operative Dentistry
Oral Maxillofacial Surgery
Orthodontics + Dental Radiology
Implantology
Gerodontology
Practice management
Tutorials and seminars
Case presentations

Clinical Assignments
Prosthodontics
Operative dentistry
- Conservative dentistry
- Crown & Bridge work
- Endodontics
- Paedodontics
Oral and Maxillofacial Surgery including exodontia
Orthodontics and Radiology

PROSTHODONTICS
Introduction to scope of prosthodontics
Applied oral anatomy and physiology
Medical history
General and local examination
Diagnosis, prognosis, and treatment planning
Review of dental materials employed in prosthodontics

Partial Dentures
Classification
Indications
Advantages
Hazards
Components
Use of surveyors in partial denture construction
Designing partial dentures
Tooth preparation for partial dentures
Patient instructions
Complete dentures
- General principles and guidelines
- Patients' expectations and limitations of prostodontist
- Patient assessment
- Indications for pre-prosthetic surgery
- Impression techniques and materials for primary and secondary impressions
- Maxillo-mandibular relations
- Use of face-bow record
- Selection of teeth
- Trial
- Insertion
- Post-insertion complaints and follow-up
- Patient instructions
- Laboratory procedures at various stages

Over-dentures
Immediate dentures
Repairs, refining and rebasing of prostheses
Prosthetics for dental implants
Maxillofacial prostheses

Recommended Books
- Boucher's prosthodontics
- Atlas of complete denture by John Hobbirk
- Fenn's clinical dental prosthesis
- McCracken's removable partial denture


Clinical Assignments
Clinical cases for partial and complete denture construction
OPERATIVE DENTISTRY

Conservative Dentistry
Introduction to operative dentistry
History taking and record keeping
Reasons for restoration of teeth
Clinical diagnosis and pathology of disease
Application of radiography in operative dentistry
Instruments and their usage
Operator's environment and self protection
Material used in restorative dentistry
Field isolation
Black's classification
Principles of cavity preparations in class I-IV cavities
Fissure sealant and fissure restorations
Direct tooth colored restorations
Amalgam restorations
Temporary restorations
Dentinal pins and posts
Restoration of endodontically-treated teeth
Dental trauma and its restorative management
Treatment of surface lesion
Causes and management of tooth discoloration
Direct filling gold, cast metal restorations and porcelain restorations
Maintenance of restoration in long term
Common complication / failures of restorative dentistry.

Clinical Assignments
Manage the patients in all type of restoration including pins and posts, principles of cavity preparations in practical, clinical study and handling of the restorative materials.

Recommended Books
Operative dentistry by M.A. Marzouk
Contemporary operative by JB Summit
Art and science of operative Dentistry by Sturtevant
Restorative dentistry by P Jacobson
Crown & Bridge

Terminology
indications & contraindication of crown & bridge
Types of crowns, indications, contraindications, advantages + disadvantages
Diagnosis & treatment planning
Basic principles of preparation
Porcelain jacket crowns – indications & contraindications, clinical assessment and steps of preparation
Porcelain fused to Metal crown: indications and contraindications, clinical assessment, step of preparation
Full crowns: indications & contraindications, clinical assessment steps of preparation
Soft tissue management, electro surgery application
Post & core crowns, impression & impression materials,
Bridges: indication & contraindication & types of bridges, pontic designs, and basic principles, clinical procedures, resin bonded bridges
Laboratory technique for crown & bridge, porcelain veneer, inlays onlays, occlusion and causes of bridge failures

Clinical Assignments
Preparation of jacket crown & laboratory formation of crown
Preparation for bridge and its laboratory preparation
Insertions of the crowns and bridges.

Recommended Books
Inlays, crowns and bridges by Colin R Cowel
Introduction to metal ceramic technology by W. Partick Naylor
Contemporary fixed prosthesis by Stephen F. Rosenstiel
Fundamentals of tooth preparations by Jams C. Kessler
Smith BGN. Planning and Making Crowns and Bridges. 3rd edition, 1998
Schillingburg HT, Jacobi R and Brackett SE. Fundamentals of Tooth Preparation. 1988

Endodontics
Introduction and scope of endodontics
Normal anatomy of dental pulp
Pulpal reaction to caries, operative procedures and materials
Diagnosis and differential diagnosis of pulp disorders
Assessment for endodontic therapy
Role of radiography in endodontic
Endodontics microbiology, prevention and infection control in dental clinic
Sterilization in endodontics
Application of rubber dam
Endodontics instrument and standardization
Therapeutic agents used in Endodontics
Management of pain and anxiety, local anesthesia in endodontics
Endodontic emergencies and their management
Pulp capping, apexification
Selection of cases, and treatment planning stages
Rationale of endodontic treatment
Access opening and anatomy of root canals
Anatomical variations in individual tooth negotiation and preparation of root canals
Shaping and irrigation of root canal system
Endodontic cement scalars
Obscuration techniques
Traumatic injuries and their management
Restoration of endodontically-treated teeth
Non vital bleaching of teeth
Over denture preparation of root treated teeth
Single visit Endodontics
Management of broken instrument in the root canal
Perforations and their management
Endo-perio lesions and their management
Surgical endodontics: a piecemeal and root resections (hemisection / bisection) retrograde fillings and materials used for root end fillings
Re-implantation and transplantation
Endodontic implants and their significance
Root resorption: types and management
Methods of removal of old fillings and posts from the root canals
Endodontic failure and treatment

Clinical Assignments
Endodontic treatment of anterior teeth
Restoration of root treated teeth (placement of pins and posts)
Management of anterior trauma
Management of endo-perio lesions.

Recommended Books
Jacobsen PH Grossman’s Endodontics
Endodontics by Gutman
Clinical endodontics BY L. Transtod.
Ingle’s endodontics
Pedodontics
Introduction, rationale, objective and future of pedodontics
Prenatal counseling
Child behavior and management
General concept of growth and development
Dentition: its development and speech
Development distribution in dentition and surrounding structure
Importance of 1st permanent molar
Diagnosis and treatment planning
Medical conditions specific to children
Management of anxiety and pain
Periodontal health care, periodontal disease in children, tooth brushing, oral habits
Dental caries and child response, rampant caries, endodontics, prevention of dental caries
Modification of cavity preparation in pedodontics
Restorative materials in pedodontics
Pit and fissure sealants
Fluoride and its role in tooth development
Hereditary disorders in pedodontics
Traumatology, injury to primary and permanent teeth
Pulp capping, pulp therapy for primary and young permanent teeth
Pulpotomy, endodontics of primary teeth, radiology
Space maintenance in primary dentition, crowning consideration in pedodontics
Management of handicapped children
Long-term dental care child patient
Common complications faced in children.

Clinical Assignments
Conservative pediatric dentistry
Management of anterior trauma in children

Recommended Books
Pedodontics by Fenn
Pediatric dentistry by J.Welbury
Pediatric dentistry by Kennedy

University of Health Sciences, Lahore
ORAL & MAXILLOFACIAL SURGERY

Basic principles of oral and maxillofacial surgery:
Introduction to oral and maxillofacial surgery
Scope of oral and maxillofacial surgery
Sterilization & cross infection control
Patient assessment
Informed consent
Patient confidentiality
Instruments & armamentarium
Principles of flap design, sutures & suturing techniques
Techniques of biopsy & cytology
Use of anti-microbials in oral and maxillofacial surgery
Radiography for oral and maxillofacial surgery
Use of imaging modalities in oral and maxillofacial surgery
Treatment planning in oral and maxillofacial surgery
Local anesthesia & conscious sedation:
Indications & contraindications in oral surgery
Pharmacology of common agents used for local anesthesia & conscious sedation
Surgical anatomy of the trigeminal ncrve
Injection techniques for administering local anesthesia in oral surgery
Complications of local anesthesia
Pharmacology of common agents conscious sedation & relative analgesia
Techniques for administering conscious sedation & relative analgesia
Complications of conscious sedation analgesia & their management.

General anesthesia
Assessment of fitness for anesthesia including knowledge of normal & abnormal cardiovascular & respiratory signs,
The principles of premedication, anesthetic & analgesia medication
Techniques for endotracheal intubation, tracheostomy & criocothyroidotomy
Postoperative patient care after general anesthesia.

Exodontia
Indications & contraindications
Forcep extractions
Principles of use of surgical elevators
Surgical extraction
Complications of tooth extraction.

Impacted cuspids & wisdom teeth
Terminology
Classification systems for impacted teeth
Radiographic assessment
Indications & contraindications for removal
Surgical techniques
Complications

Jaw cysts
Classification of jaw cysts including odontogenic & non-odontogenic cysts,
Salient histopathologic features of common jaw cysts
Diagnosis
Treatment of jaw cysts (marsupialization and enucleation).
Periapical surgery
Terminology
Indications & contraindications
Surgical techniques
Complications.

Perprosthetic surgery
Terminology
Goals of preprosthetic surgery
Specific hard and soft tissue procedures including their indications & advantages, complications.

Maxillary antrum
Surgical anatomy
Oro-antral fistula
Common pathological lesions & their management.

Spread of oral infection
Periapical abscess & cellulitis
Spread of oral infection through tissue spaces of the jaws & neck
Intracranial complications of oral infection
Principles of management of odontogenic infections.

Oral & maxillofacial trauma
Surgical anatomy of facial skeleton
Etiology and presentation
Head injuries, the Glasgow coma scale, the indications for surgical intervention.
Assessment of other associated injuries to the spine, thorax, abdomen etc
Emergency and definitive management of maxillo-facial trauma:
- soft tissue injuries of the head & neck
- dental injuries
- fractures of mandible
- fractures of mid-face & zygomatic complex, naso-ethmoid fractures
Complications of maxillofacial injuries

Temporomandibular joint:
Surgical anatomy
Pain & dysfunction
Internal derangement
Other acquired abnormalities
Congenital abnormalities especially ankylosis
Management principles
Complications of surgical intervention

Oncology
Oral neoplasia:
Tumors of the oral cavity & jaws & associated tissues, including odontogenic tumors, oral squamous cell carcinoma & lymphomas, the principles of operative treatment of the above including reconstruction.
The principles of radiotherapy & chemotherapy & their effects on orofacial tissues.
Salivary glands
All diseases of salivary glands including sialoadenitis, sialolithiasis, benign & malignant tumors, The mean of investigation, an understanding of operative treatment. Complications of surgical procedures.

Orofacial pain
An understanding of common causes of orofacial pain, their diagnosis & management with special emphasis on trigeminal neuralgia.

Orthognathic surgery
Means of assessment, Diagnosis, Principles of surgical treatment, Postoperative care & follow-up.

Developmental anomalies
Cleft & palate; head & neck deformity, Principles of dental & surgical management of the above.

Dental implants
Introduction, Patient assessment & options for implants placement, Surgical procedures for implant placement, Postoperative care & follow-up.

Management of medically compromised patients:

Clinical Assignments
Exodontia clinics, Out-door clinics in Oral & Maxillofacial Surgery, Minor oral surgery sessions, Operation theatre sessions, Ward work.
Recommended Books
- J. Peterson, Tucker, Edward Ellis, Contemporary Oral and Maxillofacial Surgery
- P Banks, Killey's fractures of the middle third of the facial skeleton.
- P Banks, Killey's fractures of the mandible.
- Oral & Maxillofacial Surgery by John Peddler
- Minor Oral Surgery by Geoffrey L. Howe
- An outline of Oral surgery Part-I and II by Killey, Seward & Kay.
- Medical problems in dentistry by Scully & Cawson
- Oral & Maxillofacial Surgery by Laksin
- Oral & Maxillofacial Surgery by Kruger.
- Colour Atlas of Dental Analgesia and Sedation. Roberts GL, Rosenbaum NL
- General Anaesthesia and Sedation in Dentistry. Hill CM & Morris PJ
- Handbook of Nitrous Oxide and Oxygen Sedation Clark MS & Brunick AL, Mosby (1999)

ORTHODONTICS AND RADIOLOGY

ORTHODONTICS
- Introduction to orthodontics, Scope of orthodontic practice

Orthodontic problems
- Epidemiology of malocclusion
- Malocclusion and dentofacial deformity in society
- The development of orthodontic problems.

Ideal Occlusion in the permanent dentition
- Normal occlusion
- The development of occlusion, malocclusion
- Indications for orthodontic treatment.

Concepts of physical growth and development
- Growth pattern: Variability, and timings
- Theories of growth control
- Methods for studying the physical growth: measurement approaches, experimental approaches
- The nature of Skeletal growth
- Growth of the craniofacial complex, cranial vault, cranial base, maxilla (nasomaxillary complex), mandible
The Early stages of physical and social development
Prenatal influences on facial development
Infancy and early childhood
The primary dentition years: eruption of the primary teeth, maturation of oral function, physical development in the preschool years, social and behavioral development, learning and the development of behavior, stages of emotional and cognitive development.

The later stages of development
Late childhood; the mixed dentition years
Eruption of the permanent teeth
Space relationships in replacement of the incisors
Space relationships in replacement of canines and primary molars
Assessment of skeletal and other developmental ages
Adolescence; the early permanent dentition years
Initiation of adolescence: Timing puberty

Growth patterns in the dentofacial complex
Dimensional changes
Rotation of jaws during growth
Maturational and aging changes in the dental apparatus
Changes in teeth and supporting structures
Changes in alignment and occlusion
Facial growth in adults.

The Etiology of orthodontic problems
Possible causes of malocclusion
Developmental cause of malocclusion
Problems caused by trauma
Functional influences
Etiology in contemporary perspective
Classification of malocclusion

Orthodontic Diagnosis
The format of the assessment:
History
Clinical examination (extra-oral / intra-oral examination)
Reference models
Radiographic assessment: Cephalometric analysis; tracing a lateral skull radiograph, cephalometric landmarks, cephalometric analysis, descriptive analysis, measurement of skeletal relationships, dentoskeletal relationships, orthodontic classification systems, development of a problem list. The role of intra-oral and OPG views in orthodontic diagnosis. Summarizing and recording your findings
Orthodontic Treatment Planning
From Problem List to Final Plan
Principles of treatment planning
Orthodontic triage: distinguishing moderate from severe problems
Treatment planning for orthodontic problems in the primary dentition
Treatment planning for orthodontic problems in the early mixed dentition
Treatment planning for orthodontic problems in adolescence (late mixed and early permanent dentition)
Treatment planning for orthodontic problems in adults
Limitations and Special Problems
Arch expansion versus extraction
Treatment planning for patients with skeletal discrepancies
Treatment planning in special circumstances

The Biologic Basis of Orthodontic Therapy
Periodontal and bone response to normal function
Periodontal ligament and bone response to sustained orthodontic forces
Deleterious effects of orthodontic forces
Skeletal effects of orthodontic forces.

Mechanical Principles in Orthodontic Force Control
Elastic materials and the production of orthodontic force
Design factors in orthodontic appliances
Anchorage and its control
The development of contemporary orthodontic appliances

Removable Appliances
Development of removable appliances
Indication for removable appliances
Components of removable appliances

Contemporary Fixed appliances
Bands for attachments
Bonded attachments
Characteristics of contemporary edgewise attachments,

Functional Appliances
Introduction
Mode of action
Indications for functional appliances
Types of appliances.

Treatment of Non-skeletal Problems in Preadolescent Children
Treatment for potential alignment problems
Crowding in the mixed dentition
Posterior cross bites
Incisor retraction / protrusion, vertical problems.
Treatment of Skeletal Problems in Preadolescent Children
Principles of growth modification treatment
Appliances for growth modification
Treatment for Class II jaw relationships
Treatment for Class III jaw relationships
Treatment for vertical and transverse problems
Treatment for facial asymmetry

The First Stage of Comprehensive Treatment
Alignment and Leveling
Goals of the first stage of treatment
Alignment:
Special Problems in alignment, leveling.

The Second Stage of Comprehensive Treatment
Correction of molar relationship and space closure

The Third Stage of Comprehensive Treatment
Finishing
Root paralleling at extraction sites
Torque of incisors
Correction of vertical relationships
Midline discrepancies
Tooth size discrepancies:
Final “setting” of teeth
Removal of bands and bonded attachments
Positioners for finishing
Special finishing procedure to avoid relapse.

Retention
Rationale of retention necessary
Removable appliances as retainers
Fixed retainers
Active retainers

Adjunctive Treatment for Adults
The goals of adjunctive treatment
Principle of adjunctive treatment
Adjunctive treatment procedures

Special Consideration in Comprehensive Treatment of Adults
Motivation for adult treatment
Periodontal aspects of adult treatment
Orthodontic appliance therapy

Combined Surgical and Orthodontic Treatment:
Type of orthodontic surgical treatment
Timing of treatment
Special considerations in orthodontic surgical planning
Integration of orthodontic and surgery
Future directions
Cleft lip and palate and other facial anomalies
Role of orthodontist
Common orthodontic problems and principles of correction

Clinical Assignments
Removable orthodontics
Functional orthodontics
Fixed orthodontics

Recommended Books
Contemporary Orthodontics By William R. Profit
An introduction to orthodontics BY Laura Mitchell
A text book of orthodontics by W.J. Houston
Meyer’s book of orthodontics

DENTAL RADIOLOGY
Introduction
Radiation biology
Hazards of radiation
Radiation protection - guidelines
Medic-legal issues
Radiographic anatomy of oral and maxillofacial region
Intra-oral views: periapical, bitewing, occlusal – indications, and interpretation
Extra-oral views: lateral, postero-anterior, occipitomental, sub-mentovertex, cephalometric
view - indications, and interpretation
Ortho-pantomogram- indications, and interpretation
Radiographic diagnosis of common dental and oral pathological lesions
Sialography - indications and interpretation
Principles of computerized Tomography – applications in dentistry
Principles of magnetic resonance imaging – applications in dentistry
Principles of nuclear imaging- application in dentistry

Recommended Books
Fundamentals of dental radiology by Vimal K Sikri
Essential of dental assisting by Ann Ehrlich
GERODONTOLOGY
General factors involved in the process of aging
Age changes in oral and dental tissues
Medical considerations in geriatric subjects
Psychological and behavioral considerations in geriatric patients
Problems in the dental management of geriatric subjects
  • Attitude of the dentist
  • Common restorative procedures
  • Common surgical procedures

Clinical Assignment:
Restorative work on geriatric subjects

ORAL IMPLANTOLOGY
Introduction and rationale of implants
Medical evaluation of implant patient
Diagnosis and assessment local as well as systemic
Surgical techniques for implant placement
Laboratory techniques
Prosthetic rehabilitation

Clinical Assignment
Every effort shall be made to provide clinical exposure to oral implantology

Recommended Books
Contemporary implant dentistry by C. Misch
Prosthetic dentistry by Fern

PRACTICE MANAGEMENT
The students attend a course to understand private dental office to analyze and observe private dental practice. The students gain access to working of dental practice and learn a systemic approach to analyze and organize a dental practice and in order to prepare the "soon to be dentist" with the decision related to establishing a dental practice.