

# Department of Oral and Maxillofacial Surgery



## **Study Guide** **3<sup>rd</sup> Year and Final Year BDS**

College of Dentistry  
Sharif Medical & Dental College



## PREFACE

Study guide of a subject familiarize the students about the course outline, mode of information transfer, and learning objectives. It also briefs about the assessment and evaluation policies in an academic session. This study guide aims to promote self-regulated learning among students. It gives an overview of course outcomes & learning objective.

This study guide has been carefully planned to keep in view the mission of UHS, Lahore, and the vision of our institute. It is tailored according to the students' needs. This would hopefully enable our young inquisitive minds to develop a good understanding of this subject and adequately prepare for the examination. A list of prescribed text and reference books are part of this study guide. Names and email contacts of faculty have also been mentioned to foster better interaction between the teacher and the students.

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## **VISION & MISSION OF UHS**

Qualitative and Quantitative Revolution in Medical Education and Research through Evolution and thereby improve Health Care delivery to Populace.

UHS shall be innovative global center of excellence in learning and research, supporting a community of scholars and professionals committed to serving society, promoting the development of students to reach their true potential in becoming competent, ethical, caring, and inquiring health professionals for the benefit of the country and the wider world.

## **MISSION OF SMDC**

Sharif Medical & Dental College is dedicated to best serve the nation through preservation and dissemination of advanced knowledge and educating the students by latest trends in learning and research reaching levels pars excellence.

The Institution is committed to provide standardized quality medical education to its students by inculcating professional knowledge, skills and responsibilities in them with the aim of:

- Preparing them as modern physicians having initiative to act as future leaders in their respective fields and becoming lifelong learners.
- Encouraging the spirit of critical thinking through research and publication.
- Building up an understanding of the ethical values compatible with our religion, culture and social norms.
- Developing a sense of being responsible citizens of the society possessing professional competence and instilling in them the values of hard work and dedication thus preparing them to be accountable to the stakeholders and the state.

The Institution is devoted to keep abreast its faculty with the latest trends in Medical Education encompassing teaching/learning methodologies, assessment tools, research opportunities and professionalism to facilitate their professional development, competencies, and commitment towards continues learning.

Our patient-centered mission is achieved by outstanding medical care & services in professional practice with due emphasis and focus on our local health needs.

Our mission further elaborates upon establishing academic and research facilities in areas of local demand under global gold standards and leading advancement in research, education & patient care.

## **VISION OF SMDC**

To be recognized for the provision of a safe and functional environment conducive to collaborative teaching & learning, comfortable working atmosphere, and conducting world class research through professionalism and excellence.



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## **PLANNED TEACHING ACTIVITIES**

### **DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY**

PMC has allocated 325 hours of teaching in the subject of oral and maxillofacial surgery for 4<sup>th</sup> year and 150 hours of teaching for 3<sup>rd</sup> year. To meet this requirement following teaching modules have been planned. These modules have been carefully designed to impart core knowledge of the subject in a manner that an undergraduate student can grasp the subject fully and is adequately prepared for university examinations.

#### **Lectures:**

The lectures will be conducted by the Professor, associate, and assistant professors or by senior lecturers. The lectures will be interactive, and students should actively participate in them to clear their doubts. The students are required to take notes of the lectures and study the topic with the help of prescribed textbooks considering the learning objectives of the topic enunciated by the teacher at the beginning of each lecture.

#### **Clinical training:**

Clinical training has been planned by dividing the whole class in to five equal batches and one batch comes to the dental clinic consisting of 10 students where clinical demonstrations are given on patients related to;

- History taking
- Oral Surgery patient Evaluation
- Local Anesthesia for Oral Surgery
- Analgesia for Oral Surgery Patient
- Armamentarium for Exodontia
- Armamentarium for Minor Oral Surgery (MOS)
- Principles of Exodontia
- Mechanics of Extraction
- Introduction to the emergency equipment

Students are required to enter their work in their quota books and get them checked by the instructors daily on completion of the day regularly.

#### **Tutorials:**

One tutorial class per week is proposed throughout the academic session. The class will be divided into 03 batches. Topics for the tutorial will be notified at least one week before the class.

Two instructors, one senior and one junior, will be deputed for every batch on rotation basis. A pre-tutorial quiz or test will be held before tutorial discussion so that the students come prepared for the topic. During this interactive session the students must clear their concepts regarding the topic by actively engaging with their respective teachers.

#### **Case based learning:**

Case based learning discussion will be conducted from time to time throughout the academic year. A clinical problem with a short history will be notified at least one week before the occurrence. The learning objectives and suggested reading material will also be notified along with it. The class will be divided into



smaller groups for effective conduct of the proceedings. A senior instructor will be facilitating the discussion in interactive session and students are required to generate the discussion amongst themselves in line with the learning objectives of the topic.

**Seminars:**

Departmental seminars are to take place periodically once the students have covered a substantial quantum of course work. Topics will be allocated to students for presentation. Each presentation will be of 10-15 minutes duration with a Q&A session after it.



## TERMINAL LEARNING OUTCOMES

### Knowledge Objectives

On completion of the course of study, students must have knowledge of:

- tissue reaction in connection with oral surgery and oral diseases and conditions.
- acute and chronic inflammations, spread of infection and appropriate treatment forms for these processes.
- healing of wounds.
- the importance of the oral cavity in general medical conditions.
- retained teeth.
- surgical removal of wisdom teeth.
- surgical treatment with oral implants.
- temporomandibular joint disorders/diseases.

### Skills Objectives

On completion of the course of study, students must have competence in:

- making diagnoses, assessing treatment needs and being able to perform simple oral surgery
- diagnosing and treating the most common oral diseases and conditions, assessing treatment needs and knowing when the patient should be referred to a specialist
- acquiring adequate knowledge about key medical conditions and how these should be managed in clinical practice.
- diagnosing inflammation in oral tissue.
- performing tooth extractions.
- placing sutures after oral surgery.
- diagnosing and treating complications in connection with tooth extractions and minor surgical procedures.
- diagnosing nerve damage resulting from complicated tooth extractions and other procedures
- making diagnoses, assessing treatment needs and being able to perform simple oral surgery
- diagnosing and treating the most common oral diseases and conditions, assessing treatment needs and knowing when the patient should be referred to a specialist
- acquiring adequate knowledge about key medical conditions and how these should be managed in clinical practice.

## TRAINING PROGRAM FOR LECTURES

Sr. no.	Topic	Instructor
<b>Principles of Surgery</b>		
1	Preoperative Health Status Evaluation	Dr Ali Farooq
2	Prevention and Management of Medical Emergencies	Dr Ali Farooq
3	Principles of Surgery,	Prof Uzair Bin Akhtar
4	Wound Repair,	Prof Uzair Bin Akhtar
5	Infection Control in Surgical Practice	Prof Uzair Bin Akhtar
6	Pain and Anxiety Control in Surgical Practice	Prof Uzair Bin Akhtar
<b>Principles of Exodontia</b>		
7	Instrumentation for Basic Oral Surgery	Prof Uzair Bin Akhtar
8	Principles of Routine Exodontia	Dr Ali Farooq
9	Principles of More Complex Exodontia	Dr Ali Farooq
10	Principles of Management of Impacted Teeth	Prof Uzair Bin Akhtar
11	Postextraction Patient Management	Dr Ali Farooq
12	Medicolegal Considerations	Prof Uzair Bin Akhtar
<b>Preprosthetic and Implant Surgery</b>		
13	Preprosthetic Surgery	Prof Uzair Bin Akhtar
14	Implant Treatment: Basic Concepts and Techniques	Dr Ali Farooq
15	Implant Treatment: Advanced Concepts and Complex Cases	Dr Ali Farooq
<b>Infections</b>		
16	Principles of Management and Prevention of Odontogenic Infections	Prof Uzair Bin Akhtar
17	Complex Odontogenic Infections	Prof Uzair Bin Akhtar
18	Principles of Endodontic Surgery	Dr Ali Farooq
19	Management of the Patient Undergoing Radiotherapy or Chemotherapy	Prof Uzair Bin Akhtar
20	Odontogenic Diseases of the Maxillary Sinus	Prof Uzair Bin Akhtar
21	Diagnosis and Management of Salivary Gland Disorders	Prof Uzair Bin Akhtar
<b>Management of Oral Pathologic Lesions</b>		
22	Principles of Differential Diagnosis and Biopsy	Prof Uzair Bin Akhtar
23	Surgical Management of Oral Pathologic Lesions	Prof Uzair Bin Akhtar
<b>Oral and Maxillofacial Trauma</b>		
24	Soft Tissue and Dentoalveolar Injuries	Prof Uzair Bin Akhtar





25	Management of Facial Fractures	Prof Uzair Bin Akhtar
<b>Dentofacial Deformities</b>		
26	Correction of Dentofacial Deformities	Prof Uzair Bin Akhtar
27	Facial Cosmetic Surgery	Prof Uzair Bin Akhtar
28	Management of Patients with Orofacial Clefts	Prof Uzair Bin Akhtar
<b>Temporomandibular and Other Facial Pain Disorders</b>		
29	Surgical Reconstruction of Defects of the Jaws,	Dr Ali Farooq
30	Facial Neuropathology	Prof Uzair Bin Akhtar
31	Management of Temporomandibular Disorders	Prof Uzair Bin Akhtar



## LIST OF LECTURES & THEIR LEARNING OBJECTIVES

*By the end of 3<sup>rd</sup> year BDS, student should be able to:*

### ***Exodontia***

State the protocol to manage an anxious patient before and during uncomplicated exodontia.

Manage patient anxiety during exodontia by using anxiety reduction protocol with P.O medication.

Enlist indications for the removal of teeth.

Evaluate a patient for exodontia in the following sequence:

- Welcome, introduce, seat the patient.
- Elicit relevant medical and dental history.
- Set up the instrument tray.
- Perform examination.
- Order and interpret relevant investigations.
- Arrive at a diagnosis.

Describe contraindications of removal of teeth.

Formulate and finalize a treatment plan.

Use appropriate chair positions, instruments, and technique to perform an extraction (gingival detachment, forceps applications, tooth luxation and delivery, jaw support and retraction (non-dominant hand)).

Use elevators and forceps according to the general and mechanical principles.

Describe the direction of forces and techniques employed for the extraction teeth.

Take post-extraction care of the socket.

Give post-extraction instructions to the patient.

Write a prescription for post extraction medications

### ***Principles of Oral Surgery***

#### **Basic Principles of Oral Surgery, Flap design**

Develop a Surgical Diagnosis.

Describe Basic Necessities for Surgery.

Describe & Follow the Aseptic Surgical Protocol.

Describe Basic Principles of Incision in Oral Surgery & Mark the following flaps used in Minor Oral Surgery:

- 1, 2, 3 Sided Flaps and their Variations:
- Sub-Marginal.
- Semi-Lunar.

Describe Principles of Flap Design in Oral Surgery.

Describe the Principles of tissue Handling in oral Surgery.

Describe the Means of:

- Achieving Hemostasis in Oral Wounds.
- Dead Space Management.

Describe the Role of De-Contamination & Debridement in Oral Wounds.



Describe the means of Edema Control.

Relate the Oral Wound Healing to the General Health of the Patient.

### ***Physiology of Wound Repair***

Enlist Physical & Chemical Causes of Tissue Damage.

Describe the Physiology of Wound (Soft Tissues & Bone) Repair:

- Primary Intention.
- Secondary Intention.
- Osseo-Integration.

Describe the Factors that Impair Wound Healing.

Classify the Nerve Injuries (Seddon & Sunderland).

Assess a Patient with Neural Deficit.

Describe the Principles of Management of Nerve Injuries.

### ***Peri-Operative Patient Management***

#### **Management of Medical Problems and Medical Emergencies**

Evaluate a Dental Patient by:

- Medical History.
- Physical Examination.

Manage a Dental Patient with Problems of the Following Systems:

- CVS.
- Pulmonary.
- Renal.
- Hepatic.
- Endocrine.
- Hematological.
- Neurological.

Manage Pregnant & Post-Partum Dental Patient.

Prevent Medical Emergencies in Dental Patients.

Prepare One-Self & Surgery Staff to Manage the following Medical Emergencies:

- Hypersensitivity Reactions.
- Chest Discomfort.
- Respiratory Difficulty.
- Altered Consciousness.

#### **Local Anesthesia**

- Relate the Nerve Supply of the face & Oral Cavity with the following Clinical Applications:
- Local Anesthesia of Cranial Nerves V, VII, C2 and C3.
- Diagnosis of:

- Trigeminal Neuralgia.
- TMJ Pain.

Describe the Pharmacological Mechanism of Action of Contents of Local Anesthesia (LA).  
Calculate the safe dose for Lignocaine and Bupivacaine.

Select the Armamentarium required for Local Anesthesia & Load LA Syringe Aseptically.

Describe the following types of local anesthetic injection (infiltration) techniques:

- Supra-Periosteal.
- Sub-Mucosal.
- Sub-Periosteal.
- Intra-Osseous.

Describe the following LA techniques of Mandibular Anesthesia:

- Inferior Alveolar Nerve Block (IANB).
- Mental Nerve Block.
- Lingual Nerve Block.
- Long Buccal Nerve Block.
- Gou-Gates Block.
- Vazirani Akinosi Block.

Describe the following LA techniques of Maxillary Anesthesia:

- Anterior Superior Nerve Block. (Infiltration Type)
- Middle Superior Nerve Block. (Infiltration Type)
- Posterior Superior Nerve Block. (Infiltration Type)
- Infra-Orbital Nerve Block.
- Naso-Palatine Nerve Block.
- Greater Palatine Nerve Block.
- Maxillary Nerve Block.

Administer:

- LA Infiltration.
- IANB.
- Lingual Nerve Block.
- Long Buccal Nerve Block.
- Naso-Palatine Nerve Block.
- Greater Palatine Nerve Block.

Check for Effectiveness of LA.

Explain the reasons of Failure of LA in a case.

- Select appropriate LA & Technique.

***By the end of final year BDS, student should be able to:***

***Complicated Exodontia***

Describe the principles of flap design.

Enlist types of mucoperiosteal flaps.

Demonstrate incisions for different types of mucoperiosteal flaps in the oral cavity on models.

Describe and apply the principles of suturing.

Enlist the indications for open extractions.

Describe the technique used for open extraction of single and multi-rooted teeth.

Describe the procedure to remove fractured root fragments/tips.

State the justification for leaving root fragments in the socket.

Plan the sequence of multiple extractions.

***Management of Impacted Teeth***

Define an Impacted Tooth.

Name commonly impacted teeth, and reasons for their impaction.

Enlist the indications for removal of impacted teeth.

Enlist the contraindications for removal of impacted teeth.

Evaluate a patient with an Impacted Tooth by:

- History
- Clinical Examination
- Radiographic Examination

Classify impacted teeth & determine the level of Difficulty for its Extraction.

Describe the management of a patient with an impacted third molar.

Describe the stepwise surgical procedure for the removal of impacted teeth.

Enlist treatment options for a patient with an impacted canine.

Enlist the potential risks and complications for the removal of impacted teeth

***Prevention & Management of Complications in Exodontia***

Describe the post-operative anxiety reduction measures that can be taken for an exodontia patient.

Describe the management of post-operative pain and discomfort of an exodontia patient.

Manage a patient with post extraction hemorrhage.

Follow up an exodontia patient.

Maintain the patient record.

Discuss the need for prevention of complications.

Manage the following complications during and after Exodontia:

- Soft tissue injuries
- Root fracture/displacement
- Injury to adjacent teeth
- Injury to osseous structures
- Injuries to adjacent structures
- Oro-antral communications
- Postoperative bleeding
- Delayed healing and infection



- Fracture of the mandible

### ***Medico-Legal Considerations***

Describe legal Concepts influencing regarding:

- Duty
- Breach of Duty
- Damages
- Causation

Enlist the common areas of dental litigation.

Enlist the steps to Reduce Risk of litigation.

Obtain Informed Consent from a patient.

Describe types & components of informed consent.

Document the procedures briefly & keep the record.

Communicate & write a letter of referral to a Medical / Dental Specialist.

Manage Complications without alarming the patient.

Deal with the following patient management problems:

- Non-Compliant Patient.
- Patient Abandonment.

Keep up to date with the Local rules & regulations affecting Practice.

### ***Pre-Prosthetic & Implant Surgery***

#### **Hard Tissue Preprosthetic Surgery**

Enlist 11 Objectives of Pre-Prosthetic Surgery.

Identify abnormalities of Soft & Hard Tissues which interfere with Denture (Partial/Complete) Construction.

& Formulate a Treatment Plan.

Describe the following Surgical Procedures:

- Alveoloplasty.
  - Simple.
  - Intraseptal.
- Tuberosity (Bone) Reduction.
- Exostosis & Undercuts Correction.
- Mylohyoid Ridge Reduction.
- Genial Tubercle Reduction.

Describe the Surgical Procedure for the Removal of:

- Mandibular Tori.
- Torus Palatinus.

Describe Principles of Ridge Augmentation for denture Construction.

Describe Advantages of Immediate Dentures.

Describe Methods of Ridge Preservation.

Describe Procedure & Advantages of Overdenture.

### **Soft Tissue Preprosthetic Surgery**

Describe the Surgical Procedures for:

- Tuberosity (Soft Tissue) Reduction.
- Retromolar Pad reduction.
- Lateral Palatal Soft Tissue Excess Removal.
- Unsupported Hypermobile Tissue removal.
- Inflammatory Fibrous Hyperplasia Removal.
- Labial Frenectomy. (Same for Orthodontics).
- Lingual Frenectomy.

Describe the Soft Tissue Surgical Ridge Extension for Mandible by:

- Transpositional Flap Ventriculoplasty.
- Vestibule & Floor of Mouth Extension.

Describe the Soft Tissue Surgical Ridge Extension for Maxilla by:

- Submucosal Vestibuloplasty.
- Maxillary Vestibuloplasty with Tissue grafting.

Describe the Role of Segmental Alveolar Surgery in Partially Edentulous Patient.

Describe the Role of Surgical Correction of Skeletal Abnormalities in Totally Edentulous Patient.

### **Dental Implants – Principles & Patient Evaluation**

Define Dental Implant & Identify its Components.

Disambiguate the terminology used in relation to Dental Implants.

Define Osseointegration, list factors influencing osseointegration

State History & Types of Implants.

Constitute a Multidisciplinary team for OMF Implantology.

Describe the following Considerations for Implant Placement:

- Soft Tissue.
- Hard tissue.
- Bio-Mechanical.

Assess a Patient in Need of Dental Implant(s) by:

- History
- Clinical Examination.
- Radiographic Examination.

& Formulate a Treatment Plan.

Describe the Surgical Procedure for Dental Implant Placement.

### **Dental Implants – Patient Evaluation & Preparation, Complications, Prosthetic Rehabilitation**

Describe the Protocol for Immediate Dental Implant Placement.

Describe the Role of CBCT, CAD/CAM Stereolithographic Model & Stent for Implants Placement.

State the Peri-Operative Management of Dental Implant Patient.

Enlist Complications of Implant Surgery &

Describe their Management.

Describe Stages of Prosthetic Rehabilitation with Dental Implants.

### **Dental Implants – Ridge Augmentation/Bone Grafting**

Describe the GBR with:

- Autogenous Bone Graft.
- Allografts.
- Alloplasts.
- Xenografts.
- Bone Morphogenic Proteins.

Describe the following Surgical Procedures for Ridge Augmentation:

- Onlay Bone Grafting.
- Sinus Lift.
- Alveolar Ridge Distraction Osteogenesis.

Describe the following Special Maxillo-Facial Implants:

- Zygomatic.
- Extra-Oral.

### ***Odontogenic & Maxillo-Facial Infections***

#### **Endodontic / Periapical Surgery**

- Discuss the indications for each surgical endodontic procedure
- List contraindications for surgical endodontics
- Select appropriate procedure, flap, technique and (root-end filling) materials for surgical endodontics

#### **Odontogenic Infections – Principles of Management**

Diagnose & Differentiate b/w Edema (Inoculation), Cellulitis & Abscess on the basis of Clinical Features & Disease Progression.

Determine Severity of Infection.

Evaluate State of Patient's Host Defense Mechanisms.

Decide whether Patient should be treated by Dentist or OMFS.

Describe Surgical Treatment of the Infection.

Describe the Medical Support required to Treat a patient with Odontogenic infections

#### **Odontogenic Infections – Types, Spread, Antibiotics**

Describe the role of Microorganisms in the progression of the following Infections in Head & Neck:

- Odontogenic Infections.
- Spread of Odontogenic Infection to Deep Fascial Spaces.
- Cavernous Sinus Thrombosis/Orbital Cellulitis.
- Necrotizing Fasciitis.
- Osteomyelitis.
- Actinomycosis

#### **Odontogenic Infections – Complications**

Describe Steps of Management of Deep Fascial Spaces Infection.

Follow up the Patient.

Describe Ludwig's Angina & State its Management.

Describe Airway Management by:

- Cricothyrotomy, &





- Tracheostomy.

Describe Pathophysiology of Cavernous Sinus Thrombosis & its Management.

Describe Pathophysiology of Orbital Cellulitis & its Management.

Describe Pathophysiology of Necrotizing Fasciitis & Steps of its management

### **Odontogenic Infections – Osteomyelitis, Candidiasis, Prophylaxis**

Diagnose Osteomyelitis by:

- History.
- Clinical Examination.
- Radiographic Examination.

Classify Osteomyelitis as: (Nivelle)

- Acute
- Chronic

Describe Management of Osteomyelitis

Diagnose & Classify Oral Candidiasis as:

Pseudomembranous.

Erythematous.

Angular Cheilitis.

Provide Care to the Patient with Oral Candidiasis.

Describe Clinical Features of Actinomycosis in OMF Region and its Management.

Justify the Peri-Operative Antibiotic Administration (Oral/Parenteral) for

Prophylaxis against Infections by:

- Calculating the Risk of Infection with the Procedure under Consideration.
- Choosing the Correct Antibiotic.
- Achieving High Antibiotic Plasma Level.
- Timing Antibiotic Administration Correctly.
- Using the Shortest Antibiotic Exposure that is Effective.
- Infectious Endocarditis.
- Total Joint Replacement Infection.

### ***Oral & Maxillo-Facial Trauma***

#### **Facial Soft Tissue Injuries and Dentoalveolar Trauma.**

State Etiology of Facial Soft Tissue & Dento-Alveolar Injuries.

Relate Etiology of the Trauma to the Severity of Injury, Prognosis & Implications on Treatment Plan.

Define:

- Abrasion.
- Contusion.
- Laceration.

Diagnose the Facial Soft Tissue Injuries by:

- History.
- Clinical Examination.

Describe the Management Facial Soft Tissue Injuries including:

- Cleaning

- Debridement
- Hemostasis
- Closure (Suturing)

Close the Intra-Oral Soft tissue wound by Sutures in a Logical Order.

Classify Traumatic Injuries to the Teeth & Supporting Structures.

### **Management of Dentoalveolar Trauma**

Assess a patient with Dento-Alveolar Trauma by:

- History.
- Clinical Examination.
- Radiographic Examination.

Manage Dento-Alveolar Injuries.

### **Acute Trauma Life Support (ATLS) Principles**

State Etiology of Maxillo-Facial Trauma.

Relate Etiology of the Trauma to the Severity of Injury, Prognosis & Implications on Treatment Plan.

Evaluate a Patient with Maxillo-Facial Trauma by:

- Primary Survey.
- Secondary Survey.

Describe the Management of Compromised Air way for a Maxillo-Facial Trauma Patient, including:

- Cricothyrotomy.
- Tracheostomy.

### **Mandibular Fractures**

Diagnose Mandibular Fractures by:

- Eliciting Signs & Symptoms.
- Order & Interpret Radiographic Investigations.
- Classify Mandibular Fractures according to the Type, Site & Favorability to Reduction.

Formulate Treatment Plan for Mandibular Fractures in Adult & Children, by:

- Closed Management.
- Open Reduction & Internal Fixation.
- Functional Treatment.

Name 5 Complications of Mandibular Fracture.

### **Mid & Upper Face Fractures – Diagnosis and Classification**

Diagnose Mid & Upper Face fractures by:

- Eliciting Signs & Symptoms.
- Ordering & interpreting relevant Radiographic Investigations

Classify Mid & Upper face Fractures according to the Type & Site/ Level of Fracture.

Discuss Principles of Management of Fractures of Maxilla.

### **Mid & Upper Face Fractures – Management. Considerations for Paediatric and Firearm injuries**

Discuss Principles of Management of Fractures of:

- Zygomatic Bone & Arch.
- Frontal Bone.
- NOE.

### **Mid & Upper Face Fractures – Management. Considerations for Paediatric and Firearm injuries**

Discuss Principles of Management of Fractures of:

- Zygomatic Bone & Arch.
- Frontal Bone.
- NOE.

Name 5 Complications of Mid & Upper Face fractures.

Describe Considerations in the Management of Pediatric Maxillo-Facial Trauma.

Describe Principles of Management of Fire Arm Injuries involving the face.

### ***Temporomandibular & Facial Pain Disorders***

#### **TMJ Disorders**

Evaluate a patient with Temporo-Mandibular disorders (TMD) by:

- History.
- Clinical Examination
- Imaging/Radiographic Interpretation:
  - OPG.
  - Tomogram.
  - Arthrography
  - CT scan.
  - CBCT.
  - MRI Scan.
  - Nuclear Imaging.

Classify TM Disorders as:

- Myofascial.
- Internal Derangement (Wilke's).
- Systemic Arthritis Conditions.
- Chronic Recurrent Dislocation.
- Ankylosis.
- Neoplasia.
- Infections.

Select Management options for TMD:

Reversible:

- Patient Education
- Medications.
- Physiotherapy.
- Splint Therapy.
- Role of Botox.

Irreversible:

- Occlusion Modification.

#### **TMJ Surgery**

Classify TM Disorders as:

- Myofascial.
- Internal Derangement (Wilke's).
- Systemic Arthritis Conditions.
- Chronic Recurrent Dislocation. (in detail)
- Ankylosis. (in detail)
- Neoplasia. (in detail)
- Infections. (in detail)

Select appropriate TMJ Surgery for TMD:

- Arthrocentesis
- Arthroscopy.
- Disc Repositioning.
- Techniques to manage Recurrent Dislocation.
- Disc Repair/Removal.
- Condylotomy/Arthroplasty.
- For Neoplasia.
- Joint Replacement.
- Distraction Osteogenesis

### **Oro-Facial Pain and Trigeminal Neuralgia**

Describe the MOA for the Neuropathic Pain.

Classify Oro-Facial Pains according to Site & Etiology.

Diagnose Trigeminal Neuralgia by:

- History.
- Clinical Examination.
- Relevant Investigations.

Enlist & describe trigeminal neuralgia management options:

- Medical, &
- Surgical.

Differentiate Trigeminal Neuralgia from:

- Pre-Trigeminal Neuralgia.
- Odontalgia.
- Post-Herpetic Neuralgia.
- Neuroma.
- Burning Mouth Syndrome.

### **Oro-Facial Pain- Neuralgia and Headaches**

Enlist other Neuralgias in OMF Region.

Differentiate b/w Common Headaches.

Diagnose & Enlist Principles of Management (including Referral) of the following headaches:

- Migraine.

- Tension Type Headache.
- Cluster Headache.
- Temporal Arthritis.

### **Biopsy**

Record History of a patient with Potentially Malignant Lesions in Oral & Maxillo-Facial Region.

Perform & Describe the findings of Clinical Examination of the Lesion and Neck.

Describe the Adjuncts to Clinical Screening of Suspicious Lesions, including Fluorescent light & Vital Staining.

State the

- Principles
- Indications
- Types (FNAC, Brush, Incisional, Excisional)

For the soft tissues & bone biopsy.

State the Procedure for;

- Benign soft tissue tumors biopsy
- Malignant Soft tissue tumor biopsy
- Bone Biopsy

Write a biopsy request form for Histopathological Examination.

Tumor Markers & information necessary while writing a request form

Formulate a list of D/D.

Describe Methods of Specimen Orientation.

Advise Post-operative instructions &

Follow-up the Biopsy Patient.

### **Oral & Maxillo-Facial Pathological Lesions**

#### **Jaw Cysts**

Describe the basic Surgical Goals in the management of OMF Pathological lesions, i.e:

- Eradication of Disease.
- Functional Rehabilitation.

Classify Jaw Cysts (Simple Classification -Odontogenic& Non-Odontogenic).

State the Indications, Advantages, Disadvantages and Techniques for the

Management of Jaw Cysts & Cysts-like Lesions, i.e:

- Enucleation
- Marsupialization
- Enucleation followed by Marsupialization
- Enucleation with Curettage.

#### **Jaw Tumors**

Describe the Management of Jaw tumors based on the Types of Resections:

- Marginal (Segmental)

- Partial
- Total
- Composite.

Describe the Management of Benign Soft tissue tumors.

Describe the management of Potentially Malignant (Premalignant) lesions.

Describe the Management of Malignant tumors of the Oral Cavity according to the following Factors:

- Histopathology.
- Grade.
- Size/Extent of the lesion. (T)
- Nodal Metastasis(N)
- Extra-Capsular Spread.
- Distant Metastasis(M)

### ***Salivary Gland Disorders***

#### **Diagnosis of Salivary Gland Disorders. Management of Sialolithiasis and Mucoceles.**

Describe various Diagnostic Modalities for Salivary Gland disorders, including.

- History
- Clinical Examination
- Radiology
  - Plain Film X-rays
  - Sialography
  - USG
  - CT Scan
  - MRI Scan
  - Scintigraphy
- Endoscopy
- Sialochemistry
- Antibody titer for Sjogren
- FNAB
- Biopsy

Describe the Pathophysiology & Management of Obstructive Salivary Diseases, i.e.

- Sialolithiasis

Explain the phenomena of Mucous Retention/ Extravasation in a gland, i.e.

- Mucocele
- Ranula

### ***Maxillary Sinus Diseases***

#### **Maxillary Sinus Diseases- Diagnosis. Management of Sinusitis**

Evaluate a patient with Maxillary Sinus disease, including.

- Relevant History

- Relevant Clinical Examination
- Order Relevant Investigations, including Radiographs

Describe Non-Odontogenic Infections of Maxillary Sinus & its Causes.

Describe Odontogenic Infections of Maxillary Sinus & its Causes.

Enlist the Differential Diagnosis of maxillary sinusitis.

Describe the Treatment of Sinusitis.

### **Oro-Antral Communication & Maxillary Sinus Tumors**

Enlist 3 types of Antral Pseudocysts & Management Options.

Classify Oro-Antral Communication according to Size  
& Describe their Management according to the time elapsed.

Enlist the common Maxillary Sinus Tumors of

- Odontogenic &
- Non-Odontogenic origin,

& Describe their Management

### ***Management of a patient undergoing Radio/Chemotherapy***

#### **Radiotherapy and Osteoradionecrosis**

Assess dental problems of a patient in Need of Radiotherapy to OMF Region, by:

- Hard Tissues Examination
- Soft Tissues Examination

State the MOA of Radiotherapy, Regimes of Radiotherapy & list its Adverse effects.

Describe the Dental Management of a patient undergoing Radiotherapy to the OMF Region.

Define Osteoradionecrosis,

Describe its:

- Stages, &
- Management plan.

#### **Chemotherapy and BRONJ**

Describe/Perform the OMF Assessment of a Patients in Need of Systemic Chemotherapy.

State the Dental Management of a patient undergoing of Systemic Chemotherapy.

Define BRONJ,

State its Pathophysiology,

Enlist its Clinical Sign & Symptoms & Stages.

Identify the Patients at risk of BRONJ by History & Lab investigations,

& Describe the dental care required for its prevention.

State the Management of a patient suffering from BRONJ.

#### ***Reconstruction of Oral & Maxillo-Facial Defects***

Assess Patients in Need of OMF Reconstruction, including.

- Hard Tissues Examination
- Soft Tissues Examination
- Examination of Associated Structures/Problems

State the General Principles of reconstruction.

Describe the Biology of Bone Reconstruction & Define.

- Osteo-Induction
- Osteo-Conduction
- Osteo-Genesis

Classify Bone Grafts on the basis of:

- Source.
- Vascularity (Autogenous).

Name Recent Advances in Bone Regeneration.

Enlist the Goals of Mandibular reconstruction:

- Restoration of Continuity.
- Restoration of Alveolar Bone Height.
- Restoration of Function.
- Restoration of Osseous Bulk.

State the Surgical Principles OMF Bone Grafting procedures.

Describe the role of Maxillo-Facial Prosthetics in Reconstruction/ Restoration of OMF Defects.

### ***Oro-Facial Clefts***

Name the number of different types of Rare Facial Clefts in addition to CLP.

Classify Cleft Lip & Palate for:

- Communication.
- Record Keeping

Describe principles of diagnosis of a patient with Cleft Lip & Palate, i.e. by:

- History.
- Clinical Examination.

Enlist the Problems afflicted by a cleft patient:

- Facial deformity
- Feeding Problems
- Hearing Problems
- Speech Problems
- Dental Problems
- Associated Anomalies

Constitute a Team for the Treatment of a Cleft Patient.

Describe the treatment of a Cleft patient according to the:

- Sequence, &
- Surgical Procedures
- Follow-up
- Prosthetic Speech Aid Devices

### ***Facial Cosmetic Surgery & Orthognathic Surgery***

#### **Facial Aesthetic Surgery**

Describe Facial Aesthetics.

Integrated with Orthodontics.

Enlist & Define Non-Surgical Facial Aesthetic/ Cosmetic Procedures:

- Skin Care



- Botox
- o Other Uses in OMFS
  - Dermal Fillers
  - Facial Resurfacing

Define the following Surgical Aesthetic/Cosmetic Facial Procedures:

- Facelift
- Hair transplant
- Blepharoplasty
- Rhinoplasty
- Otoplasty
- Genioplasty
- Lip Augmentation
- Lip Reduction
- Chin/Neck Liposuction

### **Dentofacial Deformities and Orthognathic Surgery**

Enlist Causes of Dento-Facial Deformities.

Evaluate a Patient for Dento-Facial Deformity by:

- History, Clinical Examination and Radiographic Examination.

Describe the following Pre-Surgical Considerations for Orthognathic Surgery Patient:

- Periodontal.
- Restorative.
- Orthodontic De-Compensation.

Describe the Surgical Treatment options (Osteotomies) for the following:

- Mandibular Excess and Mandibular Deficiency.
- Maxillary & Mid-Face Deficiency.
- Combination Deformity and Facial Asymmetry.

Describe the Role & Advantages of Distraction Osteogenesis in OMF Region.

State the Peri-Operative Care of the Orthognathic Patient.

Describe the following Post-Surgical Considerations for Orthognathic Surgery Patient:

- Periodontal. and Restorative.
- Orthodontic Fine-Tuning

### ***Forensic Odontology***

Describe the Scope of Forensic Odontology.

Recognize Non-Accidental injuries in Children

### ***Ethics & Evidence Based Practice***

Practice Evidence Based Surgery & Follow Ethical Standards in Dentistry & Research.

### ***Management of a Hospitalized patient***

#### **The Hospitalized Patient**

Describe/Provide Care for the Hospitalized Patient.

Write and Answer a Referral Consultation.



Decide when to Hospitalize a patient for dental management.

Describe Day Surgery/Dentistry under GA.

Evaluate a patient for OMF Surgery/Dentistry under GA, by:

- Routine (GA) • Specific Investigations (OMFS)

Describe Assessment of Fitness, Normal abnormal Cardiac & Respiratory signs; Premedication, Anesthetic and Analgesia Medication; Technique of Endotracheal Intubation.

### **Post GA Care**

Enlist Principle Components of Post-Operative Orders for OS patient.

Enlist & Describe Management of following Post GA Problems:

- Airway Compromise.
- Nausea. and Vomiting.
- Fluid & Electrolyte Imbalance. and Fever.
- Atelectasis.
- Blood Transfusion Reactions.

Record Operative Notes.

Write a Hospital Discharge Summary

Year planner, MITs



## ASSESSMENT PLAN

Following modes of assessment are planned for the class in the subject of Oral and maxillofacial surgery. This plan has been designed keeping in view the university curriculum and hopefully will facilitate the students in preparing for professional examinations in the subject.

### 1. Class and Clinical Test

- Tests consisting of MCQ's and SEQ's are conducted every month and sometimes twice a month to assess the students on the topics covered in that month.
- Sendup examination consisting of MCQ's, SEQ's and OSCE at the end of the session.
- At the end of each batch rotation, Clinical Evaluation Test is conducted.

### 2. Term Clinical & Theory Evaluation Test

At the end of each term a clinical and theory evaluation is conducted. This clinical test includes MCQ's, SEQ's and OSCE.

### 3. Clinical skill observation & performance as reflected on their clinical quota books

### 4. Mini-CEX (Mini-Clinical Examinations)

- Mini Clinical examinations are done as formative assessment at the end of clinical rotation.

### 5. Assignments:

- Small group discussion on different topics allotted to 3<sup>rd</sup> year BDS students. Individual Presentations on allotted topics.
- Posters related to different topics of Oral and maxillofacial surgery



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## LEARNING RESOURCES

Topic	Resources
<b>1. Medically compromised patients and medical emergencies in dental clinics</b>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 6<sup>th</sup> Edition 2013. Peterson, Ellis, Hupp, Tucker</li> <li>2. Medical Problems in Dentistry, by Scully &amp; Cawson</li> <li>3. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a> , <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>
<b>2. Exodontia including local anesthesia</b>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Handbook of Local Anesthesia. 6<sup>th</sup> Edition, 2013 Stanley F. Malamed</li> <li>3. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a> , <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>
<b>3. Oral and Maxillofacial Trauma</b>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Killeys- Midface fractures vol I; Mandible fractures vol-II</li> <li>3. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a> , <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>
<b>4. Oral and Maxillofacial Infections</b>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a> , <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>
<b>5. Basic principles of surgery</b>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a> , <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>
<b>6. Cysts, Tumors, Periapical, Antral and other Pathological lesions</b>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a> , <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>
<b>7. Pre-prosthetics and Implants surgery</b>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a> , <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>

<p><b>8. Pain, TMJ surgery/ salivary gland disease</b></p>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a>, <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>
<p><b>9. Dentofacial deformity and Orthognathic surgery</b></p>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a>, <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>
<p><b>10. Hospitalized patients and GA</b></p>	<ol style="list-style-type: none"> <li>1. Contemporary Oral &amp; Maxillofacial Surgery. 7<sup>th</sup> Edition 2019. Peterson, Ellis, Hupp, Tucker</li> <li>2. Internet e.g. <a href="https://www.sciencedirect.com/">https://www.sciencedirect.com/</a>, <a href="https://emedicine.medscape.com/">https://emedicine.medscape.com/</a></li> </ol>