



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

**BDS Fourth Year
Oral & Maxillofacial Surgery
Study Guide**

Introduction:

Oral and Maxillofacial Surgery is a surgical specialty dealing with the diagnosis, surgical and adjunctive management of diseases, injuries and defects involving both the functional and esthetic aspects of the hard and soft tissues of the mouth, jaws, face and the neck region.

It is important for the student to learn basics of oral and maxillofacial surgery and acquire core skills such as performing minor oral surgical procedures independently during their academic and post academic tenure. It is crucial to recognize disease, both general and oral; dentoalveolar surgery and an understanding of the available specialist scope for appropriate referral of the patients are soundly taught.

Outcome:

By the end of the course on Oral and Maxillofacial Surgery, final year BDS students will be able to manage patients with common Oral Surgery related conditions under supervision

Teaching and learning:

- Flipped Classroom (FC)
- Interactive lectures (IL)
- Tutorials
 - a. Cased Based Learning (CBL)
 - b. Small Group Discussion (SGD)

Assessment tools:

1. Multiple Choice Questions: (MCQs)
 - One Correct Type
 - One Best Type
2. OSCE
3. Short Answer Questions (SAQs)
4. Mini Clinical Examination (MiniCEx)



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

s. n o.	Topic	Course Objectives: By the end of the course, 4th year students will be able to:	Teaching method	Assessment Tool
1	Basic Principles of Oral & Maxillofacial Surgery	<ul style="list-style-type: none"> • Discuss the formulation of treatment plan for the patient presenting in oral surgery on the basis of history, clinical examination and investigations • Identify transmissible pathogenic organisms pertinent to practice of oral and maxillofacial surgery • Define the aseptic techniques, universal precautions and post-surgical asepsis • Enlist and define the various techniques of sterilization and disinfection and maintenance of sterility • Discuss the various types of incisions and flap designs • Enlist principles of tissue handling • Describe complication of improper tissue handling • Explain hemostasis and various means of promoting wound healing • Discuss dead space management • Discuss infection control • Explain the causes of tissue 	IL SGD	SAQs MCQ (1 correct)



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<p>damage</p> <ul style="list-style-type: none"> • Describe wound repair and epithelialization • Define facial neuropathy of traumatic origin • Describe the classifications of nerve injury • Describe the methods of nerve healing, tissue repair and reconstruction 		
2	Medical Aspects of Oral Surgery	<ul style="list-style-type: none"> • Explain how Oral and Maxillofacial Surgery procedures can exaggerate the pre-existing medical and surgical conditions • Describe appropriate prophylactic measures to be taken before treatment • Diagnose dental problems in medically compromised patient • Discuss management of patient with the following medical conditions: <ol style="list-style-type: none"> a) Cardiovascular diseases b) Respiratory diseases c) Diabetes mellitus d) Immunosuppression e) Blood dyscrasias f) Radiation therapy of Head and Neck g) Bisphosphonate-related 	<p>IL CBL</p>	<p>MCQ (1B)</p>



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<p>osteonecrosis of the jaw</p> <p>h) Prosthetic Implants</p> <p>i) Renal Diseases and transplant</p> <p>j) Osteoporosis</p>		
3	Anesthesia and Sedation	<ul style="list-style-type: none"> • Classify local anesthesia, general anesthesia and sedation • Describe the pharmacology of local anesthesia, sedation • Describe pre-requisites for local anesthesia, general anesthesia and sedation for oral and maxillofacial surgical procedures • Interpret investigations carried out for administration of local anesthesia, general anesthesia and sedation • Discuss selection criteria for patients undergoing oral and maxillofacial procedures under local anesthesia, general anesthesia and sedation • Discuss indications and contraindications of general and local anesthesia and sedation • Describe mechanism of action of local anesthetic and sedative agents • Identify and discuss the local and systemic complications pertinent to local anesthesia and sedation 	FC SGD	MCQ (1 correct) SAQ



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<ul style="list-style-type: none"> Discuss conventional and specialized technique acquired for administration of local anesthesia 		
4	Exodontia	<ul style="list-style-type: none"> Discuss the following steps as a prerequisite for tooth extraction: <ol style="list-style-type: none"> Pain and anxiety control Pre surgical medical assessment Clinical evaluation of teeth for removal Radiographic examination of tooth for removal Identify instruments used for: <ol style="list-style-type: none"> Incising tissue Elevating mucoperiosteum Retracting soft tissue Controlling hemorrhage Grasping tissue Removing bone Removing soft tissue from bony defects Suturing of mucosa Methods of mouth open during different types of oral and maxillofacial surgeries Methods of improving visibility of surgical area (suctioning, wiping, piezo surgical instruments, laser surgical 	IL CBL	MCQ (1B) SAQ



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<p>instruments)</p> <ul style="list-style-type: none">• handling dirty and clean surgical instruments• Preparation of a patient for surgical procedures• Various methods and importance of Irrigation• Identify commonly used instruments during oral and maxillofacial procedures• Discuss the disposal of clinical waste and sharps according to recommended guidelines• Discuss:<ul style="list-style-type: none">a) Indications and contraindications for removal of teethb) Mechanical principles involved in tooth extractionsc) Principles of forceps use• Describe Specific techniques for removal of each tooth• Explain Post extraction care of tooth socket• Discuss:<ul style="list-style-type: none">a) Indications/contraindications, principles and techniques for surgical extractionb) Principles of flap design,		
--	--	---	--	--



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<p>development and management</p> <ul style="list-style-type: none"> • Discuss Policy for leaving root fragments • Mention sequence of extraction when multiple extractions have to be performed 		
5	Impacted Teeth	<ul style="list-style-type: none"> • Define Impaction • Classify maxillary and mandibular impacted teeth according to standard classification • Discuss the indications and contraindications for removal of impacted teeth • Describe the complications of removal of impacted teeth • Discuss preoperative and postoperative patient management after extraction of impacted teeth • Discuss the surgical procedures for extraction • Discuss surgical complications of wisdom tooth extraction and their management 	IL SGD	MCQ (1c)
6	Maxillary Antrum	<ul style="list-style-type: none"> • Describe the surgical Anatomy of maxillary antrum • Discuss management of Oro-antral Fistula 	IL SGD	MCQ (1c)



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<ul style="list-style-type: none"> • List antral pathology 		
7	Infections	<ul style="list-style-type: none"> • Classify facial spaces • Discuss microbiology of odontogenic infections • Discuss the anatomy of primary and secondary spaces of head and neck region. • Explain the spread of infections through primary and secondary spaces of head and neck region. • Discuss the sequelae of spread of infections through secondary spaces. • Discuss signs and symptoms, diagnosis, investigations, treatment and post-operative management of: <ol style="list-style-type: none"> a) Osteomyelitis b) Actinomycosis c) Candidiasis d) Deep fungal infections • Discuss stages of progression of odontogenic infections • Discuss principles of: <ol style="list-style-type: none"> a) Prevention of infection b) Management of wound infection c) Prophylaxis against metastatic infection d) Cellulitis and Ludwig's 	<p>IL CBL</p>	<p>MCQ(1B)</p>



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<p align="center">angina</p> <p>e) Cavernous sinus thrombosis</p> <p>f) Prophylaxis of infective endocarditis</p>		
8	Cysts	<ul style="list-style-type: none"> • Discuss the classification of cysts affecting oral and maxillofacial region • Describe surgical management of cysts and cyst like lesions of the oral and maxillofacial area 	IL SGD	MCQ (1c)
9	Odontogenic Tumor	<ul style="list-style-type: none"> • Classify odontogenic tumors of oral and maxillofacial region • Diagnose Odontogenic tumors on patients on the basis of clinical features • Describe surgical management of benign lesions in oral soft tissues • Discuss principles of surgical management of jaw tumors • Discuss resections types and their indications in the jaw tumor • List methods of reconstruction of jaws 	IL SGD	MCQ (1c)
10	Malignant Orofacial Tumors	<ul style="list-style-type: none"> • Classify odontogenic tumors of oral and maxillofacial region • Diagnose Odontogenic tumors on patients on the basis of clinical features • Describe surgical management of benign lesions in oral soft tissues 	IL SGD	MCQ (1c)



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<ul style="list-style-type: none"> • Discuss principles of surgical management of jaw tumors • Discuss resections types and their indications in the jaw tumor • List methods of reconstruction of jaws • Discuss Principles of management of malignant orofacial tumors • Discuss examination and diagnostic methods of orofacial pathology • Discuss principles and soft tissue/hard tissue biopsy techniques • Describe dental management of patients undergoing radiotherapy and chemotherapy to head and neck region • Classify the different types of flaps used for reconstruction in maxillofacial region 		
1 1 .	Salivary Gland Diseases	<ul style="list-style-type: none"> • Discuss anatomy, physiology and pathology of salivary glands • Enlist and discuss Diagnostic modalities for salivary gland disorders • Discuss signs and symptoms, diagnosis, investigations, treatment and post-operative 	IL SGD	MCQ (1c)



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<p>management of:</p> <ul style="list-style-type: none"> a) Obstructive salivary gland disease b) Mucous retention and extravasation cyst phenomenon c) Salivary gland infections d) Neoplasia of salivary gland e) Congenital diseases of salivary gland 		
1 2 .	TMJ Disorders	<ul style="list-style-type: none"> • Describe anatomy of Temporomandibular joint. • Classify of TMJ disorders • Identify sign and symptoms of TMJ disorders • Evaluate a patient with TMJ disorder • Formulate a management plan for patient presenting with TMJ disorders • Discuss signs and symptoms, diagnosis, investigations, treatment and post-operative management of: <ul style="list-style-type: none"> a) Temporomandibular Pain Dysfunction Syndrome b) TMJ ankylosis c) Internal disc derangement of TMJ d) Dislocation and subluxation 	<p>IL SGD</p>	<p>MCQ (1c)</p>



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		of TMJ		
1 3 .	Pre-Prosthetic Surgery	<ul style="list-style-type: none"> • Identify the objectives of pre-prosthetic surgery • Discuss the principles of patient evaluation and treatment planning • Explain re-contouring the alveolar ridges • List and describe soft tissue and hard tissue abnormalities • Describe mandibular and maxillary ridge augmentation • Discuss the correction of abnormal ridge relationships • Explain Biologic considerations for osseo-integration • Describe dental implant components • Identify Implant prosthetic options • Discuss pre-operative evaluation of implant patient • Describe surgical phase: Treatment Planning • List basic surgical techniques • Discuss complications. 	IL SGD	MCQ (1c)
1 4 .	Facial Pain	<ul style="list-style-type: none"> • Classify Orofacial pain • Evaluate patients presenting to the OPD with orofacial pain • Discuss the neurophysiology of 	IL SGD	MCQ (1B)



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<p>pain.</p> <ul style="list-style-type: none"> • Discuss and Classify Neuropathic facial pains. • Identify, Diagnose and management of chronic headache • Explain the clinical features, pathophysiology, history, signs and symptoms and management options of trigeminal neuralgia. • Explain the clinical features, pathophysiology, history, signs and symptoms and management options facial nerve palsy. 		
1 5 .	Cleft Lip and Palate	<ul style="list-style-type: none"> • Describe the embryology, etiologic factors and functional problems associated with cleft lip and palate patients • Discuss treatment sequence and dental needs of cleft lip and palate patients 	IL SGD	MCQ (1B)
1 6 .	Orthognathic Surgery	<ul style="list-style-type: none"> • Discuss the evaluation of patient for orthognathic surgery. • Classify orthognathic skeletal deformities. • Identify indications of the surgical procedures required to correct abnormalities in maxilla and mandible • Discuss distraction osteogenesis • List postoperative complications 	IL SGD	MCQ (1c)



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

1 7 .	Surgical Endodontics	<ul style="list-style-type: none"> • Discuss principles of surgical endodontics • Describe management of periapical pathology 	IL SGD	MCQ (1c)
1 8 .	Radiology	<ul style="list-style-type: none"> • Discuss and describe different types of conventional radiographs (Intra Oral and Extra Oral) • List indications of different types of specialized imaging modalities -Computerized Tomography Scan, Cone Beam Computerized Tomography, Magnetic Resonance Imaging, Ultrasound, Positron Emission Tomography CT, Sialogram, Angiogram, Scintigraphy 	IL SGD	MCQ (1B)
1 9 .	Maxillofacial Trauma	<ul style="list-style-type: none"> • Evaluation of patients with facial trauma • Discuss ABCDE of emergency management (Primary and secondary survey) • Discuss: <ul style="list-style-type: none"> a) Soft and hard tissue injuries b) Dentoalveolar injuries • Classify mandibular fractures • Discuss <ul style="list-style-type: none"> a) Etiology, sign and symptoms and management of 	IL CBL	MCQ (1B)



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<p>mandibular fractures</p> <p>b) Management of edentulous atrophic mandibular fracture</p> <p>c) Management of mandibular fracture in children</p> <ul style="list-style-type: none">• Discuss complications of mandibular fractures• Classify Zygomatic Complex (ZMC) fractures• Discuss causes, signs, symptoms and investigations for ZMC fractures• Discuss management options & complications of ZMC fracture• Describe anatomy of orbit• Classify Orbital and Nasal fractures• Discuss causes, signs, symptoms and management of orbital and nasal fractures• Discuss complication of orbital and nasal fractures• Classify Mid-face fractures• Discuss causes, signs, symptoms and management of mid face fractures• Discuss the complication of mid face fracture		
--	--	--	--	--



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

CLINICAL SKILLS By the end of the year students will be able to:		Teaching method	Assessment Tool
1	<p>Psychomotor skills</p> <p>Demonstrate:</p> <ul style="list-style-type: none"> • selection handling and correct use of: <ul style="list-style-type: none"> -Dental elevators -Extraction forceps • physical examination on patients presenting in the OPD • effective administration of local anesthesia (infiltration/Nerve block) • Correct chair position for forceps extraction • Procedure of open and closed extraction • technique for open extraction of single, multi rooted teeth and removal of small fragments • procedure for reduction of dislocated TMJ • BLS <p>Examine</p> <ul style="list-style-type: none"> • TMJ • muscles of mastication • Cranial Nerves (Facial and Trigeminal) • Neck for nodes/swelling 	C.Demo SGD	OSCE MiniCex



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<ul style="list-style-type: none"> • Measure Blood Pressure and Pulse rate. • Perform culture and sensitivity test 		
2	Patient Safety and infection control	<ul style="list-style-type: none"> • Demonstrate aseptic technique on patients during dental surgery • Demonstrate the method of hand washing, scrubbing, gloving and gowning • Choose relevant investigations for safe administration of local anesthesia, general anesthesia and sedation 	C.Demo	OSCE MiniCex
3	Communication skills	<p>Obtain</p> <ul style="list-style-type: none"> • a comprehensive medical and surgical history of patients presenting to the OPD • a comprehensive medical history of patients undergoing oral and maxillofacial procedures under local anesthesia, general anesthesia and sedation • informed /written consent from patients attending dental OPD for oral and maxillofacial procedures under local anesthesia, general anesthesia and sedation 	C.Demo	OSCE MiniCex



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

		<ul style="list-style-type: none"> • Prescribe relevant investigation and medications for patients with TMJ disorders <p>Write</p> <ul style="list-style-type: none"> • a standardized prescription • operative notes for patient records • a referral letter to consultant. • a referral letter for biopsy • a note to laboratory for sensitivity and resistance of antibiotics. 		
4	Counselling	<p>Counsel patient</p> <ul style="list-style-type: none"> • for the extraction of wisdom tooth under General Anesthesia. • with Oral Submucous Fibrosis on betel nut chewing. • with transient facial nerve palsy after local anesthesia. • gone through major surgery/ • Break the bad news. 	C.Demo	OSCE MiniCex
5	Models Practical's	<ul style="list-style-type: none"> • Fabricate eyelets. • Place eyelets and arch bars on models. • Perform maxilla-mandibular fixation on models. • Perform suturing on models (interrupted, figure of 8 and mattress) 	C.Demo	OSCE MiniCex



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

Reading Sources:

Text Books:

- Contemporary oral and maxillofacial surgery – Latest edition
- Local anesthesia in dentistry – Geoffrey L Howe
- Killey's Fracture of the middle third of the facial skeleton
- Killey's Fracture of the mandible

Internet resources: With easy excess to digital library students will use internet resources with added time flexibility to enrich and update their knowledge and its application.

Library: It provides wealth of resources, space to study alone or in a group. It also provide world of books to discover and borrow.

Assessment Criteria :

Knowledge: MCQs (Multiple Choice Questions) are used to asses objectives covered in each module.

- A MCQ has a statement or clinical scenario followed by four options (likely answer).
- Students after reading the statement/scenario select ONE, the most appropriate response from the given list of options.
- Correct answer carries one mark, and incorrect 'zero mark'. There is no negative marking.
- Students mark their responses on an answer sheet provided by examination department.

Skills:

- OSCE: Objective Structured Clinical Examination:
- Each student will be assessed on the same content and have same time to complete the task.
- Comprised of 12-25 stations.
- Each station may assess a practical tasks include practical skills and application of knowledge
- Stations are observed, interactive, application of knowledge based and rest.



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

- In Observed and Interactive Stations these will be assessed by internal or external examiners through structured viva or a task.
- Application of knowledge Stations: it will be static stations in which there will be pictures, clinical scenarios with related questions for students to answer on the provided answer copy.
- Rests: It is a station where there is no task given and in this time student can organize his/her thoughts.

AIDM Internal Assessment Policy

Students will be assessed to determine achievement of learning objectives through the following:

- Midterm Examination will be scheduled on completion of half of the course and OPD rotations
- Mock Examination will be scheduled on completion of whole course and OPD rotations
- The method of examination comprises theory exam which includes MCQs, and practical examination by OSCE (Objective Structured Clinical Examination).
- Student's behaviors and attitudes will be observed during all academic activities.

Annual Examination:

- Marks of both internal assessments will constitute 20% weightage as per JSMU policy.
- University Annual examination carries 90% marks. Theory exam will be based on MCQs and Clinical / Professional /communication skills will be assessed by OSCE.

Attempts: There are 2 attempts in the fourth professional examination only. 2nd attempt is the supplementary examination which if not passed student has to repeat the year.

Course Evaluation:

- Pass/fail ratio of continuous and summative assessments will be evaluated.
- 75% attendance is mandatory to be eligible for annual professional examination



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

- Feedback will be taken
 - Regarding course from students and faculty
 - Student feedback regarding faculty
 - Faculty feedback of students

Teaching Faculty:

Dr. Dinaz Ghandhi
Professor, Head of Department
dinazghandhi@yahoo.com

Dr. Batool S Vazir
Assistant Professor
b_vazir@hotmail.com

For queries:

Department of Medical Education

Dr. Shaur Sarfaraz
Director & Assistant Professor
shaur.sarfaraz@altamash.pk

Dr. Maria Ghani
Lecturer
maria.ghani@altamash.pk