



NUMS
NATIONAL UNIVERSITY
OF MEDICAL SCIENCES

**CURRICULUM
FOR
ORAL & MAXILLOFACIAL SURGERY
(2019-20)**

**National University of Medical Sciences
Pakistan**

I. Context / Preamble

Oral and maxillofacial surgery is a specialty within dentistry that deals with the diagnosis and surgical management of diseases, disorder, deformities, injuries and esthetic aspects of the mouth, teeth, jaws and face.

This undergraduate Oral and Maxillofacial Surgery curriculum is designed to train Bachelor of Dental Surgery (BDS) students to provide minor oral surgery services in the practice of general dentistry. This mainly involves safe extraction of teeth (Exodontia), treatment of minor soft and hard tissue injuries (Trauma), diagnosis and treatment of routine oral and dental infections, defects and pathologies of the region, and the diagnosis and referral of major problems to the concerned specialists.

Oral and Maxillofacial Surgery is a major subject of final professional BDS examination and carries a total of 300 marks.

II. Mission

The mission of this course is to familiarize BDS students with the basic knowledge, skills and attitudes for safe practice of minor oral surgical procedures in dental clinics.

III. Competencies

The following generic competencies apply to this oral & maxillofacial Surgery course:

- Critical Thinking
- Problem Solving
- Communication Skills
- Professionalism
- Procedural Skills

IV. Learning Outcomes

Specific Learning outcome of each course is attached as Annex A

V. Implementation of the curriculum

Overview

1. The Oral and Maxillofacial Surgery curriculum is divided into 10 courses or blocks, taught sequentially as given below:
 - a. Medically compromised conditions and their management
 - b. Basic principles of surgery
 - c. Exodontia
 - d. Odontogenic & maxillofacial infections
 - e. Oral & maxillofacial trauma
 - f. Oral & maxillofacial pathology
 - g. Oral & maxillofacial deformity

- h. Preprosthetic and implant surgery
 - i. Temporomandibular and facial pain disorders.
 - j. Management of hospitalized patients
2. The theory component is covered by one lecture per week in third year and three lectures a week in fourth (Final) year.
 3. Practical training is imparted during a 10 weeks clinical rotation in third year and an eight weeks rotation in fourth year BDS.
 4. During their clinical rotation, students in small groups learn through practical chair side demonstrations of the techniques of local anesthesia administration, dental extractions, soft tissue suturing and wiring and splinting techniques for dento alveolar injuries on dental models. They then perform dental extractions on patients under supervision. They also observe and assist seniors in other minor oral surgical procedures under local anesthesia,
5. Weekly Plan Oral & Maxillofacial Surgery

Oral & Maxillofacial Surgery Lectures Schedule Final Year BDS (2017 – 2018)

Subject	Monday	Tuesday	Wednesday	Thursday	Friday
Oral & Maxillofacial Surgery		08:00 – 09:00		09:00 – 10:00	09:00 – 10:00

Oral & Maxillofacial Surgery Practical / Clinical Schedule Final Year BDS (2017 - 2018)

Activity	Monday	Tuesday	Wednesday	Thursday	Friday
Clinical Demonstration	13:00-14:30	10:30-14:30	13:00 – 14:30	10:30-14:30	–
Clinical Procedure under Supervision	10:30-13:00		10:30-13:00		–

VI. Resources

To be filled by each institute

VII. Facilities

To be filled by each institute

VIII. Course Administration

To be filled by each institute

IX. Students Assessment

- a. Minimum attendance of 75% is a requirement to appear in university professional examination.
- b. Students are expected to perform 250 extractions of teeth as recommended by PM&DC during their clinical duty in 3rd and 4th year BDS and successfully complete practical exercises and assignments.
- c. Continuous formative evaluation is conducted during the academic year comprising of 5 theory tests, and 2 clinical assessment tests (ward tests and Pre annual). The results are communicated to students through notice board. Feedback is provided after each evaluation.
- d. **Mid - Term, Term, Pre - Annual and Annual Examination**
 - a. There will be two mid-term & term examinations followed by a pre-Annual and annual examinations each year.
 - b. The structure of the paper of all the term examinations and pre-annual will be the same as that for annual examination though syllabus will be different.
 - c. The structure of Mid-term exam will be half of the term exam.
 - d. The syllabus for mid-term & term examinations will be announced by the department at least 02 weeks prior to examination.
 - e. Pre-annual examination will be from whole syllabus.
 - f. The date sheet for mid-term, term and pre-annual examinations will be published by Examination branch while the examinations will be conducted by respective department.
 - g. The result will be submitted to examination branch for incorporation in internal assessment.
 - h. Internal assessment marks based on the above evaluations are sent to the university at the end of academic year and constitute 10% of the final professional examination score.
 - i. Log book
 - j. Each student is expected to maintain record of practical work in log book. Safe keeping (make copies) of the log book is the responsibility of each student. The log book must be submitted to the Oral Surgery department at the end of the academic year.

Final Professional University Examination

The summative assessment consists of a theory paper and practical examination with the following details:

Total Marks:	300
Theory Paper	90 marks (45 MCQs & 09 SAQs)
Internal Assessment	10 Marks
Total	100 Marks
Practical Examination:	
Clinical Examination	180
Internal Assessment	20
Total	200 Marks

Communication of Information to Students

All information is communicated to students through notice boards.

Learning Resources

Recommended Textbooks

- Contemporary Oral & Maxillofacial Surgery. 6th Edition 2013. Peterson, Ellis, Hupp, Tucker
- Handbook of Local Anesthesia. 6th Edition, 2013 Stanley F. Malamed
- Killeys- Midface fractures vol I; Mandible fractures vol-II
- Medical Problems in Dentistry, by Scully & Cawson
- Minor Oral Surgery by Geoffery L. Howe

Reference Books

- Maxillofacial Surgery, 2nd edition, Booth, Schendel, Hausamen
- Operative Maxillofacial Surgery, 2nd edition, 2009. Langdon, Patel
- An Outline of Oral Surgery Part-I & Part-II by Killey, Seward & Kay
- Oral & Maxillofacial Surgery by Laskin
- Oral & Maxillofacial Surgery by Kruger
- Pain And Anxiety Control for the Conscious Dental Patient, Meechan JG, Robb ND, Seymour RA- Oxford University Press (1998)
- Color Atlas of Dental Analgesia and Sedation in Dentistry, Hill C M & Morris PJ
- Hand Book of Nitrous Oxide and Oxygen Sedation Clark MS & Burnick Al. Mosby (1999).
- Oral & Maxillofacial Surgery by John Peddler.
- Resuscitation handbook, Basket PKF (1989)

Learning Outcomes
Oral & Maxillofacial Surgery Final Year BDS

Sr.No	Theme/ Topics	Course Content	Learning Outcomes: Knowledge	Educational Strategy	Weightings	Assessment Tools
			At the completion of BDS Course, the students should be able to:			
<u>I. Medically Compromised Patients & Medical Emergencies in Dental Clinic</u>						
1.	Medically Compromised States/ Emergencies	Health Status Evaluation Medically compromised States Medical Emergencies	<ul style="list-style-type: none"> • List components of medical history of patient requiring dental surgery • Describe intra & extra-oral examination for oral & maxillofacial problems. • Enumerate major signs & symptoms of compromised status of the following: <ul style="list-style-type: none"> ➤ CVS ➤ Respiratory System ➤ Endocrinal System ➤ Hematological disorders ➤ Renal and hepatic disorders ➤ Gastro-intestinal system • CNS • List relevant investigations. • List essential drugs and equipment required for 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussion • PBL / CBL 	15 %	One Best MCQs & SAQs

			<p>managing medical emergencies in dental clinics</p> <ul style="list-style-type: none"> • Identify the special needs of females undergoing dental surgery while they: <ul style="list-style-type: none"> ➤ Are pregnant ➤ Are breast feeding • Identify the need of relevant medical referral(s) and consultation(s) • Administer basic life support in cases of medical emergencies • Identify and administer initial management of the following medical emergencies: <ul style="list-style-type: none"> ➤ Acute Anaphylaxis ➤ Vasovagal syncope ➤ Foreign body inhalation and aspiration ➤ Hypo / hypertension status ➤ Emergencies affecting any of the above mentioned systems 			
II. <u>Basic Surgical Principles</u>						
2.	Basic Principles of Oral Surgery	<ul style="list-style-type: none"> • Principles of aseptic and sterile surgical protocol. 	<ul style="list-style-type: none"> • List steps of a minor oral surgery procedure. • Describe the principles of aseptic and sterile surgical protocol. 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions 	<ul style="list-style-type: none"> • Type 1 MCQs • SAQs 	

		<ul style="list-style-type: none"> • principles of the following in oral surgery: <ul style="list-style-type: none"> ➤ Pre-op, intra-op and post-operative pain & anxiety control (select appropriate method – LA, LA + sedation, GA). ➤ Therapeutic and prophylactic use of antibiotics. ➤ Edema control. ➤ Hemostasis and dead space management. ➤ Management of medical emergencies. ➤ Access to facial skeleton. • Basic principles of flap design in oral surgery. 	<ul style="list-style-type: none"> • Describe the principles of the following in oral surgery: <ul style="list-style-type: none"> ➤ Pre-op, intra-op and post-operative pain & anxiety control (select appropriate method – LA, LA + sedation, GA). ➤ Therapeutic and prophylactic use of antibiotics. ➤ Edema control. ➤ Hemostasis and dead space management. ➤ Management of medical emergencies. ➤ Access to facial skeleton. • Define these terms related to oral surgery flaps: height, base, apex, width, length, corners, sides, triangular, rectangular, sub marginal, semi-lunar • Describe basic principles of flap design in oral surgery. • Draw & label the following flaps used in minor oral surgery: <ul style="list-style-type: none"> ➤ 1, 2, 3 sided flaps and their variations. ➤ Sub-marginal / semi lunar. ➤ For tori removal. 	<ul style="list-style-type: none"> • PBL / CBL 		
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			<ul style="list-style-type: none"> ➤ For impacted maxillary canines. ➤ 1st and 2nd stage implant surgery ➤ For impacted wisdom teeth. • name suture materials and needles used in oral surgery 			
		Physiology of Wound Repair	<ul style="list-style-type: none"> • Describe the physiology of wound repair (soft tissues & bone) by: <ul style="list-style-type: none"> ➤ primary intention, ➤ secondary intention, ➤ Healing of an extraction wound and Osseointegration. • Describe the factors that impair wound healing. • Classify nerve injuries (Seddon & Sunderland). • Describe the principles of management of nerve injuries. 			
		Medico-legal Documentation and Consent	<ul style="list-style-type: none"> • List the common areas of dental litigation. • List the steps to reduce risk of litigation. • Describe the role of a dentist in forensic odontology. • Recognize non-accidental injuries in children and adults 			

			<ul style="list-style-type: none"> Follow ethical standards in dentistry, research and on social media. 			
III. <u>Exodontia Including Local Anesthesia</u>						
3.	Exodontia	Simple Exodontia	<ul style="list-style-type: none"> Welcome, introduce; seat the patient. Elicit relevant medical and dental history. Set up the instrument tray. Perform examination. Order and interpret relevant investigations. Record diagnosis (indications and contra-indications for extraction). Enlist indications and contra-indications for the removal of teeth. Formulate and finalize a treatment plan. Name the nerves that need to be anesthetized to extract individual teeth. 	<ul style="list-style-type: none"> Interactive Lectures Small Group Discussions PBL / CBL 	15 %	<ul style="list-style-type: none"> Type 1 MCQs SAQs
		Complicated Exodontia	<ul style="list-style-type: none"> Enlist the indications for open extractions. Select appropriate flaps for adequate access for complicated exodontia. 			

			<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. • Classify impacted teeth & determine the level of difficulty for extraction. • Describe the management of a patient with an impacted third molar. • List and select appropriate treatment option for a patient with an impacted canine. • Describe the step-wise surgical procedure for the removal of impacted teeth. 			

			<ul style="list-style-type: none"> Take consent and enlist the potential risks and complications for the removal of impacted teeth. 			
IV. <u>Oral & Maxillofacial Infections</u>						
4.	Odontogenic & Non Odontogenic Infections	<ul style="list-style-type: none"> Factors (host, micro-organisms, anatomical) that govern the spread of odontogenic infections Spread and pathophysiology of following infections in head and neck: <ul style="list-style-type: none"> ➤ Odontogenic infection to primary and secondary fascial spaces. ➤ Cavernous sinus thrombosis/orbital cellulitis. ➤ Mediastinitis ➤ Ludwig's angina. ➤ Osteomyelitis. ➤ Candidiasis, necrotizing 	<ul style="list-style-type: none"> Order and interpret relevant investigations. Discuss factors (host, micro-organisms, anatomical) that govern the spread of odontogenic infections. Diagnose and differentiate between edema (inoculation), cellulitis and abscess. Describe spread and pathophysiology of following infections in head and neck: <ul style="list-style-type: none"> ➤ Odontogenic infection to primary and secondary fascial spaces. ➤ Cavernous sinus thrombosis/orbital cellulitis. ➤ Mediastinitis. ➤ Ludwig's angina. ➤ Osteomyelitis. ➤ Candidiasis, necrotizing fasciitis, actinomycosis. Plan management for odontogenic infections: 	<ul style="list-style-type: none"> Interactive Lectures Small Group Discussions PBL / CBL 	10 %	<ul style="list-style-type: none"> Type 1 MCQs SAQs

		<p>fasciitis, actinomycosis.</p> <ul style="list-style-type: none"> • Management of infections 	<ul style="list-style-type: none"> ➤ Remove the cause. ➤ Surgically drain pus and insert drains, if indicated. ➤ Provide supportive therapy: select appropriate antibiotic and manage airway, nutrition, and hydration. ➤ Refer, when indicated. <ul style="list-style-type: none"> • Choose and prescribe appropriate antibiotic(s) for odontogenic infections. ➤ Justify prophylaxis against infectious endocarditis and total joint replacement. 			
V. <u>Oral & Maxillofacial Trauma</u>						
5.	ATLS	Advanced Trauma Life Support (ATLS) Principles	<ul style="list-style-type: none"> • List steps of ATLS evaluation (primary survey) of patient with maxillofacial trauma • Describe the detailed clinical examination of Maxillofacial trauma patients 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions • PBL / CBL 	15%	<ul style="list-style-type: none"> • Type 1 MCQs • SAQs

6.	Facial Soft Tissue Injuries and Dent alveolar Trauma		<ul style="list-style-type: none"> • State etiology (name 3 causes) of maxillofacial trauma, Dentoalveolar trauma, facial soft and hard tissue injuries. • Define abrasion, contusion, laceration. • Order and interpret relevant investigations. • Describe the management of facial soft tissue injuries and close the intra-oral soft tissue wound by sutures in a logical order. • Classify traumatic injuries to the teeth and supporting structures (WHO Classification) • Splint teeth using acid etch technique or wires on a model. • Make an eyelet. • Do IMF on a model using eyelets and arch bars. 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions • PBL / CBL 		<ul style="list-style-type: none"> • Type 1 MCQs • SAQs
7.	Mandibular Fractures		<ul style="list-style-type: none"> • Order and interpret relevant investigations. • Classify mandibular fractures according to the type, site and favorability to reduction. 			

			<ul style="list-style-type: none"> • Formulate a treatment plan for mandibular fractures in adults and children. • Name possible complications of mandibular fractures. 			
			<ul style="list-style-type: none"> • Order and interpret relevant investigations. • Classify mid and upper face fractures according to the type and site/level of fracture. • Discuss principles of management of midfacial fractures. • Describe management of patients with multiple facial injuries. • Discuss principles of management of fractures of zygomatic bone and arch, frontal bone and NOE complex. • Name complications of mid and upper face fractures. • Describe considerations in the management of pediatric and geriatric maxillo-facial trauma. • Describe principles of management of fire arm injuries involving the face. • Identify instruments used in management of OMF trauma. 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions • PBL / CBL 		<ul style="list-style-type: none"> • Type 1 MCQs • SAQs

VI. Cysts, Tumors, Periapical, Antral and Other Pathological Lesions

8.	Oral & maxillofacial pathology	Biopsy	<ul style="list-style-type: none"> • Order and interpret relevant investigations. • Describe the adjuncts to clinical screening of suspicious lesions, including fluorescent light and vital staining. • State the indications of biopsy and describe each type of soft and hard tissue biopsy. • Identify instruments used for oral biopsy. • Write a biopsy request form for histopathological examination and properly handle biopsy specimen. 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions • PBL / CBL 	10 %	<ul style="list-style-type: none"> • Type 1 MCQs • SAQs
		Cysts	<ul style="list-style-type: none"> • classify jaw cysts (simple classification – odontogenic and non –odontogenic) • Differentiate between radicular, dentigerous and keratocyst. • State the indications, advantages, disadvantages and techniques for the management of jaw cysts and cyst-like lesions i.e. • Enucleation, marsupialization, enucleation followed by 			

			<p>marsupialization, enucleation with curettage.</p>			
		Tumors	<ul style="list-style-type: none"> • Describe the management of jaw tumors based on the types of resection: marginal (segmental), partial, total, composite. • Describe the management of benign soft tissue tumors. • Describe the management of potentially malignant (pre-malignant) lesions. • describe the management of malignant tumors of the oral cavity according to the following factors: • Histopathology, grade and extracapsular spread. • TNM staging. 			
		Salivary Gland Disorders	<ul style="list-style-type: none"> • Describe pathophysiology and presentation of obstructive, retentive, infectious and neoplastic salivary gland disease. • Describe various diagnostic modalities for salivary gland disorders. • describe the principles of management of the following salivary gland disorders: sialolithiasis, 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions • PBL / CBL 		<ul style="list-style-type: none"> • Type 1 MCQs • SAQs

		<ul style="list-style-type: none"> • Mucocele, ranula, infections, traumatic injuries to salivary glands, pleomorphic adenoma, Warthin's tumor, mucoepidermoid carcinoma, adenoid cystic carcinoma, adenocarcinoma. 			
	Periapical & Periradicular Pathology	<ul style="list-style-type: none"> • Name the different endodontic surgical procedures • Order and interpret relevant investigations. • Discuss indications for surgical endodontic procedures. • List contraindications for surgical endodontics. • select appropriate procedure, flap, technique and (root-end filling) materials for surgical Endodontics • Discuss the post-operative instructions after endodontic surgery 			
	Maxillary Sinus Diseases	<ul style="list-style-type: none"> • Describe odontogenic and non-odontogenic infections of maxillary sinus and their differential diagnoses. • Describe the treatment of sinusitis. • Classify oro-antral communication according to 			

			<p>size and describe their management according to the time elapsed.</p> <ul style="list-style-type: none"> • Enlist the common maxillary sinus tumors of odontogenic and non-odontogenic origin and describe their management. 			
		<p>Management of patients undergoing Radiotherapy & Chemotherapy</p>	<ul style="list-style-type: none"> • State the mechanism of action of radiotherapy, regimes of radiotherapy and list its adverse oral effects. • Describe the dental management of patients undergoing radiotherapy to the OMF region. • Define osteoradionecrosis. Describe its stages and management plan. • State the dental management of a patient undergoing systemic chemotherapy. • Define MRONJ. • State the management of a patient at risk of MRONJ needing dental extraction. 			

VII. Dentofacial Deformity and Orthognathic Surgery

9.	Oral & maxillofacial deformity	Dentofacial Deformity & Orthognathic Surgery	<ul style="list-style-type: none"> • Enlist causes of dentofacial deformities. • Order and interpret relevant investigations. • Describe the pre-surgical preparation for orthognathic surgery patient. • Describe the surgical treatment options (osteotomies) for the following: mandibular excess, mandibular deficiency, maxillary and mid-face deficiency, combination deformity, facial asymmetry. • Describe the role and advantages of distraction osteogenesis in OMF region 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions • PBL / CBL 	10%	<ul style="list-style-type: none"> • Type 1 MCQs • SAQs
		Oro-facial Clefts	<ul style="list-style-type: none"> • Name the number of different types of rare facial clefts in addition to cleft lip and palate. • Classify cleft lip and palate for communication and record keeping. • Enlist the OMF problems faced by a cleft patient. • Constitute a team for the treatment of a cleft patient. • Describe the treatment of a cleft patient according to the 			

			sequence and surgical procedures.			
		Reconstruction of OMF Defects	<ul style="list-style-type: none"> • State the general principles of OMF reconstruction. • Describe the biology of bone reconstruction and define osteo-induction, osteo-conduction, osteo- promotion and osteo-genesis. • Classify bone grafts on the basis of source and vascularity (autogenous) • Enlist the goals of mandibular reconstruction: restoration of continuity, alveolar bone height, osseous bulk and function. • Describe the role of maxillofacial prosthetics in rehabilitation of OMF defects. 			
VIII. <u>Prosthetics and Implants Surgery</u>						
10.	Preprosthetic and implant surgery	Preprosthetic surgery	<ul style="list-style-type: none"> • Enlist objectives of pre-prosthetic surgery. • Identify abnormalities of soft and hard tissues which interfere with denture (partial/complete) construction and formulate a treatment plan. 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions • PBL / CBL 	5 %	<ul style="list-style-type: none"> • Type 1 MCQs • SAQs

			<ul style="list-style-type: none"> • Name and describe ridge extension, augmentation and correction (osteotomies) procedures for mandible and maxilla. • Discuss complications of pre-prosthetic surgery. • Briefly describe the principles of following surgical procedures: <ul style="list-style-type: none"> ➤ Alveoloplasty simple, intraseptal (Dean's), ➤ tuberosity reduction, exostosis and undercuts correction, tori removal, ➤ mylohyoid ridge reduction, ➤ genial tubercle reduction, ➤ retromolar pad reduction, ➤ lateral palatal soft tissue excess removal, ➤ unsupported hypermobile tissue removal, ➤ inflammatory fibrous hyperplasia removal, ➤ Labial and lingual frenectomy • Describe the surgical protocol for immediate denture placement/construction. 			
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			<ul style="list-style-type: none"> • Describe methods of ridge preservation. • Describe procedure and advantages of overdenture. 			
		Dental Implants Surgery	<ul style="list-style-type: none"> • Define dental implant and identify its components. • Define osseointegration, list factors influencing osseointegration. • Define the following terms related to dental implants: endosseous, root-form, cover screw, healing abutment/gingival former, single/two stage, screw/cement retained, biotypes. • Describe the following considerations for implant placement: soft tissue, hard tissue and biomechanical. • Assess a patient in need of dental implant(s) by history, clinical examination, and imaging. • Describe the surgical procedure for one stage, two stage and immediate dental implant placement. • State the peri-operative management of dental implant placement. 			

			<ul style="list-style-type: none"> • Enlist complications of implant surgery and describe their management. • Describe ridge augmentation and preservation, guided bone regeneration, onlay bone grafting, sinus lift and distraction osteogenesis for dental implant placement. • Name the following special maxillofacial implants: zygomatic and extra-oral. 			
IX. Pain / TMJ Surgery / Salivary Gland Diseases						
11.	TMJ and facial pain disorders	TMJ Disorders	<ul style="list-style-type: none"> • Classify TMJ disorders as: myofascial, internal derangement (Wilke's), systemic arthritis conditions, chronic recurrent dislocation, ankylosis, neoplasia and infections. • Select management options for TMD and ankylosis. 	<ul style="list-style-type: none"> • Interactive Lectures • Small Group Discussions • PBL / CBL 	5 %	<ul style="list-style-type: none"> • Type 1 MCQs • SAQs
		Oro-facial Pain	<ul style="list-style-type: none"> • Describe the pathophysiology of neuropathic pain. • Classify oro-facial pain according to site and etiology. • Differentiate trigeminal neuralgia from pre-trigeminal neuralgia, odontalgia, and post-herpetic neuralgia, 			

			neuroma, burning mouth syndrome, glossopharyngeal neuralgia and headaches.			
X. Hospitalized patients & GA						
12.	Management of hospitalized patients	Pre and post-operative management of hospitalized patients	<ul style="list-style-type: none"> • Identify the need of patient hospitalization • Write consultation and referral requests to other specialties • Describe the pre and post-operative management of hospitalized patients • Advise the pre anesthesia investigations • Maintain operative and post-operative records of the hospitalized patients 		5 %	

Clinical Outcomes: By the end of final year BDS, the students should be able to:

Health Status Evaluation

- Elicit detailed history of the patient
- Perform intra and extra-oral examination for oral and maxillofacial problems.
- Order and interpret relevant investigations.
- Apply the following suturing techniques: simple interrupted, figure of '8', horizontal and vertical mattress.
- Administer infiltration for maxillary extractions and mandibular anterior teeth extractions.
- Administer inferior alveolar nerve block for mandibular extractions.
- Administer supplemental LA techniques.
- Communicate with a patient after a complication has occurred (role play) + break bad news in a way to avoid litigation

Exodontia

- Use appropriate operator and patient positions,
- Identify and use appropriate instruments and techniques to perform an extraction
 - gingival detachment
 - forceps application
 - tooth luxation and delivery
 - jaw support and tissue retraction (non-dominant hand)
 - Advise postoperative instructions

Infections

- Order and interpret relevant investigations.
- Perform incision and drainage of intra oral abscesses
- Collect specimen for culture and sensitivity

Aids to dental specialties

- Order and interpret relevant investigations.
- Describe the surgical procedure for one stage, two stage and immediate dental implant placement.

Trauma

- Identify signs and symptoms of dento alveolar injuries
- Identify common signs and symptoms of facial fractures
- Order and interpret relevant investigations.
- Splint teeth using acid etch technique or wires on a model.
- Make an eyelet.
- Do IMF on a model using eyelets and arch bars.
- Order and interpret relevant investigations.
- Order and interpret relevant investigations.

Pathology

- Identify signs and symptoms of odontogenic cysts and tumors
- Identify clinical signs of oral malignancy
- Order and interpret relevant investigations.

Deformity

- Order and interpret relevant investigations.

Oro facial pain

- Differentiate odontogenic from non-odontogenic pain with history and clinical examination
- Diagnose trigeminal neuralgia and describe its management options.