

DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY

Goals

The goals of Postgraduate training in the subject of Oral & Maxillofacial Surgery

1. Central goal:

a. Cure:

i. Diagnostic and Treatment procedures.

ii. Medication.

b. Supportive Goal:

i. Nursing Care

ii. Provide an atmosphere for rest, quietness and comfort and facilitate healing Reassure the patient.

c. Extended Goals:

i. Teaching of PG's to attain self sufficiency in the field of Oral & maxillofacial Surgery

ii. Community out reach programmes.

iii. Clinical Research.

iv. Department/ subject Promotion.

Objective

a) Knowledge

1. To have acquired adequate knowledge and understanding of the etiology, patho- physiology and diagnosis, treatment planning of various common oral and maxillofacial surgical problems both minor and major in nature.
2. To have understood the general surgical principles like pre and post surgical management, particular evaluation, post surgical care, fluid and electrolyte management, blood transfusion and post surgical pain management.
3. Understanding of basic sciences relevant to practice or oral and maxillofacial surgery
4. Able to identify social, cultural, economic, genetic and environment factors and their relevance to disease process management in the Oral and maxillofacial surgery
5. Essential knowledge of personal hygiene and infection control, prevention of cross infection and safe disposal of hospital waste keeping in view the high prevalence of Hepatitis and HIV.

b) Skills

1. To obtain proper clinical history, methodical examination of the patients, perform essential diagnostic procedures and order relevant laboratory test and interpret them and to arrive to a reasonable diagnosis about the surgical condition.
2. To perform with competence minor oral surgical procedures and common maxillofacial surgery. To treat both medically and surgically (or by other means of the oral and maxillofacial and the related area)
3. Capable of providing care for maxillofacial surgery patients.

COURSE CONTENT (YEAR WISE)

FIRST YEAR

I. Applied Anatomy

1. Surgical anatomy of the scalp, temporal area and face
2. Anatomy of the triangles of neck and deep structures of the neck
3. Cranial and facial bones and its surrounding soft tissues with its applied aspects in maxillofacial injuries.
4. Muscles of head and neck.
5. Arterial supply, venous drainage and lymphatics of head and neck.
6. Congenital abnormalities of the head and neck.
7. Surgical anatomy of the cranial nerves.
8. Anatomy of the tongue and its applied aspects.
9. Surgical anatomy of the temporal and infratemporal regions.
10. Anatomy and its applied aspects of salivary glands, pharynx, thyroid and parathyroid gland, larynx, trachea esophagus.
11. Tooth eruption, morphology, and occlusion.
12. Surgical anatomy of the nose.
13. The structure and function of the brain including surgical anatomy of intra cranial venous sinuses.
14. Autonomous nervous system of head and neck.
15. Functional anatomy of mastication, deglutition, speech, respiration and circulation.
16. Development of face, paranasal sinuses and associated structures and their anomalies.
17. TMJ: surgical anatomy and function.
18. Surgical anatomy of Iliac, Rib and tibial bone region.

II. Physiology

1. Nervous System
Physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling body temperature.
2. Blood
 - a. Composition
 - b. Haemostasis, various blood dyscrasias and its management of patients with the same
 - c. Hemorrhage and its control.
 - d. Capillary and lymphatic circulation.
 - e. Blood grouping, transfusing procedures.
3. Digestive System
 - a. Saliva - composition and functions of saliva.
 - b. Mastication deglutition, digestion, assimilation.
 - c. Urine formation, normal and abnormal constituent.

4. Respiration
 - a. Control of ventilation anoxia, asphyxia, artificial respiration
 - b. Hypoxia -types and management

5. Cardiovascular SYSTEM
 - a. Cardiac cycle
 - b. Shock
 - c. Heart sounds
 - d. Blood pressure
 - e. Hypertension

6. Endocrinology
 - a. General endocrinal activity and disorder relating to thyroid gland,
 - b. Parathyroid gland, adrenal gland, pituitary gland, pancreas and gonads:
 - c. Metabolism of calcium

7. Nutrition
 - a. General principles balanced diet, effect of dietary deficiency, protein energy malnutrition, Kwashiorkor, Marasmus
 - b. Fluid and Electrolytic balance in maintaining homeostasis and significance in minor and major surgical procedures

III. Biochemistry

1. General principles governing the various biological activities of the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reduction etc.
2. General composition of the body
3. Intermediary metabolism
4. Carbohydrates, proteins, lipids, and their metabolism
5. Nucleoproteins, nucleic acid and nucleotides and their metabolism
6. Enzymes, vitamins and minerals
7. Hormones
8. Body and other fluids.
9. Metabolism of inorganic elements.
10. Detoxification in the body.
11. Antimetabolites.

IV. Pathology

1. Inflammation

- a. Repair and regeneration, necrosis and gangrene
- b. Role of component system in acute inflammation
- c. Role of arachidonic acid and its metabolites in acute inflammation
- d. Growth factors in acute inflammation
- e. Role of molecular events in cell growth and intercellular signaling cell surface receptors
- f. Role of NSAIDs in inflammation
- g. Cellular changes in radiation injury and its manifestation

2. Haemostasis

- a. Role of endothelium in thrombogenesis
- b. Arterial and venous thrombi
- c. Disseminated Intravascular coagulation

3. Shock

- a. Pathogenesis of hemorrhagic, neurogenic, septic, cardiogenic shock
- b. Circulatory disturbances, ischemia hyperemia, venous congestion, edema, infarction

4. Chromosomal Abnormalities

- a. Marfans Syndrome, Ehler's Danlos Syndrome, Fragile X- Syndrome

5. Hypersensitivity

- a. Anaphylaxis, type 2 hypersensitivity, type 3 sensitivity and cell mediated reaction. And its clinical importance, systemic lupus erythematosus.
- b. Infection and infective granulomas.

6. Neoplasia

- a. Classification of tumors.
- b. Carcinogenesis and carcinogen- chemical, viral and microbial
- c. Grading and staging of cancers, tumor Angiogenesis, Paraneoplastic syndrome, spread of tumors
- d. Characteristics of benign and malignant tumors

7. Others

- a. Sex linked a gamma globulinemia.
- b. AIDS
- c. Management of immune deficiency patients requiring surgical procedures
- d. De George Syndrome
- e. Ghons complex, post primary pulmonary tuberculosis -pathology and pathogenesis.

8. Oral Pathology

- a. Developmental disturbances of oral and Para oral structures
- b. Regressive changes of teeth.
- c. Bacterial, viral and mycotic infections of oral cavity
- d. Dental caries,, diseases of pulp and periapical tissues
- e. Physical and chemical injuries of the oral cavity
- f. Oral manifestations of metabolic and endocrinal disturbances
- g. Diseases of jawbones and TMJ
- h. Diseases of blood and blood forming organs in relation of oral cavity
- i. Cysts of the oral cavity
- j. Salivary gland diseases
- k. Role of laboratory investigations in oral surgery

9. Microbiology

- a. Immunity
- b. Knowledge of organisms commonly associated with disease of oral cavity.
- c. Morphology cultural characteristics of strepto, staphylo, pneumo, gono, meningo, clostridium group of organism, spirochetes, organisms of TB, leprosy, diphtheria, actinomycosis and monilliasis.
- d. Hepatitis B and its prophylaxis
- e. Culture and sensitivity test
- f. Laboratory determinations
- g. Blood groups, blood matching, RBC and WBC count
- h. Bleeding and clotting time etc, smears and cultures,
- i. Urine analysis and cultures.

V. Applied Pharmacology and Therapeutics

1. Definition of terminologies used
2. Dosage and mode of administration of drugs.
3. Action and fate of drugs in the body
4. Drug addiction, tolerance and hypersensitive reactions.
5. Drugs acting on the CNS
6. General and local anesthetics, hypnotics, analeptics, and tranquilizers.
7. Chemo therapeutics and antibiotics
8. Analgesics and antipyretics
9. Antitubercular and antisyphilitic drugs.
10. Antiseptics, sialogogues and antisialogogues
11. Haematinics
12. Antidiabetics
13. Vitamins A, B-complex, C, D, E, K

This is basic minimum requirement, however a student needs to know all the related aspects of the above mentioned topics.

SECOND YEAR

MINOR ORAL SURGERY AND TRAUMA

I. Minor Oral Surgery

1. **Principles of Surgery:** Developing a surgical diagnosis, basic necessities for Surgery, Aseptic Technique, Incisions, Flap Design Tissue handling, Haemostasis, dead space management, decontamination and debridement, Suturing, Oedema control, patient general health and nutrition.
2. **Medical Emergencies:** prevention and management of altered consciousness (syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency), hypersensitivity reactions, chest discomfort, and respiratory difficulty.
3. **Examination and Diagnosis:** clinical history, physical and radiographic, clinical and laboratory diagnosis, oral manifestations of systemic diseases, implications of systemic diseases in surgical patients.
4. **Haemorrhage and Shock:** applied physiology, clinical abnormalities of coagulation, extra vascular hemorrhage, and hemorrhagic lesions, management of secondary hemorrhage, shock.
5. **Exodontia:** principles of extraction, indications and contraindications, types of extraction, complications and their management, principles of elevators and elevators used in oral surgery.
6. **Impaction:** surgical anatomy, classification, indications and contraindications, diagnosis, procedures, complications and their management.
7. **Surgical Aids to Eruption Of Teeth:** surgical exposure of unerupted teeth, surgical repositioning of partially erupted teeth.
8. **Transplantation of Teeth**
9. **Surgical Endodontics:** indications and contraindications, diagnosis, procedures of periradicular surgery
10. **Procedures To Improve Alveolar soft tissues:** requirements, types (alveoplasty, tuberosity reduction, mylohyoid ridge reduction, genial reduction, removal of exostosis, vestibuloplasty)
11. **Procedures to Improve Alveolar soft Tissues:** hypermobile tissues-operative / sclerosing method, epulis fissuratum, frenectomy and frenotomy
12. **Infection of Head and Neck:** Odontogenic and non Odontogenic infections, factors affecting spread of infection, diagnosis and differential diagnosis, management of facial space infections, Ludwig angina, cavernous sinus thrombosis.
13. **Chronic Infections of the Jaws:** Osteomyelitis (types, etiology, pathogenesis, management) osteoradionecrosis
14. **Maxillary Sinus:** maxillary sinusitis - types, pathology, treatment, closure of Oro - antral fistula, Caldwell- Luc operation

15. **Cysts of the Orofacial region:** classification, diagnosis, management of OKC, dentigerous, radicular non Odontogenic, ranula
16. **Neurological Disorders of the maxillofacial region:** diagnosis and management of trigeminal neuralgia, MPDS, bell's palsy, Frey's syndrome, nerve injuries.
17. **Implantology:** definition, classification, indications and contraindications, advantages and disadvantages, complications and surgical procedure.
18. **Anesthesia**
 - a. **Local Anesthesia:** classification of local anesthetic drugs, modes of action indications and contra indications, advantages and disadvantages, techniques, complications and their management.
 - b. **General Anesthesia:** classification, stages of GA, mechanism of action, indications, and contra indications, advantages and disadvantages, post anesthetic complications and emergencies, anesthetic for dental procedures in children, pre medication, conscious sedation, legal aspects for GA
19. **Trauma**
20. **Surgical Anatomy of head and Neck**
21. **Etiology of Injury**
22. **Basic Principles of Treatment**
23. **Primary Care:** resuscitation, establishment of airway, management of hemorrhage, management of head injuries and admission to hospital.
24. **Diagnosis:** clinical, radiological
25. **Soft Tissue Injury of Face and Scalp:** classification and management of soft tissue wounds, injuries to structure requiring special treatment.
26. **DentoAlveolar Fractures:** examination and diagnosis, classification, treatment, prevention.
27. **Mandibular Fractures:** classification, examination and diagnosis, general principles of treatment, complications and their management
28. **Fracture of Zygomatic Complex:** classification, examination and diagnosis, general principles of treatment, complications and their management.
29. **Orbital Fractures:** blow out fractures
30. **Nasal Fractures**
31. **Fractures of Middle third of the Facial Skeleton:** emergency care, fracture of maxilla, and treatment of le fort I, II, III, fractures of Naso orbito ethmoidal region.
32. **Ophthalmic Injuries:** minor injuries, non-perforating injuries, perforating injuries, retro bulbar hemorrhage, and traumatic optic neuropathy.

33. **Traumatic Injuries to Frontal sinus:** diagnosis, classification, treatment
34. **Maxillofacial injuries in Geriatric and pediatric Patients**
35. **Gun shot wounds and War Injuries**
36. **Osseointegration in Maxillofacial Reconstruction**
37. **Matabolic response to Trauma:** neuro endocrine responses, inflammatory mediators, clinical implications
38. **Healing of Traumatic Injuries:** soft tissues, bone, cartilage, response of peripheral nerve to injury
39. **Nutritional Consideration following Trauma**
40. **Tracheostomy:** indications and contraindications, procedure, complications and their management.

This is basic minimum requirement, however a student needs to know all the related aspects of the above mentioned topics.

THIRD YEAR
MAXILLOFACIALSURGERY

I. Salivary Gland

1. Sialography
2. Salivary fistula and management
3. Diseases of salivary gland - developmental disturbances, cysts, inflammation and sialolithiasis
4. Mucocele and Ranula
5. Tumors of salivary gland and their management
6. Staging of salivary gland tumors
7. Parotidectomy

II. Temporomandibular Joint

1. Etiology, history signs, symptoms, examination and diagnosis of temporomandibular joint disorders
2. Ankylosis and management of the same with different treatment modalities
3. MPDS and management
4. Condylectomy - different procedures
5. Various approaches to TMJ
6. Recurrent dislocations - Etiology and Management

III. Oncology

1. Biopsy
2. Management of pre-malignant tumors of head and neck region
3. Benign and Malignant tumors of Head and Neck region
4. Staging of oral cancer and tumor markers
5. Management of oral cancer
6. Radial Neck dissection
7. Modes of spread of tumors
8. Diagnosis and management of tumors of nasal, paranasal, neck, tongue, cheek, maxilla and mandible
9. Radiation therapy in maxillofacial regions
10. Lateral neck swellings

IV. Orthognathic Surgery

1. Diagnosis and treatment planning
2. Cephalometric analysis
3. Model surgery
4. Maxillary and mandibular repositioning procedures
5. Segmental osteotomies
6. Management of apertognathia
7. Genioplasty
8. Distraction osteogenesis
9. Cysts and tumors of oro facial region
10. Odontogenic and non-Odontogenic tumors and their management

11. Giant cell lesions of jawbone
12. Fibro osseous lesions of jawbone
13. Cysts of jaw

V. Laser Surgery

1. The application of laser technology in surgical treatment of lesions
2. Cryosurgery
3. Surgical management Cleft lip and palate surgery
4. Detailed knowledge of the development of the face, head and neck
5. Diagnosis and treatment planning
6. Current concepts in the management of cleft lip and palate deformity
7. Knowledge of Naso endoscopy and other diagnostic techniques in the evaluation of speech and hearing
8. Concept of multidisciplinary team management

VI. Aesthetic Facial Surgery

1. Detailed knowledge of the structures of the face and neck including skin and underlying soft tissue
2. Diagnosis and treatment planning of deformities and conditions affecting facial skin
3. Underlying facial muscles, bone. Eyelids external ear
4. Surgical management of post acne scarring, facelift, blepharoplasty, otoplasty, facial bone recontouring, etc

VII. Craniofacial Surgery

1. Basic knowledge of developmental anomalies of the face, head and neck
2. Basic concepts in the diagnosis and planning of various head and neck anomalies including facial clefts, craniosynostosis, syndromes, etc.
3. Current concept in the management of Craniofacial anomalies

VIII. Monitoring Learning Progress

It is essential to monitor the learning progress to each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring to be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects.

This is basic minimum requirement, however a student needs to know all the related aspects of the above mentioned topics.

Sl.No	Procedure	Category	Year	Number
1.	Injection I.M. and I.V	P1	I,II	50,20
2.	Minor suturing and removal of sutures	PI	I	N,A
3.	Incision & drainage of an abscess	PI	I	10
4.	Surgical extraction	PI	I	15
5.	Impacted teeth	PI, PA	I, II	20,10
6.	Pre prosthetic surgery	PI		
	a) Corrective procedures	PI	I	15
	b) Ridge extension	PA	1,11	3
	c) Ridge reconstruction	A	11,111	3
7.	OAF closure	PI, PA	I, II	3,2
8.	Cyst enucleation	PI,PA	I, II	5,5
9.	Mandibular fractures	PI,PA	1,11	1,2
10.	Peri-apical surgery	PI,PA	I	5
11.	Infection management	PI,PA	I, II	N,A
12.	Biopsy procedures	PI	I, II	N,A
13.	Removal of salivary calculi	PA	II,III	1,1
14.	Benign tumors	PA, A	II, III	2,2
15.	Mid face fractures	PA, A	II, III	3,5
16.	Implants	PA,A	II, III	5,5
17.	Tracheotomy	PA,A	II, III	2,2
18.	Skin grafts	PA	III	3,5
19.	Orthognathic surgery	PA,A	II, III	3
20.	Harvesting bone & cartilage grafts			
	a) Iliac crest	PA	III	3
	b) Rib	A	III	1
	c) Calvarial	A	III	1
	d) Fibula	A,O	III	1
21.	T.M. Joint surgery	PA, A	II, I,	1
22.	Jaw resections	PA, A	III, II	3,3
23.	Onco surgery	A,O	III, III	3,3
24.	Micro vascular anastomosis	A,O	III	2,2
25.	Cleft lip & palate	PA,A	II, III	10,15
26.	Distraction osteogenesis	A,O	II, III	2,3
27.	Rhinoplasty	A,O	III	3,5
28.	Access osteotomies and base of skull surgeries	A,O	III	1,3

Key:

- O - Observed
- A - Assisted a senior surgeon.
- PA - Performed under the direct supervision of a senior surgeon.
- PI - Performed independently.

DEPARTMENT OF ORAL & MAXILLOFACIAL SURGERY

POSTGRADUATE TIME TABLE

PGY1 Level		
OMFS Exodontia / Hospital Posting	6 Months	Orientation, exodontias, ward rounds and OT schedule
Internal Medicine	2 Months	System review, Investigations and management.
An aesthesia	2 Months	Local and General anaesthesia
Applied Anatomy / Clinical Pharmacology	1 Month	Specifically Head & Neck and clinical pharmacology.
Orthodontic / Prosthodontics	1 Month	Cephalometrics, Assessment, Surgical orthodontics/surgical obturators.
PGY 2 Level		
Oral & Maxillofacial Surgery	7 Months	Minor Oral Surgical procedures
ENT / Ophthalmology	1 Months	Surgeries of Nose & Paranasal sinuses / Ophthalmological implications in OMFS
General Surgery	2 Months	Surgical principles and management of surgical patients
Neurosurgery / A&E	1 Month	Head injury and its management
Orthopedics	1 Month	Principles of ORIF
Peripheral Posting	1 Month	Exposure to OMFS in primary health care setups
PGY 3 Level		
Oral & Maxillofacial Surgery	9 Months	Major surgical procedures and dissertation
Oncology Posting	1 Month	Exposure to Head & Neck Oncology
Plastic & Recons Surgery	1 Month	Aesthetic and Corrective procedures of facial region
Elective	1 Month	Posting of choice to peruse area of interest in OMFS

1. Academic Clinical programme (*applicable for all three years*): Seminars(2) to be presented a in a week. Journal clubs (departmental and interdepartmental) to be conducted once in a month.
2. Departmental and interdepartmental discussions to be held once in a month. Minimum 2 scientific papers should be presented.
3. Every candidate shall maintain a logbook to record his/hers wok or participation in all activities such as journal clubs, seminars, CDE programs etc. this work shall be scrutinized and certified by the head of the departmental and head of the institution and presented to the university every year

Dissertations

- a) Synopsis
 1. Identifying and selection of topic
 2. Synopsis writing
 3. Presentation of synopsis to the department, institute review board and ethical committee.
 4. Submission to University (End of first 6 months)

- b) Library Dissertation: Completion and submission by 18 months of commencement of post graduate programme.

- c) Main Dissertation submission 6 Months before university examination.

Scheme of Exams (Institutional level)

- a) First Internal assessments at the end of first year.
- b) Second Internal assessments at the end of second year.
- c) Preliminary examination in the last 6 months.

Assessment and monitoring

- a) Log books
- b) Scheme of Exams (Institutional level)
 - a. First Internal assessments on basic sciences at the end of first year (Theory)
 - b. Second internal assessments at the end of second year (Theory and practical / clinical)
 - c. Preliminary examination in the last 6 months (Theory and practical / clinical and viva voce)

