School of Dental Sciences

Krishna Institute of Medical Sciences,

Deemed to be University, Karad

MDS Syllabus

FACULTY NAME: SCHOOL OF DENTAL SCIENCES,
PROGRAMME NAME: ORAL AND MAXILLOFACIAL SURGERY

PROGRAMME CODE: 2203

OBJECTIVES:

The training program in Oral and Maxillofacial Surgery is structured to achieve the following five objectives-

- Knowledge
- Skills
- Attitude
- Communicative skills andability
- Research

Knowledge:

- 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
- To have understood the general surgical principles like pre and postsurgical management, particularly evaluation, postsurgical care, fluid and electrolyte management, blood transfusion and postsurgical pain management.
- Understanding of basic sciences relevant to practice of oral and maxilla facial surgery
- Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and maxilla facial region.
- 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.

Skills:

- To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.
- To perform with competence minor oral surgical procedures and common maxillofacial surgery. To treat both surgically and medically the problems of the oral and Maxillofacial and the related area.
- Capable of providing care for maxillofacial surgery patients.

Attitude:

- Develop attitude to adopt ethical principles in all aspect of surgical practice, professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- Willing to share the knowledge and clinical experience with professional colleagues.
- Willing to adopt new techniques of surgical management developed from time to time based on scientific research which are in the best interest of the patient
- Respect patient right and privileges, including patients right to information and right to seek a second opinion.
- Develop attitude to seek opinion from an allied medical and dental specialists as and

when required.

Communication Skills:

- Develop adequate communication skills particularly with the patients giving them the various options available to manage a particular surgical problem and obtain a true informed consent from them for the most appropriate treatment available at that point of time
- Develop the ability to communicate with professional colleagues.
- Develop ability to teach undergraduates.

COURSE CONTENT:

The specialty of Oral & Maxillofacial Surgery deals with the diagnosis and management of the diseases of stomatognathic system, jaw bones, cranio-maxillofacial region, salivary glands and temporomandibular joints etc. Within this framework it also supports many vital organs like eye, oropharynx, nasopharynx and major blood vessels and nerves. The traumatic injuries of maxillofacial skeleton are independently managed by Oral & Maxillofacial Surgeons. Whenever there are orbital injuries the ophthalmologists are trained only to tackle injuries of the eye ball (globe) but if there are associated injuries of the orbital skeleton, the Maxillofacial Surgeon is involved in its re-construction. Similarly, nasal bone fracture may be managed by ENT surgeons. Most of the time nasal bone fractures are associated with fractures of the maxilla, mandible and zygomatic bones which are being managed by Oral & Maxillofacial Surgeons. The maxillofacial facial injuries at times are associated with head injuries also. The Oral & maxillofacial Surgeon is involved in the management of cleft lip & cleft palate, orthognathic surgery, micro vascular surgery, reconstructive and oncological surgical procedures of maxillofacial region. The speciality of Oral & Maxillofacial Surgery is a multi-disciplinaryspeciality and needs close working in co-ordination with Neurosurgeons, Onco-surgeons, Opthalmologists, ENT Surgeons and Plastic Surgeons. The Oral & Maxillofacial Surgeons, Ophthalmologist, ENT Surgeons, Plastic Surgeons, Neuro-Surgeons and Oncologists complement each other by performing Surgical Procedures with their respective expertise and knowledge thereby benefiting the patients and students of the respective specialities.

The program outline addresses both the knowledge needed in Oral and Maxillofacial Surgery and allied medical specialties in its scope. A minimum of three years of formal training through a graded system of education as specified will equip the trainee with skill and knowledge at its completion to be able to practice basic oral and Maxillofacial surgery competently and have the ability to intelligently pursue further apprenticeship towards advanced Maxillofacial surgery.

The topics are considered as under:-

A) Applied Basic sciences
B) Oral and Maxillo facial surgery
C) Allied specialties

PAPER I: 2203-11

A) Applied Basic Sciences:

Applied Anatomy, Physiology, Biochemistry, General and Oral Pathology and Microbiology, Pharmacology and Knowledge in Basic Statistics.

COURSE OUTCOME

The student would be knowledgeable about: Development and growth of face, teeth and jaws, Age changes and evaluation of mandible in detail

1. Congenital abnormality of orofacial regions 2.Surgical anatomy of scalp , temple and face
3. Anatomy and its applied aspects of triangles of neck and deep structures ofneck
4. Cranial facial bones and surrounding soft tissues 5.Cranialnerves
6. Tongue
7. Temporal and infra temporal region and Tempero mandibular joint in detail
9. Orbits and its contents
10. Muscles of face and neck
11. General consideration of the structure and function of brain and applied anatomy of intracranial venous sinuses
12. Cavernous sinus and superior sagittal sinus
13. Brief consideration of autonomous nervous system of head and neck
14. Functional anatomy of mastication, Deglutition and Speech
15. Respiration and circulation
16. Histology of skin, oral mucosa, connective tissue, bone, cartilage, cellular elements of blood vessels, Lymphatic , Nerves ,Muscles
17. Tooth and its surrounding structures
18. Cross – sectional Anatomy of the head and neck, as applied in CT, MRI Interpretation
19. Salivary glands – Anatomy, Embryology and Histology

APPLIED PHYSIOLOGY

1. Nervous system – physiology of nerve conduction, pain pathway, sympathetic
   And parasympathetic nervous system hypothalamus and mechanism of controlling body temperature.
2. Blood - its composition hemostasis, blood dyscrasias and its management, hemorrhage and its control, blood grouping, cross matching, blood component therapy, complications of blood transfusion, blood substitutes, auto transfusion, cell savers.
3. Digestive system - composition and functions of saliva, mastication, deglutition, digestion, assimilation, urine formation, normal and abnormal constituents.
4. Respiratory system – respiration control of ventilation, anoxia, asphyxia, artificial respiration, hypoxia – type and management
5. CVS - cardiac cycle, shock, heart sounds, blood pressure, hypertension
6. Endocrinology - metabolism of calcium , endocrinal activity and disorder relating thyroid gland, parathyroid gland, adrenal gland, pituitary gland, pancreasandgonads.

7. Nutrition – general principles balanced diet, effect of dietary deficiency, protein energy malnutrition, nutritional assessment, metabolic responses to stress, need for nutritional support ,entrails nutrition, roots of access to GIT, parenteral nutrition, access to central veins, nutritional support
8. Fluid and electrolytic balance / acid base metabolism – the body fluid compartment, metabolism of water and electrolytes, factors maintaining hemostasis causes for treatment of acidosis and alkalosis.

APPLIED PATHOLOGY

1. Inflammation – acute and chronic inflammation, repair and regeneration, necrosis and gangrene and role of component system in acute inflammation, role of arachidonic acid and its metabolites in acute inflammation, growth factors in acute inflammation role ofNSAIDS in inflammation, cellular changes in radiation injury and its manifestations.
   Wound management - wound hethrombogenesis, arterial and venous thrombi, disseminated intravascular coagulation.
4. Hypersensitivity - shock and pulmonary failure, types of shock, diagnosis, resuscitation, pharmacological support, ARDS and its causes and prevention, ventilation andsupport
5. Neoplasia - classification of tumours, carcinogens and carcinogenesis, spread of tumors, characteristics of benign and malignant tumors, grading and staging of tumours various laboratory investigation.
6. Chromosomal abnormalities with oro- facial manifestations.
7. Basics of immunology – primary and
2. Acquired immune deficiencies aling factors influencing healing, properties of suture materials, and appropriate uses of sutures.

Hemostasis - role of endotheliumin

Applied Anatomy:

1. Surgical anatomy of the scalp, temple 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; chest , lower and upper extremities (in consideration to grafts/flaps)
5. Arterial supply, venous drainage and lymphatics of head andneck
6. Congenital abnormalities of the head andneck
7. Surgical anatomy of the cranialnerves
8. Anatomy of the tongue and its appliedaspects
9. Surgical anatomy of the temporal and infratemporalregions
10. Anatomy and its applied aspects of salivary glands, pharynx, thyroid and parathyroid gland, larynx, trachea,esophagus
11. Tooth eruption, morphology andocclusion.
12. Surgical anatomy of thenose.
13. The structure and function of the brain including surgical anatomy of intra cranial venous sinuses.
14. Autonomous nervous system of head andneck
15. Functional anatomy of mastication, deglutition, speech, respiration andcirculation
16. Development of face, paranasal sinuses and associated structures and their anomalies

17. TMJ: surgical anatomy and function
18. Use Of Grafts In OMFS

Physiology:

1. **Nervous system**
   - Physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling bodytemperature
2. **Blood**
   - Composition
   - Homeostasis, various blood dyscrasias and management of patients with the same
   - Hemorrhage and its control
   - Capillary and lymphatic circulation.
   - Blood grouping, transfusing procedures.
3. **Digestive system**
   - Saliva - composition and functions of saliva
   - Mastication, deglutition, digestion, assimilation
   - Urine formation, normal and abnormal constituents
4. **Respiration**
   - Control of ventilation, anoxia, asphyxia, artificial respiration
   - Hypoxia – types and management
5. **Cardiovascular System**
   - Cardiac cycle,
   - Shock
   - Heart sounds,
   - Blood pressure,
   - Hypertension:
6. **Endocrinology**
   - General endocrinal activity and disorder relating to thyroid gland,
   - Parathyroid gland, adrenal gland, pituitary gland, pancreas and gonads:
   - Metabolism of calcium
7. **Nutrition**
   - General principles of a balanced diet, effect of dietary deficiency, protein energy malnutrition, Kwashiorkor, Marasmus.
   - Fluid and Electrolytic balance in maintaining homeostasis and significance in minor and major surgical procedures.

Biochemistry:

- General principles governing the various biological activities of the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reductionist.
- General composition of the body
- Intermediary metabolism
- Carbohydrates, proteins, lipids, and their metabolism
- Nucleoproteins, nucleic acid and nucleotides and their
- metabolism
- Enzymes, vitamins and
- minerals

- Hormones
- Body and other fluids.
- Metabolism of inorganic elements.
- Detoxification in the body.
- Ant metabolites.

Pathology:

1. **Inflammation –**
   - Repair and regeneration, necrosis and gangrene
   - Role of component system in acute inflammation
   - Role of arachidonic acid and its metabolites in acute inflammation
   - Growth factors in acute inflammation
   - Role of molecular events in cell growth and intercellular signaling cell surface receptors
   - Role of NSAIDs in inflammation,
   - Cellular changes in radiation injury and its manifestation:
2. **Haemostasis**
   - Role of endothelium in thrombogenesis,
   - Arterial and venous thrombi,
   - Disseminated Intra vascular coagulation
3. **Shock:**
   - Pathogenesis of hemorrhagic, neurogenic, septic, cardiogenic shock
   - Circulatory disturbances, ischemia, hyperemia, venous congestion, edema, infarction
4. **Chromosomal abnormalities:**
   - Marfans Syndrome, Ehler'sDanlos Syndrome, Fragile X-Syndrome
5. **Hypersensitivity:**
   - Anaphylaxis, type 2 hypersensitivity, type 3 hyper sensitivity and cell mediated reaction and its clinical importance, systemic lupuserythematosus.
   - Infection and infectivegranulomas.
6. **Neoplasia:**
   - Classification of tumors.
   - Carcinogenesis and carcinogens- chemical, viral and microbial
   - Grading and staging of cancers, tumor Angiogenesis, Paraneoplastic syndrome, spread oftumors
   - Characteristics of benign and malignanttumors
7. **Others:**
   - Sex linkedagammaglobulinemia.
   - AIDS
   - Management of immuno deficiency patients requiring surgicalprocedures
   - De GeorgeSyndrome
   - Ghons complex, post primary pulmonary tuberculosis – pathology and pathogenesis.

Oral Pathology:

- Developmental disturbances of oral and Para oralstructures
- Regressive changes ofteeth.
- Bacterial, viral and mycotic infections of oralcavity
- Dental caries,, diseases of pulp and periapicaltissues

- Physical and chemical injuries of the oralcavity
- Oral manifestations of metabolic and endocrinaldisturbances
- Diseases of jawbones andTMJ
- Diseases of blood and blood forming organs in relation to oralcavity
- Cysts of the oralcavity
- Salivary gland diseases
- Role of laboratory investigations in oralsurgery

Microbiology:

- Immunity
- Knowledge of organisms commonly associated with diseases of oralcavity.
- Morphology cultural characteristics of strepto, staphylo, pneumo, gono, meningo, clostridium group of organisms, spirochetes, organisms of TB, leprosy, diphtheria, actinomycosis andmoniliasis
- Hepatitis B and itsprophylaxis
- Culture and sensitivitytest
- Laboratorydeterminations
- Blood groups, blood matching, RBC and WBCcount
- Bleeding and clotting time etc.
- Smears and cultures,
- Urine analysis andcultures.

Applied Pharmacology and Therapeutics:

1. Definition of terminologiesused
2. Dosage and mode of administration ofdrugs.
3. Action and fate of drugs in thebody
4. Drug addiction, tolerance and hypersensitivityreactions.
5. Drugs acting on theCNS
6. General and local anesthetics, hypnotics, analeptics, andtranquilizers.
7. Chemo therapeutics andantibiotics
8. Analgesics and antipyretics
9. Antitubercular and antisyphiliticdrugs.
10. Antiseptics, sialogoguesandantisialogogues
11. Haematinics
12. Antidiabetics
13. Vitamins A, B-complex, C, D, E,K

PAPER II: 2203-12

B) Oral and MaxillofacialSurgery:

- Evolution of Maxillofacialsurgery.
- Diagnosis, history taking, clinical examination,investigations.
- Informed consent/medico-legalissues.
- Concept of essential drugs and rational use ofdrugs.

Communication skills with patients- understanding, clarity in communication, compassionate

explanations and giving emotional support at the time of suffering and bereavement

- Principles of surgical audit – understanding the audit of process and outcome. Methods adopted for the same. Basicstatistics.
- Principles of evidence based surgery- understanding journal based literature study; the value of textbook, reference book articles, value of review articles; original articles and their critical assessment, understanding the value of retrospective, prospective, randomized control and blinded studies, understanding the principles and the meaning of various Bio-statistical tests applied in these studies.
- Principles of surgery- developing a surgical diagnosis, basic necessities for surgery, aseptic technique, incisions, flap designs, tissue handling, hemostasis, dead space management, decontamination and debridement, suturing, edema control, patient general health andnutrition.
- Medical emergencies – Prevention and management of altered consciousness, hyper sensitivity reaction, chest discomfort, respiratorydifficulty.
- Pre-operative workup – Concept of fitness for surgery; basic medical work up; work up in special situation like diabetes, renal failure, cardiac and respiratory illness; riskstratification
- Surgical sutures,drains
- Post-operative care- concept of recovery room care, Airway management, Assessment of Wakefulness, management of cardio vascular instability in this period, Criteria for shifting to the ward, painmanagement
- Wound management- Wound healing, factors influencing healing, basic surgical techniques, Properties of suture materials, appropriate use ofsutures.
- Surgical Infections – Asepsis and antisepsis, Microbiological principles, Rational use of antibiotics, special infections like Synergistic Gangrene and Diabetic foot infection, Hepatitis and HIV infection and crossinfection.
- Airway obstruction/management – Anatomy of the airway, principles of keeping the airway patent, mouth to mouth resuscitation, Oropharyngeal airway, endotracheal intubation, Cricothyroidectomy,Tracheostomy.
- Anesthesia – stages of Anesthesia, pharmacology of inhalation, intravenous and regional anesthetics, musclerelaxants.
- Facial pain; Facial palsy and nerveinjuries.
- Pain control – acute and chronic pain, cancer and non-cancer pain, patient controlledanalgesia
- General patient management – competence in physical assessment of patients of surgery, competence in evaluation of patients presenting with acute injury, particularly to maxillofacial region. Competence in the evaluation of management of patients forAnesthesia
- Clinical oral surgery – all aspects of dento-alveolarsurgery
- Pre-prosthetic surgery – A wide range of surgical reconstructive procedures involving their hard and soft tissues of the edentulousjaws.
- Temporomandibular joint disorders – TMJ disorders and their sequelae need expert evaluation, assessment and management. It is preferable to be familiar with diagnostic and therapeutic arthroscopic surgeryprocedures.
- Tissue grafting – Understanding of the biological mechanisms involved in autogenous and heterogeneous tissuegrafting.
- Reconstructive oral and maxillofacial surgery – hard tissue and soft tissue reconstruction.
- Cyst and tumors of head and neck region and their management – including

principles of tumor surgery, giant cell lesion of jaw bones, fibro osseous lesions of jaw.

- Neurological disorders of maxillofacial region-diagnosis and management of Trigeminal Neuralgia, MPDS, Bell's palsy, Frey's Syndrome, Nerveinjuries
- Maxillofacial trauma – basic principles of treatment, primary care, diagnosis and management of hard and soft tissue injuries, Comprehensive management including polytraumapatients
- Assessment of trauma-multiple injuries patient, closed abdominal and chest injuries, penetrating injuries, pelvic fractures, urological injuries, vascularinjuries.
- Orthognathic surgery – The trainee must be familiar with the assessment and correcting of jaw deformities
- Laser surgery – The application of laser technology in the surgical treatment of lesions amenable to suchtherapy
- Distraction osteogenesis in maxillofacialregion.
- Cryosurgeries – Principles, the application of cryosurgery in the surgical management of lesions amenable to suchsurgeries.
- Cleft lip and palate surgery- detailed knowledge of the development of the face, head and neck, diagnosis and treatment planning, Current concepts in the management of cleft lip and palate deformity, knowledge of nasal endoscopy and other diagnostic techniques in the evaluation of speech and hearing, concept of multidisciplinary teammanagement.
- Aesthetic facial surgery – detailed knowledge of structures of face & neck including skin and underlying soft tissues, diagnosis and treatment planning of deformities and conditions affecting facial skin, underlying facial muscles, bone, eyelids, external ear etc., surgical management of post acne scaring, face lift, blepharoplasty, otoplasty, facial bone re-contouringetc.
- Craniofacial surgery – basic knowledge of developmental anomalies of face, head and neck, basics concept in the diagnosis and planning of various head and neck anomalies including facial cleft, craniosynostosis, syndromes, etc., Current concepts in the management of craniofacialanomalies.
- Head and neck oncology – understanding of the principles of management of head and neck oncology including various precancerous lesions, Experience in the surgical techniques of reconstruction following ablativesurgery.
- Micro vascularsurgery.
- Implantology – principles, surgical procedures for insertion of various types of implants.
- Maxillofacial radiology/ radio-diagnosis
- Other diagnostic methods and imagingtechniques
- Stereolethography in OMFS
- Botolium toxins in OMFS

C) AlliedSpecialties:

- General medicine: General assessment of the patient including children with special emphasis on cardiovascular diseases, endocrinal, metabolic respiratory and renal diseases, Blooddyscrasias
- General surgery: Principles of general surgery, exposure to common general surgicalprocedures.
- Neuro – surgery: Evaluation of a patient with head injury, knowledge & exposure

of various Neuro – surgicalprocedures

- ENT/Ophthalmology: Examination of ear, nose, throat, exposure to ENT surgical procedures, ophthalmic examination and evaluation, exposure to ophthalmic surgicalprocedures.

- Orthopedic: basic principles of orthopedic surgery, bone diseases and trauma as relevant to Maxillofacial surgery, interpretation of radiographs, CT, MRI and ultrasound
- Anesthesiology: Evaluation of patients for GA technique, general anesthetic drugs use and complications, management of emergencies, various IV sedation techniques.
- Plastic Surgery- BasicPrinciples

PART-II:

Paper– II 2203-12:Minor Oral Surgery and

Maxillofacial Trauma Minor Oral Surgery:

COURSE OUTCOME

The students would be well trained in the assessment and management of:

1. BasicExodontia
2. ComplicatedExodontia
3. Surgical management of Impactedteeth
4. Ectopically positioned and uneruptedteeth
5. Tooth Reimplantation andTransplantation
6. Surgical uprighting andRepositioning
7. Principles of EndodonticMicrosurgery
8. Periodontal Considerations for OralSurgery
9. Procedures Involving the DentogingivalJunction
10. Pediatric DentoalveolarSurgery
11. Lasers in Oral and MaxillofacialSurgery
12. Complications of DentoalveolarSurgery

The students would be able to diagnose and manage Medical emergencies like, prevention and management of altered consciousness (syncope,orthostatichypotension, seizures,diabetes mellitus, adrenal insufficiency), hypersensitivity reactions,chestdiscomfort, and respiratorydifficulty

The students would be knowledgeable about

1. Diagnosis and Perioperative Management ofHead and Neck Injuries

2. Basic Principles of Treatment: Hard andSoft Tissueinjuries

The students would be acquainted with the knowledge and clinical skills in the management of.

2. 1. Dentoalveolar Injuries MandibularFractures
3. Temporomandibular Joint RegionInjuries
4. Zygomatic ComplexFractures
5. OrbitalTrauma
6. MidfaceInjuries
7. Frontal Sinus Fracturesand associated Injuries
8. NasalInjuries
9. Soft TissueInjuries
10. Special Soft TissueInjuries
11. Avulsive Hard TissueInjuries
12. Maxillofacial Injuries inChildren
13. Maxillofacial Injuries in theElderly

Complex Facial Trauma Patient

SYLLABUS

- **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 AndNutrition.
- **Medical Emergencies**: Prevention and management of altered consciousness (syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency), hypersensitivity reactions, chest discomfort, and respiratory difficulty.
- **Examination and Diagnosis**: Clinical history, physical and radiographic, clinical and laboratory diagnosis, oral manifestations of systemic diseases, implications of systemic diseases in surgicalpatients.
- **Hemorrhage and Shock**: Applied physiology, clinical abnormalities of coagulation, extra vascular hemorrhage, and hemorrhagic lesions, management of secondary hemorrhage,shock.
- **Exodontia**: Principles of extraction, indications and contraindications, types of extraction, complications and their management, principles of elevators and elevators used in oralsurgery.
- **Impaction:** Surgical anatomy, classification, indications and contraindications, diagnosis, procedures, complications and

theirmanagement.

- **Surgical aids to eruption of teeth**: Surgical exposure of un-erupted teeth, surgical repositioning of partially eruptedteeth.
- **Transplantation of teeth:**
- **Surgical Endodontics:** Indications and contraindications, diagnosis, procedures of peri-radicularsurgery
- **Pre-prosthetic Surgery:** Requirements, types (alvoloplasty, tuberosity reduction, mylohyoid ridge reduction, genial reduction, removal of exostosis,vestibuloplasty)
- **Procedures to Improve Alveolar Soft Tissues**: Hypermobile tissues-operative / sclerosing method, epulisfissuratum, frenectomy andfrenotomy
- **Infectionsof 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.
- **Chronic infections of the jaws:** Osteomyelitis (types, etiology, pathogenesis, management)osteoradionecrosis
- **MaxillarySinus:**Maxillarysinusitis–types,pathology,treatment,closureoforo-antral fistula, Caldwell- luc operation
- **Cysts of the Orofacial Region:** Classification, diagnosis, management of OKC, dentigerous, radicular, non-odontogenic,ranula
- **Neurological disorders of the Maxillofacial Region:** Diagnosis and management of trigeminal neuralgia, MPDS, bell's palsy, Frey's syndrome, nerve injuries.
- **Implantology**: Definition, classification, indications and contraindications, advantages and disadvantages, surgicalprocedure.
- **Anesthesia**

  Local Anesthesia**:**

  Classification of local anesthetic drugs, mode of action, indications and contra indications, advantages and disadvantages, techniques, complications and their management.

  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

Maxillofacial Trauma:

- Surgical Anatomy of Head andNeck.
- Etiology ofInjury.
- Basic Principles of Treatment
- Primary Care: resuscitation, establishment of airway,

management of hemorrhage, management of head injuries and admission tohospital.

- Diagnosis: clinical,radiological
- Soft Tissue Injury of Face and Scalp: classification and management of soft tissue wounds, injuries to structure requiring specialtreatment.
- Dento Alveolar Fractures: examination and diagnosis, classification, treatment, prevention.
- Mandibular Fractures: classification, examination and diagnosis, general principles of treatment, complications and theirmanagement
- Fracture of Zygomatic Complex: classification, examination and diagnosis, general principles of treatment, complications and theirmanagement.
- Orbital Fractures: blow outfractures
- NasalFractures
- Fractures of Middle Third of the Facial Skeleton: emergency care, fracture of maxilla, and treatment of le fort I, II, III, fractures of Naso-orbitoethmoidal region.
- Opthalmic Injuries: minor injuries, non-perforating injuries, perforating injuries, retro bulbar hemorrhage, and traumatic opticneuropathy.
- Traumatic Injuries To Frontal Sinus: diagnosis, classification,treatment
- Maxillofacial Injuries in Geriatric and PediatricPatients.
- Gun Shot Wounds and WarInjuries
- Osseointegration in MaxillofacialReconstruction
- Metabolic Response to Trauma: neuro endocrine responses, inflammatory mediators, clinicalimplications
- Healing of Traumatic Injuries: soft tissues, bone, cartilage, response of peripheral nerve toinjury
- Nutritional consideration followingTrauma.
- Tracheostomy: indications and contraindications, procedure, complications and theirmanagement.

Paper – III 2203-13 :Maxillofacial Surgery

COURSE OUTCOME

The students would be acquainted with the knowledge and clinical skills in the management of

1. **Salivary gland**:Sialography, Salivary fistula and management

diseases of salivary gland - developmental disturbances, cysts, inflammation and sialolithiasis, Mucocele and Ranula,Tumors of salivary gland and their management, Staging of salivary gland tumors, Parotidectomy

2. **Temporomandibular Joint**: Etiology,history signs, symptoms, examination

anddiagnosis of temporomandibular jointdisorders,
Ankylosis and management of the same with different treatment modalities, MPDS and management, Condylectomy - different procedures, Various approaches to TMJ, Recurrent dislocations - Etiology and Management

Oncology: Biopsy, Management of pre-malignant tumors of head and neck region, Benign and Malignant tumors of Head and Neck region, Staging of oral cancer and tumor markers Management of oral cancer, Radial Neck dissection, Modes of spread of tumors, Diagnosis and management of tumors of nasal, paranasal, neck, tongue, cheek, maxilla and mandible Radiation therapy in maxillofacial regions,Lateral neck swellings

Orthognathic surgery: Diagnosis and treatment planning, Cephalometric analysis, Model surgery, Maxillary and mandibular repositioning procedures, Segmental osteotomies, Management of apertognathia, Genioplasty, Distraction osteogenesis

Cysts and tumor of oro facial region: Odontogenic and non-Odonfogenic tumors and their management
,Giant lesions of jawbone, Fibro osseous lesions of jawbone, Cysts of jaw

Laser surgery: The application of laser technology in surgical treatment of lesions

Cryosurgery: Principles, applications of cryosurgery in surgical management

Cleft lip and palate surgery: Detailed knowledge of the development of the face,head and neck, Diagnosis and treatment planning Current concepts in the management of cleft lip and palate deformity Knowledge of Naso endoscopy and other diagnostic techniques in the evaluation of speech and hearing Concept of multidisciplinary team management

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

Craniofacial surgery: Basic knowledge of developmental anomalies of the face, head and neck, Basic concepts in the diagnosis and planning of various head and neck anomalies including facial clefts, craniosynostosissyndromes, etc. Current concept in the management of Craniofacial anomalies

Implantology: Principles for the Surgical Placement Of Endosseous Implants**,** Subperiosteal Implants**,** The Transmandibular Implant Reconstruction System**,** Single-tooth Replacement in Oral Implantology**,** Posterior Implant Restorations For Partially Edentulous Patients**,** Maxillary Sinus Grafts and Implants**,** Surgical Implant Failures**,** Soft Tissue Considerations

a) Salivarygland

- Sialography
- Salivary fistula andmanagement

- Diseases of salivary gland – developmental disturbances, cysts, inflammation andsialolithiasis
- Mucocele andRanula
- Tumors of salivary gland and theirmanagement
- Staging of salivary glandtumors
- Parotidectomy

b) Temporomandibular Joint

- Etiology, history signs, symptoms, examination and diagnosis of temporomandibular jointdisorders
- Ankylosis and management of the same with different treatmentmodalities
- MPDS andmanagement
- Condylectomy – differentprocedures
- Various approaches toTMJ
- Recurrent dislocations – Etiology andManagement

c) Oncology

- Biopsy
- Management of pre-malignant tumors of head and neckregion
- Benign and Malignant tumors of Head and Neckregion
- Staging of oral cancer and tumormarkers
- Management of oral cancer
- Radical Neckdissection
- Modes of spread oftumors
- Diagnosis and management of tumors of nasal, paranasal, neck, tongue, cheek, maxilla andmandible
- Radiation therapy in maxillofacialregions
- Lateral neck swellings

d) Orthognathicsurgery

- Diagnosis and treatmentplanning
- Cephalometric analysis
- Modelsurgery
- Maxillary and mandibular repositioningprocedures
- Segmentalosteotomies
- Management of apertognathia
- Genioplasty
- Distractionosteogenesis

e) Cysts and tumors of oro facialregion

- Odontogenic and non-Odontogenic tumors and theirmanagement
- Giant Cell lesions ofjawbone
- Fibro osseous lesions ofjawbone
- Cysts of jaw

f) Lasersurgery

- The application of laser technology in surgical treatment oflesions

g) Cryosurgery

- Principles, applications of cryosurgery in surgicalmanagement

h) Cleft lip and palatesurgery

- Detailed knowledge of the development of the face, head andneck
- Diagnosis and treatmentplanning
- Current concepts in the management of cleft lip and palatedeformity
- Knowledge of Naso endoscopy and other diagnostic techniques in the evaluation of speech andhearing
- Concept of multidisciplinary teammanagement

i) Aesthetic facialsurgery

- Detailed knowledge of the structures of the face and neck including skinand underlying softtissue
- Diagnosis and treatment planning of deformities and conditions affecting facial skin
- Underlying facial muscles, bone, Eyelids, externalear
- Surgical management of post acne scarring, facelift, blepharoplasty, otoplasty, facial bone re-contouring,etc

j) Craniofacialsurgery

- Basic knowledge of developmental anomalies of the face, head andneck
- Basic concepts in the diagnosis and planning of various head and neck anomalies including facial clefts, craniosynostosis, syndromes,etc.
- Current concept in the management of Craniofacialanomalies

PAPER IV: 2203-14 ESSAY

COURSE OUTCOME

The students would be able to diagnose, meticulously plan and manage competently various conditions in maxillofacial surgery including challenging cases.

They would be knowledgeable about conventional and recent advances in the diagnosis and management of oral and maxillofacial conditions.The students would be well versed in basic surgicaltechniques and knowledgeable about the advanced skills required in maxillofacial surgery

MDS EXAM SCHEME

4 Theory Papers

Theory Max 75 marks

Theory Total Max 300 Min 150

Practical & Viva. Voce Max 300 Min 150