MD00PM003 - Oral and Maxillofacial Surgery –III

OBJECTIVES:

The training programme in Oral and Maxillofacial Surgery is structured to achieve the following four objectives -

- Knowledge
- Skills
- Attitude
- Communicative skills and ability
- Research

KNOWLEDGE:

- To have acquired adequate knowledge and understanding of the etiology, pathophysiology 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 post surgical management, particularly evaluation, post surgical care, fluid and electolyte management, blood transfusion and post surgical pain management.
- Understanding of basic science relevant to practice of oral and maxillofacial surgery.
- Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and maxillofacial region.
- Essential knowledge of personal hygiene and infection control, prevention of cross infectioin 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 (or by other means 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 with 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 spectalists as and when required.

COMMUNICATION SKILLS:

- Develop adequate communication skills particularly with the patients given them the various options avilable to manage a particular surgical problem and obtain a true informed consent from 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 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 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 future apprenticeship towards advanced Maxillofacial Surgery.

The topics are considered as under:-

- Basic sciences
- Oral and Maxillofacial Surgery
- Allied Specialties

APPLIED BASIC SCIENCES:

A thorough knowledge both on theory and principles in general and particularly the basic medical subjects as relevant to the practice of maxillofacial surgery. It is desirable to have adequate knowledge in Bio – statistics, Epidemiology, Research methodology, Nutrition and Computers.

ANATOMY:

Development of face, paranasal sinuses and associated structures and their anomalies: surgical anatomy of scalp temple and face, anatomy and its applied aspects of triangles of neck, deep structures of neck, cranial and facial bones and its surrounding soft tissues, cranial nerves tongue, temporal and infratemporal region, orbits and its contents, muscles of face and neck, paranasal sinuses, eyelids and nasal septum, teeth, gums and palate, salivary glands, pharynx, thyroid and parathyroid glands, larynx, trachea and esophagus, congenital abnormality of orofacial regions,General consideration of the structure and

function of brain and applied anatomy of intracranial venous sinuses; cavernous sinus and superior sagital sinus, Brief consideration of autonomous nervous system of head and neck, Functional anatomy of mastication deglutition, speech, respiration and circulation. Histology of skin, oral mucosa, connective tissue bone, cartilage cellular elements of blood vessels, lymphatic, nerves, muscles, tounge, tooth and its surrounding structures.

PHYSIOLOGY:

Nervous system – physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling body temperature; 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 transfusion, blood substitutes, auto transfusion, cell savers; Digestive system - composition and functions of saliva, mastication deglutition, digestion, assimilation, urine formation, normal and abnormal constituents; Respiration control of ventilation anoxia, asphyxia, artifical respiration, hypoxia – types and management; CVS – cardiac cycle, shock, heart sounds, blood pressure, hypertension; Endocrinology – metabolism of calcium; endocrinal activity and disorder relating to thyroid gland, parathyroid gland, adernal gland, pituitary gland, pancreas and gonads; Nutrition – general principles of balanced diet. Effect of dietary deficiency, protein energy malnutrition, Kwashiorkor, Marasmus, Nutritional assessment, metabolic responses to stress, need for nutritional support, entrails nutrition, roots of access to GI tract, Parenteral nutrition, Access to central veins, Nutritional support; Fluid and Electrolytic balance / Acid Base metabolisim – body fluid compartment, metabolism of water and electrolytes, factors maintaining hemostasis, causes & treatment of acidosis and alkalosis.

BIOCHEMISTRY:

General principles governing the various biological principles of the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reduction etc; general

composition of body, intermediary metabolism, carbohydrate, proteins, lipids, enzymes, vitamins, minerals and antimetabolites

GENERAL PATHOLOGY:

Inflammation – Acute and chronic 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 NSAIDS in inflammation, cellular changes in radiation injury and its manifestation; Wound management – Wound healing factors influencing healing; properties of suture materials, appropriate uses of sutures; hemostasis – role of endothelium in thrombogenesis; arterial and venous thrombi, disseminated intravascular coagulation; Hypersensitivity; Shock and pulmonary failure: types of shock, diagnosis, resuscitation, Pharmacological support, ARDS and its causes and prevention, ventilation and support, Neoplasm – classification of tumors, Carcinogens and Carcinogenesis, grading and staging of tumors, various laboratory investigation.

GENERAL MICROBIOLOGY:

Immunity, Hepatitis B and its prophylaxis, Knowledge of organisms, commonly associated with diseases of oral cavity, culture and sensitivity tests, various staining techniques – Smears and cultures, urine analysis and culture.

ORAL PATHOLOGY AND MICROBIOLOGY

Developmental disturbances of oral and para oral structures, regressive changes of teeth, bacterial, viral, mycotic infection of oral cavity, Dental caries, diseases of pulp and Periapical tissues, physical and chemical injuries of oral cavity, wide range of pathological lesions of hard and soft tissues of the orofacial regions like cysts, odontogenic infection, benign & malignant neoplasms, salivary gland diseases, maxillary sinus diseases, mucosal diseases, oral aspects of various systemic diseases & role of laboratory investigation in oral surgery.

PHARMACOLOGY AND THERAPUTICS:

Definition of terminology used, pharmacokinetics and pharmadynamic, dosage and mode of administration of drugs, action and fate in the body, drug addiction,tolerance and hypersensitivity reactions, drugs acting on CNS, general and local anesthetics, antibiotics and analgesics, antiseptics, antitubercular, sialagogues, hematinics, anti diabetic, Vitamins A,B – complex, C,D,E,K.

COMPUTER SCIENCE:

Use of computer in surgery, components of computer and its use in practice, principles of word processing, spreadsheet function database and presentation; the internet and its use. The value of computer based systems in biomedical equipment.

ORAL AND MAXILLOFACIAL SURGERY:

- Evolution of Maxillofacial surgery.
- Diagnosis, history taking, clinical, examination, investigations.
- Informed consent/medico – legal issues.
- Concept of essential drugs and rational use of drugs.
- 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 Basic statistics.
- 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, randomized control and blinded studies, understanding the principles and the meaning of various Bio – statistical tests applied in these students.
- Principles of surgery – developing a surgical diagnosis, basic necessities for surgery, aseptic techniques, incisions, flap designs, tissue handling, hemostasis, dead space management, decontamination and debridement, suturing, edema control, patient general health and nutrition.
- Medical emergencies – Prevention and management of altered consciousness, hyper sensitivity reaction, chest discomfort, respiratory difficulty.
- 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; risk stratification.
- 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, pain management.
- Wound management – Wound healing, factors influencing healing, basic surgical techniques, Properties of suture materials, appropriate use of sutures.
- 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 cross infection.
- Airway obstruction/management – Anatomy of the airway, principles of keeping the airway patent, mouth to mouth resuscitation, Oropharyngeal airway, endotracheal intubation, Cricothyroidectomy, Tracheostomy.

- Anesthesis – stage of Anesthesia, pharmacology of inhalation, intravenous and regional anesthetics, muscle relaxants.
- Facial Pain; Facial palsy and nerve injuries.
- Pain control – acute and chronic pain, cancer and non – cancer pain, patient controlled analgesia.
- General patients 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 for Anesthesia.
- Clinical oral surgery - all aspects of dento alveolar surgery.
- Pre – prosthetic surgery – A wide range of surgical reconstructive procedures involving their hand and soft tissues of the edentulous jaws.
- Temporomandibular joint disorder – TMJ disorders and their sequelae need expert evaluation, assessment and management. It is preferable to be familiar with diagnostic and therapeutic arthroscopic surgery procedures.
- Tissue grafting – Understanding of the biological mechanisms involved in autogenous and heterogeneous tissue grafting.
- 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 lesion of jaw. Neurological disorders of maxillofacial region – diagnosis and management of Trigeminal Neuralgia, MPDS, Bells palsy, Frey's Syndrome, Nerve injuries.
- Maxillofacial trauma – basic principles of treatment, primary care, diagnosis and management of hard and soft tissue injuries, Comprehensive management including polytrauma patients.

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 doneby the staff of the department based on participation of students in various teaching / learning activitie. It may be structured and assessment be done using checklist that assess various aspects. Checklists are given in section IV.

SCHEME OF EXAMINATION: (At the end of 3 year of study)

A. Theory : 400 Marks

Written examination shall consist of four question paper each of three hours duration. Total Mark for each paper will be 100. Paper I, II and III shall consist of two long questions carrying 20 marks each and 6 short essay questions each carrying 10 marks. Paper IV will be on Essay questions on resent advances may be asked in any or all the papers. Distribution of topics for each paper will be as follows:

Paper I : Applied Basic Science: Applied Anatomy, Physiology, Biochemistry, General and Oral Pathology and Microbiology and Pharmacology.

Paper II : Minor Oral Surgery and Trauma.

Paper III : Maxillofacial Surgery.

Paper IV : Essay.

B. Practical / Clinical Examination : 200 Marks

1. **MINOR ORAL SURGERY - 100 Marks**
   Each candidate is required to perform the minor oral surgical procedures under local anaesthesia. The minor surgical cases may include removal of impacted lower third molar, cyst enucleation, any similar procedure where students can exbit their professional skills in raising the flap, removing the bone and suturing the wound.

2. (a) One long case - 60 marks
   (b) Two short cases - 20 marks each

C. Viva Voce - 100 Marks

i. Viva – Voce examination: 80 Marks

All examiners will conduct viva – voce conjointly on candidate's comprehension, analytical approach, expression, interpretation of data and communication skills. It

includes all components of course contents. It includes presentation and discussion on dissertation also.

ii. Pedagogy Exercise: 20 Marks

Atopic be given to each candidate in the beginning of clinical examination. He/She is

MD17PM002 - Oral and Maxillofacial Surgery -II

OBJECTIVES:

The training programme in Oral and Maxillofacial Surgery is structured to achieve the following four objectives -

- Knowledge
- Skills
- Attitude
- Communicative skills and ability
- Research

KNOWLEDGE:

- To have acquired adequate knowledge and understanding of the etiology, pathophysiology 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 post surgical management, particularly evaluation, post surgical care, fluid and electolyte management, blood transfusion and post surgical pain management.
- Understanding of basic science relevant to practice of oral and maxillofacial surgery.
- Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and maxillofacial region.
- Essential knowledge of personal hygiene and infection control, prevention of cross infectioin 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 (or by other means 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 with 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 spectalists as and when required.

COMMUNICATION SKILLS:

- Develop adequate communication skills particularly with the patients given them the various options avilable to manage a particular surgical problem and obtain a true informed consent from 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 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 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 future apprenticeship towards advanced Maxillofacial Surgery.

The topics are considered as under:-

- Basic sciences
- Oral and Maxillofacial Surgery
- Allied Specialties

APPLIED BASIC SCIENCES:

A thorough knowledge both on theory and principles in general and particularly the basic medical subjects as relevant to the practice of maxillofacial surgery. It is desirable to have adequate knowledge in Bio – statistics, Epidemiology, Research methodology, Nutrition and Computers.

ANATOMY:

Development of face, paranasal sinuses and associated structures and their anomalies: surgical anatomy of scalp temple and face, anatomy and its applied aspects of triangles of neck, deep structures of neck, cranial and facial bones and its surrounding soft tissues, cranial nerves tongue, temporal and infratemporal region, orbits and its contents, muscles of face and neck, paranasal sinuses, eyelids and nasal septum, teeth, gums and palate, salivary glands, pharynx, thyroid and parathyroid glands, larynx, trachea and esophagus, congenital abnormality of orofacial regions,General consideration of the structure and

function of brain and applied anatomy of intracranial venous sinuses; cavernous sinus and superior sagital sinus, Brief consideration of autonomous nervous system of head and neck, Functional anatomy of mastication deglutition, speech, respiration and circulation. Histology of skin, oral mucosa, connective tissue bone, cartilage cellular elements of blood vessels, lymphatic, nerves, muscles, tounge, tooth and its surrounding structures.

PHYSIOLOGY:

Nervous system – physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling body temperature; 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 transfusion, blood substitutes, auto transfusion, cell savers; Digestive system - composition and functions of saliva, mastication deglutition, digestion, assimilation, urine formation, normal and abnormal constituents; Respiration control of ventilation anoxia, asphyxia, artifical respiration, hypoxia – types and management; CVS – cardiac cycle, shock, heart sounds, blood pressure, hypertension; Endocrinology – metabolism of calcium; endocrinal activity and disorder relating to thyroid gland, parathyroid gland, adernal gland, pituitary gland, pancreas and gonads; Nutrition – general principles of balanced diet. Effect of dietary deficiency, protein energy malnutrition, Kwashiorkor, Marasmus, Nutritional assessment, metabolic responses to stress, need for nutritional support, entrails nutrition, roots of access to GI tract, Parenteral nutrition, Access to central veins, Nutritional support; Fluid and Electrolytic balance / Acid Base metabolisim – body fluid compartment, metabolism of water and electrolytes, factors maintaining hemostasis, causes & treatment of acidosis and alkalosis.

BIOCHEMISTRY:

General principles governing the various biological principles of the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reduction etc; general

composition of body, intermediary metabolism, carbohydrate, proteins, lipids, enzymes, vitamins, minerals and antimetabolites

GENERAL PATHOLOGY:

Inflammation – Acute and chronic 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 NSAIDS in inflammation, cellular changes in radiation injury and its manifestation; Wound management – Wound healing factors influencing healing; properties of suture materials, appropriate uses of sutures; hemostasis – role of endothelium in thrombogenesis; arterial and venous thrombi, disseminated intravascular coagulation; Hypersensitivity; Shock and pulmonary failure: types of shock, diagnosis, resuscitation, Pharmacological support, ARDS and its causes and prevention, ventilation and support, Neoplasm – classification of tumors, Carcinogens and Carcinogenesis, grading and staging of tumors, various laboratory investigation.

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Immunity, Hepatitis B and its prophylaxis, Knowledge of organisms, commonly associated with diseases of oral cavity, culture and sensitivity tests, various staining techniques – Smears and cultures, urine analysis and culture.

ORAL PATHOLOGY AND MICROBIOLOGY

Developmental disturbances of oral and para oral structures, regressive changes of teeth, bacterial, viral, mycotic infection of oral cavity, Dental caries, diseases of pulp and Periapical tissues, physical and chemical injuries of oral cavity, wide range of pathological lesions of hard and soft tissues of the orofacial regions like cysts, odontogenic infection, benign & malignant neoplasms, salivary gland diseases, maxillary sinus diseases, mucosal diseases, oral aspects of various systemic diseases & role of laboratory investigation in oral surgery.

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Definition of terminology used, pharmacokinetics and pharmadynamic, dosage and mode of administration of drugs, action and fate in the body, drug addiction,tolerance and hypersensitivity reactions, drugs acting on CNS, general and local anesthetics, antibiotics and analgesics, antiseptics, antitubercular, sialagogues, hematinics, anti diabetic, Vitamins A,B – complex, C,D,E,K.

COMPUTER SCIENCE:

Use of computer in surgery, components of computer and its use in practice, principles of word processing, spreadsheet function database and presentation; the internet and its use. The value of computer based systems in biomedical equipment.

ORAL AND MAXILLOFACIAL SURGERY:

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- Diagnosis, history taking, clinical, examination, investigations.
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- Anesthesis – stage of Anesthesia, pharmacology of inhalation, intravenous and regional anesthetics, muscle relaxants.
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- Temporomandibular joint disorder – TMJ disorders and their sequelae need expert evaluation, assessment and management. It is preferable to be familiar with diagnostic and therapeutic arthroscopic surgery procedures.
- Tissue grafting – Understanding of the biological mechanisms involved in autogenous and heterogeneous tissue grafting.
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- Maxillofacial trauma – basic principles of treatment, primary care, diagnosis and management of hard and soft tissue injuries, Comprehensive management including polytrauma patients.

MONITORING LEARNING PROGRESS:

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SCHEME OF EXAMINATION: (At the end of 3 year of study)

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B. Practical / Clinical Examination : 200 Marks

1. **MINOR ORAL SURGERY - 100 Marks**
   Each candidate is required to perform the minor oral surgical procedures under local anaesthesia. The minor surgical cases may include removal of impacted lower third molar, cyst enucleation, any similar procedure where students can exbit their professional skills in raising the flap, removing the bone and suturing the wound.

2. (a) One long case - 60 marks
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C. Viva Voce - 100 Marks

i. Viva – Voce examination: 80 Marks

All examiners will conduct viva – voce conjointly on candidate's comprehension, analytical approach, expression, interpretation of data and communication skills. It

includes all components of course contents. It includes presentation and discussion on dissertation also.

ii. Pedagogy Exercise: 20 Marks

Atopic be given to each candidate in the beginning of clinical examination. He/She is

MD170PM001 - Oral and Maxillofacial Surgery -I

OBJECTIVES:

The training programme in Oral and Maxillofacial Surgery is structured to achieve the following four objectives -

- Knowledge
- Skills
- Attitude
- Communicative skills and ability
- Research

KNOWLEDGE:

- To have acquired adequate knowledge and understanding of the etiology, pathophysiology and diagnosis, treatment planning of various common oral and Maxillofacial surgical problems both minor and major in nature
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- Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and maxillofacial region.
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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.
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- 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 with 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 spectalists as and when required.

COMMUNICATION SKILLS:

- Develop adequate communication skills particularly with the patients given them the various options avilable to manage a particular surgical problem and obtain a true informed consent from 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 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 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 future apprenticeship towards advanced Maxillofacial Surgery.

The topics are considered as under:-

- Basic sciences
- Oral and Maxillofacial Surgery
- Allied Specialties

APPLIED BASIC SCIENCES:

A thorough knowledge both on theory and principles in general and particularly the basic medical subjects as relevant to the practice of maxillofacial surgery. It is desirable to have adequate knowledge in Bio – statistics, Epidemiology, Research methodology, Nutrition and Computers.

ANATOMY:

Development of face, paranasal sinuses and associated structures and their anomalies: surgical anatomy of scalp temple and face, anatomy and its applied aspects of triangles of neck, deep structures of neck, cranial and facial bones and its surrounding soft tissues, cranial nerves tongue, temporal and infratemporal region, orbits and its contents, muscles of face and neck, paranasal sinuses, eyelids and nasal septum, teeth, gums and palate, salivary glands, pharynx, thyroid and parathyroid glands, larynx, trachea and esophagus, congenital abnormality of orofacial regions,General consideration of the structure and

function of brain and applied anatomy of intracranial venous sinuses; cavernous sinus and superior sagital sinus, Brief consideration of autonomous nervous system of head and neck, Functional anatomy of mastication deglutition, speech, respiration and circulation. Histology of skin, oral mucosa, connective tissue bone, cartilage cellular elements of blood vessels, lymphatic, nerves, muscles, tounge, tooth and its surrounding structures.

PHYSIOLOGY:

Nervous system – physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling body temperature; 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 transfusion, blood substitutes, auto transfusion, cell savers; Digestive system - composition and functions of saliva, mastication deglutition, digestion, assimilation, urine formation, normal and abnormal constituents; Respiration control of ventilation anoxia, asphyxia, artifical respiration, hypoxia – types and management; CVS – cardiac cycle, shock, heart sounds, blood pressure, hypertension; Endocrinology – metabolism of calcium; endocrinal activity and disorder relating to thyroid gland, parathyroid gland, adernal gland, pituitary gland, pancreas and gonads; Nutrition – general principles of balanced diet. Effect of dietary deficiency, protein energy malnutrition, Kwashiorkor, Marasmus, Nutritional assessment, metabolic responses to stress, need for nutritional support, entrails nutrition, roots of access to GI tract, Parenteral nutrition, Access to central veins, Nutritional support; Fluid and Electrolytic balance / Acid Base metabolisim – body fluid compartment, metabolism of water and electrolytes, factors maintaining hemostasis, causes & treatment of acidosis and alkalosis.

BIOCHEMISTRY:

General principles governing the various biological principles of the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reduction etc; general

composition of body, intermediary metabolism, carbohydrate, proteins, lipids, enzymes, vitamins, minerals and antimetabolites

GENERAL PATHOLOGY:

Inflammation – Acute and chronic 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 NSAIDS in inflammation, cellular changes in radiation injury and its manifestation; Wound management – Wound healing factors influencing healing; properties of suture materials, appropriate uses of sutures; hemostasis – role of endothelium in thrombogenesis; arterial and venous thrombi, disseminated intravascular coagulation; Hypersensitivity; Shock and pulmonary failure: types of shock, diagnosis, resuscitation, Pharmacological support, ARDS and its causes and prevention, ventilation and support, Neoplasm – classification of tumors, Carcinogens and Carcinogenesis, grading and staging of tumors, various laboratory investigation.

GENERAL MICROBIOLOGY:

Immunity, Hepatitis B and its prophylaxis, Knowledge of organisms, commonly associated with diseases of oral cavity, culture and sensitivity tests, various staining techniques – Smears and cultures, urine analysis and culture.

ORAL PATHOLOGY AND MICROBIOLOGY

Developmental disturbances of oral and para oral structures, regressive changes of teeth, bacterial, viral, mycotic infection of oral cavity, Dental caries, diseases of pulp and Periapical tissues, physical and chemical injuries of oral cavity, wide range of pathological lesions of hard and soft tissues of the orofacial regions like cysts, odontogenic infection, benign & malignant neoplasms, salivary gland diseases, maxillary sinus diseases, mucosal diseases, oral aspects of various systemic diseases & role of laboratory investigation in oral surgery.

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Definition of terminology used, pharmacokinetics and pharmadynamic, dosage and mode of administration of drugs, action and fate in the body, drug addiction,tolerance and hypersensitivity reactions, drugs acting on CNS, general and local anesthetics, antibiotics and analgesics, antiseptics, antitubercular, sialagogues, hematinics, anti diabetic, Vitamins A,B – complex, C,D,E,K.

COMPUTER SCIENCE:

Use of computer in surgery, components of computer and its use in practice, principles of word processing, spreadsheet function database and presentation; the internet and its use. The value of computer based systems in biomedical equipment.

ORAL AND MAXILLOFACIAL SURGERY:

- Evolution of Maxillofacial surgery.
- Diagnosis, history taking, clinical, examination, investigations.
- Informed consent/medico – legal issues.
- Concept of essential drugs and rational use of drugs.
- 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 Basic statistics.
- 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, randomized control and blinded studies, understanding the principles and the meaning of various Bio – statistical tests applied in these students.
- Principles of surgery – developing a surgical diagnosis, basic necessities for surgery, aseptic techniques, incisions, flap designs, tissue handling, hemostasis, dead space management, decontamination and debridement, suturing, edema control, patient general health and nutrition.
- Medical emergencies – Prevention and management of altered consciousness, hyper sensitivity reaction, chest discomfort, respiratory difficulty.
- 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; risk stratification.
- 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, pain management.
- Wound management – Wound healing, factors influencing healing, basic surgical techniques, Properties of suture materials, appropriate use of sutures.
- 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 cross infection.
- Airway obstruction/management – Anatomy of the airway, principles of keeping the airway patent, mouth to mouth resuscitation, Oropharyngeal airway, endotracheal intubation, Cricothyroidectomy, Tracheostomy.

- Anesthesis – stage of Anesthesia, pharmacology of inhalation, intravenous and regional anesthetics, muscle relaxants.
- Facial Pain; Facial palsy and nerve injuries.
- Pain control – acute and chronic pain, cancer and non – cancer pain, patient controlled analgesia.
- General patients 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 for Anesthesia.
- Clinical oral surgery - all aspects of dento alveolar surgery.
- Pre – prosthetic surgery – A wide range of surgical reconstructive procedures involving their hand and soft tissues of the edentulous jaws.
- Temporomandibular joint disorder – TMJ disorders and their sequelae need expert evaluation, assessment and management. It is preferable to be familiar with diagnostic and therapeutic arthroscopic surgery procedures.
- Tissue grafting – Understanding of the biological mechanisms involved in autogenous and heterogeneous tissue grafting.
- 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 lesion of jaw. Neurological disorders of maxillofacial region – diagnosis and management of Trigeminal Neuralgia, MPDS, Bells palsy, Frey's Syndrome, Nerve injuries.
- Maxillofacial trauma – basic principles of treatment, primary care, diagnosis and management of hard and soft tissue injuries, Comprehensive management including polytrauma patients.

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 doneby the staff of the department based on participation of students in various teaching / learning activitie. It may be structured and assessment be done using checklist that assess various aspects. Checklists are given in section IV.

SCHEME OF EXAMINATION: (At the end of 3 year of study)

A. Theory : 400 Marks

Written examination shall consist of four question paper each of three hours duration. Total Mark for each paper will be 100. Paper I, II and III shall consist of two long questions carrying 20 marks each and 6 short essay questions each carrying 10 marks. Paper IV will be on Essay questions on resent advances may be asked in any or all the papers. Distribution of topics for each paper will be as follows:

Paper I : Applied Basic Science: Applied Anatomy, Physiology, Biochemistry, General and Oral Pathology and Microbiology and Pharmacology.

Paper II : Minor Oral Surgery and Trauma.

Paper III : Maxillofacial Surgery.

Paper IV : Essay.

B. Practical / Clinical Examination : 200 Marks

1. **MINOR ORAL SURGERY - 100 Marks**
   Each candidate is required to perform the minor oral surgical procedures under local anaesthesia. The minor surgical cases may include removal of impacted lower third molar, cyst enucleation, any similar procedure where students can exbit their professional skills in raising the flap, removing the bone and suturing the wound.

2. (a) One long case - 60 marks
   (b) Two short cases - 20 marks each

C. Viva Voce - 100 Marks

i. Viva – Voce examination: 80 Marks

All examiners will conduct viva – voce conjointly on candidate's comprehension, analytical approach, expression, interpretation of data and communication skills. It

includes all components of course contents. It includes presentation and discussion on dissertation also.

ii. Pedagogy Exercise: 20 Marks

Atopic be given to each candidate in the beginning of clinical examination. He/She is