

Syllabus:

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 and neck 79
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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

Physiology:

1. Nervous system • Physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling body temperature
2. Blood • Composition • Haemostasis, 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 haemostasis 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, reduction etc.
- 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.
- Antimetabolites.

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 Intravascular 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 hypersensitivity and cell mediated reaction and its clinical importance, systemic lupus erythematosus. • Infection and infective granulomas.
6. Neoplasia: • Classification of tumors. • Carcinogenesis and carcinogens- chemical, viral and microbial • Grading and staging of cancers, tumor Angiogenesis, Paraneoplastic syndrome, spread of tumors • Characteristics of benign and malignant tumors
7. Others: • Sex linked agammaglobulinemia. • AIDS • Management of immuno deficiency patients requiring surgical procedures • De George Syndrome • Ghons complex, post primary pulmonary tuberculosis – pathology and pathogenesis.

Oral Pathology:

- Developmental disturbances of oral and Para oral structures
- Regressive changes of teeth.
- Bacterial, viral and mycotic infections of oral cavity
- Dental caries,, diseases of pulp and periapical tissues
- Physical and chemical injuries of the oral cavity • Oral manifestations of metabolic and endocrinal disturbances
- Diseases of jawbones and TMJ
- Diseases of blood and blood forming organs in relation to oral cavity
- Cysts of the oral cavity
- Salivary gland diseases
- Role of laboratory investigations in oral surgery Microbiology:
- Immunity
- Knowledge of organisms commonly associated with diseases of oral cavity.
 - Morphology cultural characteristics of strepto, staphylo, pneumo, gono, meningo, clostridium group of organisms, spirochetes, organisms of TB, leprosy, diphtheria, actinomycosis and moniliasis
 - Hepatitis B and its prophylaxis
 - Culture and sensitivity test

- Laboratory determinations
- Blood groups, blood matching, RBC and WBC count
- Bleeding and clotting time etc, smears and cultures,
- Urine analysis and cultures.

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 hypersensitivity 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 B)

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, 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 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.
- Anesthesia – stages 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 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 for Anesthesia
- Clinical oral surgery – all aspects of dento alveolar surgery
- Pre-prosthetic surgery – A wide range of surgical reconstructive procedures involving their hard and soft tissues of the edentulous jaws.

- 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 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 lesions 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
- Assessment of trauma-multiple injuries patient, closed abdominal and chest injuries, penetrating injuries, pelvic fractures, urological injuries, vascular injuries.
- 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 such therapy
- Distraction osteogenesis in maxillofacial region.
- Cryosurgeries – Principles, the application of cryosurgery in the surgical management of lesions amenable to such surgeries.
- 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 multi disciplinary team management.
- 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 scarring, face lift, blepharoplasty, otoplasty, facial bone recountouring etc.

- 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 craniofacial anomalies.
- Head and neck oncology – understanding of the principles of management of head and neck oncology including various pre cancerous lesions, Experience in the surgical techniques of reconstruction following ablative surgery.
- Micro vascular surgery.
- Implantology – principles, surgical procedures for insertion of various types of implants.
- Maxillofacial radiology/ radio diagnosis
- Other diagnostic methods and imaging techniques C) Allied Specialties:
- General medicine: General assessment of the patient including children with special emphasis on cardiovascular diseases, endocrinal, metabolic respiratory and renal diseases, Blood dyscrasias
- General surgery: Principles of general surgery, exposure to common general surgical procedures.
- Neuro – surgery: Evaluation of a patient with head injury, knowledge & exposure of various Neuro – surgical procedures
- ENT/Ophthalmology: Examination of ear, nose, throat, exposure to ENT surgical procedures, ophthalmic examination and evaluation, exposure to ophthalmic surgical procedures. 84 84
- 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- Basic Principles