

## وصف مقرر دراسي

### Course File

<b>Course title</b>	:	<b>Local Anaesthesia &amp; Exodontia</b>
<b>Course No &amp; code</b>	:	<b>211 MDS</b>
<b>Cerdit hours</b>	:	<b>2 Hours (2 lectures)</b>
<b>Level</b>	:	<b>2<sup>nd</sup> Year</b>

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#### A- Course Description:

This course is a series of weekly lectures extending over two semesters and formed of two parts.

1. Local anaesthesia: which covers patient assessment and his suitability for local anaesthesia and surgery, pain control, neuro-anatomy of the oral cavity and peri-oral tissue, neuro-physiology, pharmacokinetics of the drugs used in local anaesthesia and any local or systematic complications which may occur, and how to avoid and how to manage.
2. Exodontia [teeth extraction]: which covers sterilization, control of infection, the different methods for extraction [intra-alveolar and trans-alveolar], the used instruments [forceps and elevators], suture types and materials.

Also, it covers indications and contra-indications for teeth extraction, post-operative instructions and follow-up. Lastly, complications which may occur during or after extraction and surgery, how to reduce and manage.

#### B- Course Objectives:

The student should be able to:

1. Learn the art of assessing patients and their suitability for all minor surgical procedures, by taking systematic history, including detailed medical history, thorough physical examination and the proper use of investigations.
2. Study and learn the applied surgical anatomy of the area and understand the neuroanatomy.
3. Appreciate and understand the physiology of pain and pain conduction in order to understand the mechanism of action of anaesthetic agents.

4. Understand the pharmacokinetics and the mode of action of the various local anaesthetic agents, the techniques employed to block nerve conduction and produce anaesthesia. The student, also, should study the possible complications, their aetiology, signs and symptoms, prevention and their management.
5. Study and learn the methods and techniques employed to institute infection control measures, sterilization, asepsis and disinfection.
6. Learn about the indications and contraindications for extraction of teeth, study the different techniques and the methods used to perform teeth removal.
7. Learn about the intra-alveolar technique and the principles of forceps and elevators use.
8. Study the indications for trans-alveolar technique, the designing of flaps, the methods employed for bone removal and the different types of suture material.
9. Understand and give post-operative instructions and medications when necessary.
10. Recognise and manage the different complications encountered during extraction of teeth or immediately following the extraction.

### **C - Lecture topics in details [contents]**

- 1- Introduction: Definition of pain, pain control, pain perception pain reaction and pain threshold.
- 2- Patient Evaluation: The art and science of history taking to assess the systemic condition of the patient prior to receiving local anaesthesia, extraction of teeth and minor oral surgery.
- 3- Assessment of the local and systemic contra-indications prior to extraction, learn the essential and routine investigations for patient preparation e.g. radiographs.
- 4- Neuro-anatomy: The Trigeminal nerve and its branches supplying the teeth and their tissues.

- 5- Neuro-physiology I: Nerve pathways, types of nerves, and pain theories particularly Gate Control theory.
- 6- Neuro-physiology II: Membrane and electrical action potential and ionic properties and spread of impulses.
- 7- Pharmacology I: Composition & requirement of local anaesthetic solution, classification and pharmacology of local anaesthesia drugs, and the mechanism of action. Commonly used agents e.g. Procaine, Lignocaine, and Prilocaine
- 8- Pharmacology II: types and function of vasoconstrictors used with local anaesthesia, Adrenaline, Noradrenaline and Felypressin.
- 9- Instruments for local anaesthesia:  
The dental syringe: Types, side and breech-loading metal syringes.  
The dental needles: parts, design and gauge.  
The cartridge: parts and types.
10. Topical, Infiltration and Regional nerve block techniques:
  - a. Local Anaesthetic techniques used in the maxilla:  
Methods of infiltration: Submucosal, Supraperiosteal, Subperiosteal, Intraosseous, Intraalveolar and intrapulpal.  
Nerve Block: Infraorbital, posterior superior alveolar and maxillary nerves.
  - b. Local anaesthetic in the mandible:  
Methods of Inferior Alveolar Nerve Block: Direct, Gow-Gates & Akinosi.  
Mental Nerve block and infiltration in the anterior region.
- 11- Complications of local anaesthetics I: Local complications: Failure, pain haematoma, trismus, paralysis, broken needles.
- 12- Complications of local anaesthesia II: Systemic complication: Syncope, fainting toxicity, hypersensitivity reaction, drug interaction.
- 13- Instruments and Armamentarium:  
Forceps, Parts and types  
Elevators, Parts and types.
- 14- Intra-alveolar technique I: Principles of forceps extraction.  
Position of the patient and the dentist. The use of the left hand.  
The use of forceps to move teeth in the upper and lower jaws.
- 15- Intra-alveolar technique II:

Principle of elevators use.  
Wedge, Lever and Fulcrum and Wheel and Axle.  
Indications for their uses.

- 16- Trans-alveolar Technique I:  
Indications, design, classification and requirement of muco-periosteal flaps.
- 17- Trans-alveolar Technique II:  
Principle of bone removal: burs, chisels, Rongeur.  
Tooth division, sutures: Types and techniques
- 18- Postoperative instructions and therapeutics:  
Pack pressure and instructions concerning mouth wash, the use of cold and hot applications. Prescribing analgesics, antibiotics and anti-inflammatory drugs.
19. Indications and contra-indications for teeth extraction.
- 20- Complications of Exodontia I:  
Local Complications:  
Fracture crown, roots, alveolar process and mandible.  
Causes & management.  
  
Displacement of teeth or roots into the antrum, inferior alveolar canal, the ptyregomandibular space and the infratemporal fossa: causes & management.  
Dislocation of the TMJ: causes and management.
- 21- Complications of Exodontia II:  
General complications:  
Haemorrhage: types, causes and management.  
Nerve affection: Types, classification and management
- 22- Complications of Exodontia III:  
General complications:  
Infection, dry socket: causes, predisposing factors, clinical manifestation and management
- 23- Revision

**D- Methodology:** Didactic

**E- Grades Distribution**

<u>Test No.</u>	<u>Type of Evaluation</u>	<u>Grades</u>
1 <sup>st</sup> Continuous Assessment	Written	10%
Mid-Year	Written	20%
3 <sup>rd</sup> Continuous Assessment	Written	10%
Final examination	Written	60%

**F- Required text books:**

- 1. Handbook of Local Anesthesiaby** By Stanley F. Malamed
- 2. Tooth Extraction: A Practical Guide** By Paul Robinson

**G. Reference textbook**

- **Contemporary Oral and Maxillofacial Surgery** By Peterson, Ellis, Hupp, Tucker. 4 edition (2003).