POSTGRADUATE PROGRAM OF

ORAL & MAXILLOFACIAL SURGERY

CURRICULUM

(2022-2023)

ARMED FORCES INSTITUTE OF DENTISTRY

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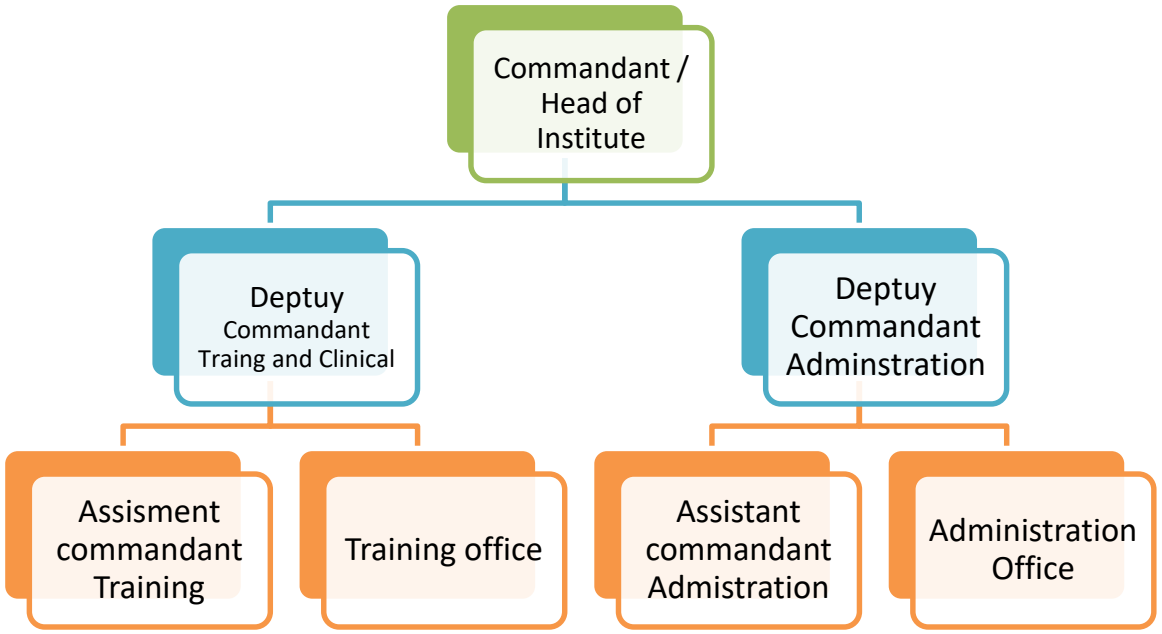
The Armed Forces Institute of Dentistry (AFID) would appreciate any criticism, suggestions, advice from the readers and users of this document.

Administrators

A chain of administration at Armed Forces Institute of Dentistry is as follows:



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Contents

Abbreviations

AFID	Armed Forces Institute of Dentistry
AFIP	Armed Forces Institute of Pathology
AFIRI	Armed Forces Institute of Radiology and Imaging
AFPGMI	Armed Forces Post Graduate Medical Institute
AM College	Army Medical College
ATLS	Advanced Trauma Life Support
BDS	Bachelors of Dental Surgery
B/L	Bilateral
CBD	Case Based Discussion
CBL	Case Based Learning
CHPE	Certificate of Health Professional Education
CMH	Combined Military Hospital
CNS	Central Nervous System
CPSP, CP&SP	College of Physicians and Surgeons
CPR	Cardiopulmonary Resuscitation
CSF	Cerebrospinal Fluid

CT	Computed Tomography
CVS	Cardiovascular System
CVP	Central Venous Pressure
DOPs	Direct Observation of Procedural Skills
E-log book	Electronic log book
ENT	Ear, Nose and Throat

1. Introduction

The curriculum provides the approved competency-based dental medication framework for the training of doctors to the level of independent consultant practice in Oral and Maxillofacial Surgery (OMFS), addressing the requirements of patients, the population and the strategic health services. College of Physicians and Surgeons Pakistan (CPSP) guidelines have been followed for the completion of curriculum of training program.

1.1 Mission

The mission of this course is to familiarise BDS students with the basic knowledge, skills and attitudes for safe practice of oral & Maxillofacial surgical procedures.

1.2 Purpose of the curriculum

The purpose of the curriculum for OMFS is to develop, by certification, competent doctors, able to deliver excellent outcomes for patients as consultant and surgeons in Pakistan. The curriculum will provide consultant surgeons with the generic professional and specialty-specific capabilities needed to manage patients presenting with the full range of acute OMFS conditions up to, including and beyond the point of operation, and to manage the full range of acute and elective conditions in the generality of the specialty. OMFS surgeons tend to focus their training and subsequent practice in one or more areas allowing flexibility to meet patient and service demands. Patient safety and competent practice are both essential and the curriculum has been designed so that the learning experience itself should not affect patient safety. Patient safety is the first priority of training demonstrated through safety-critical content, expected levels of performance, critical progression points, required breadth of experience and levels of trainer supervision needed for safe and professional practice. Upon satisfactory completion of training programs, we expect trainees to be able to work safely and competently in the defined area of practice and to be able to manage or mitigate relevant risks effectively. A feature of the curriculum is that it promotes and encourages excellence through the setting of high-level outcomes, supervision

levels for excellence, and tailored assessment and feedback, allowing trainees to progress at their own rate. This purpose statement has been endorsed by the College of Physicians and Surgeons Pakistan CPSP as meeting the needs of the health services of Pakistan.

1.3 Aims

Patient or population care occupies the pivotal center. Patient care includes all clinical skills such as history taking, physical examination, ordering investigations, making diagnoses and managing the care. The inner leaves of the model represent the five major competencies directly related to patient care, which are Knowledge and critical thinking, Technical skills, communication skills, teamwork and Research, while the three competencies in the outer circle are mega-competencies related to patient care which are education, professionalism, leadership, advocacy and population health. By the end of the Residency Programme, residents are expected to acquire these competencies and their constituent learning outcomes, and provide promotive, preventive, curative and rehabilitative patient-centered (or population-centered) care.

2. Learning Outcomes

The resident should be able to:

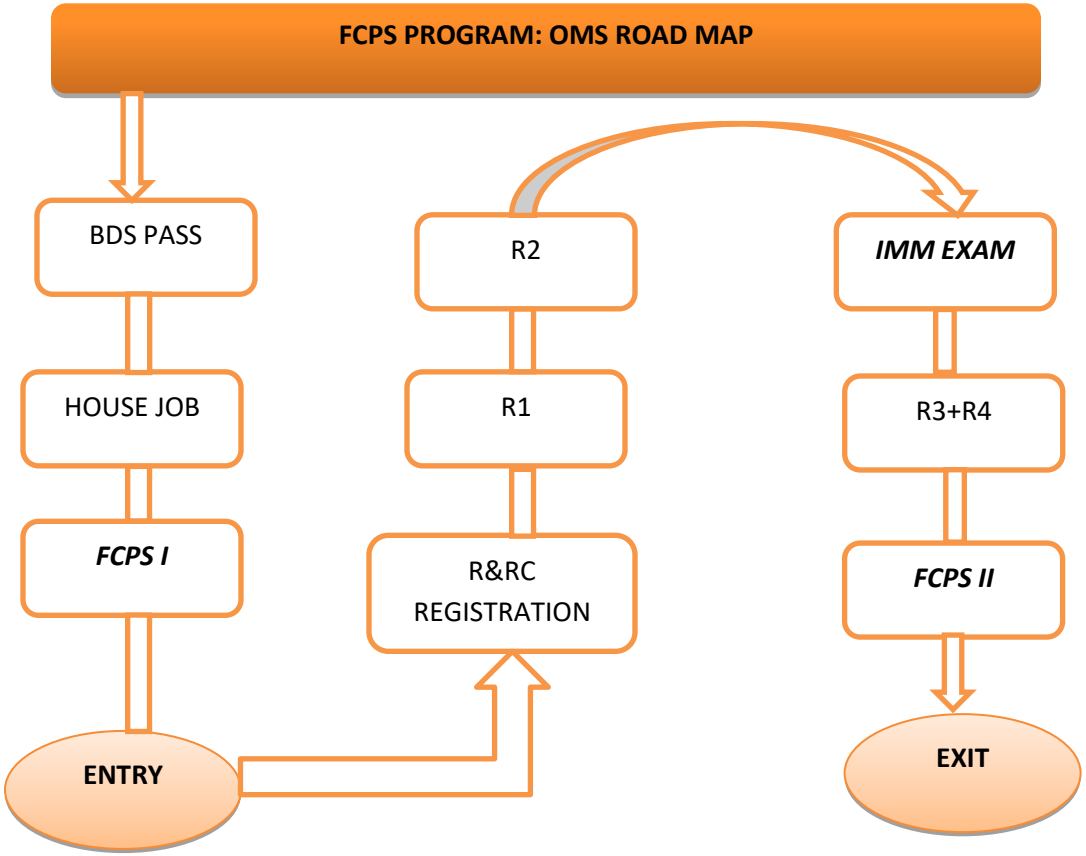
1. Demonstrate knowledge and critical thinking regarding oral and maxillofacial surgery related subjects.
2. Demonstrate International Patient Safety Goals.
3. Demonstrate competent performance of all required technical skills and procedures in the specialty.
4. Demonstrate Written Communication Skills, verbal Communication Skills and non-verbal skills.
5. Demonstrate constructive team-communication skills.
6. Demonstrate willingness to assume responsibility and leadership as needed.
7. Conduct a research study individually or in a group.
8. Guide others in conducting research by advising about research methodology including study designs and statistical methods.
9. Demonstrate the highest level of Professionalism in work-place and deal with patients.
10. Demonstrate principles of bioethics while managing with OMFS patients.
11. Demonstrate competence in teaching skills.
12. Demonstrate advocacy patients, practice, health system and society.

2.1 Level of Course

Access to the Oral and maxillofacial Surgery (OMFS) training program will be competitive. The pre-requisite for entering in the oral and maxillofacial surgery training is that the OMFS trainee must possess one year house-job experience from a national institute recognised by PM&DC along with a passed FCPS part I exam. The trainee should meet with the induction criteria of Armed forces institute of Dentistry, RWP (AFID). After entry to OMFS specialist training program, there will be different levels of competency that

the trainee will have to achieve. Proof of these competencies will be assessed after gaining entry in the training program and such training will be judged by their clinical trainers/supervisors by observing them treating patients. CPSP has laid down the level of competence for each year of training that the trainee should complete, it is adhered to by AFID.

2.3 The training pathway and duration of training



3. Research

One of the training requirements is a dissertation or two research papers on a topic related to the field of OMFS. Synopsis of the dissertation or titles of articles must be approved from the Registration & Research Cell (R&RC) of CPSP before starting the research work. The dissertation must be submitted for approval to the R&RC before or during the first six months of fourth year of training program.

- Synopsis/ Dissertation– Synopsis has to be approved from CPSP within First year and dissertation to be submitted to CPSP within 2nd year of training.
- Article Topics/ Articles –two Article topics have to be approved within first year from CPSP and one article accepted for publication within second year of training.

4. Criteria for entry to specialty training

The following regulations shall apply to all the candidates taking the FCPS-II training of oral maxillofacial surgery. Candidate will be admitted to the examination in the name (surname and other names) as given in the BDS degree. AFID will not entertain any application for change of name on the basis of marriage/ divorce/deed.

4.1 Duration of training

Total duration of the training is 4 years including Intermediate Module (IMM) at two year interval.

4.2 Pre-Clinical "gateway" assessment criteria

- Basic Dental Qualification BDS
- One year House Job
- Passed FCPS part I

5. Structure of the Training Program

5.1 Delivery of the program

Oral & Maxillofacial surgery training will be delivered over the equivalent of a four-year full time program. The program should lead to the chosen training pathway is one which integrates experience gained in several environments. These trainers must bind to the regulations laid down for clinical supervisor and clinical trainee by the CPSP. (Attached as Annexure "2 & 3" respectively)

5.2 Rotations

- IMM (First Two Years)
  - General Surgery 2 Months
  - General Medicine 2 Months
  - Anesthesia 2 Months

- Post IMM (Last Two Years)
  - ENT 2 Months
  - Neurosurgery 2 Months
  - Plastic Surgery 2 Months

5.3 Training for Intermediate Module

The curriculum of first two years in Oral & Maxillofacial surgery involves balanced and objective integration of basic dental sciences including dental and essential core clinical knowledge. The trainee should be able to diagnose and manage common conditions prevalent in the community. Further, that he/she should be able to recognise, stabilise and refer the complicated cases to appropriate place/person. The coverage that each discipline receives below is not indicative of the relative importance placed on each discipline in the training program, or in the examination. Only minimum levels of expected competence have been identified but sufficient scope, volume and variety of experience are desirable.

5.3.1 Competencies

The competencies prescribed for the Intermediate Module are:

- Take proper history of the case.
- Advise appropriate investigations & interpret them.
- Perform standardised clinical examination of the OMF region .
- Establish final diagnosis of the case & manage it.
- Accordingly refer patient to appropriate facilities, when needed .
- Practice safe and ethical OMFS.
- Communicate effectively with patients, attendants & others.
- Follow up and maintain patient records.
- Develop scientific paper writing and presentation skills.
- Work as OMFS professional, academician & researcher.
- Work as a leader or member of health care team.

5.3.2 Core Competencies

The level of competence to be achieved each year is specified according to the key, as follows:

Competency level for Year I and Year II trainee:

1. Observer status.
2. Assistant status.
3. Performed under supervision.
4. Performed under indirect supervision.
5. Performed independently

Note: Levels 4 and 5 for practical purposes are almost synonymous.

Competency for Year I and II:

Competence and total number of cases for first and second year postgraduate trainees along with rotation plan is attached as Appendix B and C.

Core competencies for FCPS II trainee:

The competencies which a specialist must have are varied and complex. . These are to be taken as guidelines rather than definitive requirements.

Key to competency levels in clinical skills:

1. Observer status
2. Assistant status

3. Performed under supervision

4. Performed independently

COMPETENCE FOR THIRD AND FOURTH YEAR:

Competence and total number of cases for first and second year postgraduate trainees along with rotation plan is attached as Appendix D.

5.3.3 Student Sign- off Processes

In order to advance the PGR must successfully complete all the stages as per requirement of CPSP and sign-off indicates successful completion of training

- Have attain OMFS core competency up to level 4 and completed required number of cases
- Approval of synopsis for clinical research work in 1st year of training
- Completion of clinical research and writing of dissertation or publication of two research articles in an CPSP approved journal
- Qualifying IMM examination after two years of training
- Completion of mandatory other specialties rotations
- Completion of four mandatory workshop including
- Research methodology biostatistics and dissertation writing
- Communication skills
- Primary Surgical skill
- Introduction to computer and internet
- Basic Life Support Course

- E-log book to be completed and validated by supervisor

6. Teaching and Learning

6.1 Delivery of OMFS curriculum

The curriculum is a guideline to design training program locally that ensure all trainees can develop the necessary skills, knowledge and attitude in a variety of settings and situations. The curriculum is designed to ensure it can be applied in a flexible manner, meeting service needs as well as supporting each trainee's own tailored learning and development plan. The training program is designed to facilitate learning outcomes following three themes.

Theme 1: learning environment and culture

- The learning environment is safe for patients and supportive for learners and educators.
- The learning environment and institutional culture value and support education and training, so that learners are able to demonstrate what is expected in Good Medical Practice and to achieve the learning outcomes required by their curriculum.

Clinical facilities and access to suitable patients

Clinical environment at AFID provides maximum access of student to patients and following system is practiced

1. **Out Patient Facilities/access**
   - Patients report in outpatient department and from their they are segregated and sent to concern department.
   - In OMFS department reception patient is allocated an OPD number and a Operating room number.
   - Patient is then seen by PGR in his/her operating room and decision is taken to operate patient as out or in patient
   - Minor oral surgical procedures are being carried out in Minor Oral surgery department according to PGR competency level
   - Patients who are being selected for major surgical procedures and those who require general anesthesia

2. In Patient Facilities / Access

- AFID OMFS ward consist of 24 beds including isolation ward and two separate/semi private rooms for special needs.
- In OMFS ward there is a fully equipped CPR room for emergency handling.

3. Remote clinical Facilities

- OMFS patients requiring critical/ intensive medical care are being admitted in ICU and HDU wards of Combined Military Hospital adjacent to building of AFID and having full access to patient and students
- Following remote clinical facilities are available
- Intensive care unit (ICU)
- Operation Theater of Combined Military Hospital (CMH)
- High Dependency Unit ward (HDU)
- Armed Forces Institute of Pathology (AFIP Labs)
- Armed Forces Institute of Radiology and Imaging (AFIRI)
- Pediatric intensive care unit
- Plastic, ENT and Neuro-surgical Wards in CMH

Clinical Skill facilities

Clinical skill facilities is accessible to all PGRs at Oral surgery Department that consists of 14 Dental surgeries fully equipped to manage all kinds of minor oral surgical procedures

AFID has its own two fully equipped Operation theaters that are functional and accessible 24/7 for all kinds of Oral surgical procedures requiring general anesthesia.

Laboratory facilities

PGRs has full access to skill lab of Armed Forces Post Graduate Medical Institute (AFPGMI) that conducts following workshops on regular basis

- Basic Life Support
- Advance Cardiac Life Support
- Primary Trauma Course

Academic facilities / IT Library

AFID has fully dedicated digital and manual library to facilitate students learning process along with lecture halls and auditorium equipped with audio/visual system and support staff available and accessible to students

Theme 2: educational governance and leadership

- The educational governance system continuously improves the quality and outcomes of education and training by measuring performance against the standards, demonstrating accountability and responding when standards are not being met.
- The educational and clinical governance systems are integrated, allowing institution to address concerns about patient safety, the standard of care, and the standard of education and training.
- The educational governance system makes sure that education and training is fair and is based on the principles of equality and diversity.

Theme 3: developing and implementing curricula and assessments

Oral and maxillofacial Postgraduate curricula and assessments are implemented so that OMFS trainees in training are able to demonstrate what is expected in Good Medical Practice, and to achieve the learning outcomes required by their curriculum. These policies are as follows:

- Admission / induction policy for PGRs in the specialty of OMFS at AFID under AFPGMI is on continuous review process for changes/alterations according to need.
- Team of specialists in OMFS and medical educationist designated by medical directorate GHQ periodically has meetings for renewal of admission for induction policy
- Number of new inductions depends upon slots/vacancy vacated, number of faculty members/supervisors and available recourses/ dental surgeries in OMFS department.
- The intellectual ability learning style and motivation, communicative ability personality are the canonical trades considered at the time of selection
- Implementation of program includes curriculum (Content and teaching and learning activities) and faculty development

6.1.1 Monitoring

OMFS curriculum is under continuous review by the Research & Review department involving subject specialist and medical educationist.

Important aspects regarding curriculum to be reviewed are

- Content
- Teaching and learning activities
- Faculty development
- Governance

- Outcome and impacts
- Educational program outcome
- Social Accountability

6.2 Instructional Strategies

Instructional strategies have been mentioned in the curriculum will be implemented to achieve the desired learning outcomes. There are as follows:

a) Independent self-directed learning: This will be encouraged by providing reference text books (attached as Appendix E).

b) Departmental teaching sessions: These occur on a regular basis in most departments and may include case reviews, journal clubs, case-based discussion and other forms of didactic/seminar based teaching.

c) National training courses: These are particularly helpful in providing specific teaching; they also allow trainees to identify their position in relation to the curriculum and their peers.

d) Scientific meetings: Trainees should be encouraged to attend and present their work at relevant meetings.

e) Multidisciplinary clinics (MDCs): Attendance at and contribution to MDCs offers the opportunity for trainees to comprehend multidisciplinary clinical management along with related specialties. The MDC also provides platform for formulation of interprofessional communication skills.

f) Audit: trainees should play an active role in departmental audit activity and other audits on national level which happen in the department.

Direct clinical care: Most of training is dedicated to direct clinical care. This consists of direct consultation, review and/or treatment of patients. Remaining training time will be given to "other training activities" which may include indirect patient contact (such as attendance at medical clinics/ward rounds), attending management related activities, study, audit and research activity**.** The curriculum will be delivered through a variety of learning experiences. Trainees will learn, from practice, clinical skills that are appropriate to their level of training and to their attachment within the department. Opportunities for concentrated practice in skills and procedures will be given throughout training via specialist clinical settings.

Learning from peers will occur at clinical meetings, and in larger departments more senior trainees may be involved in mentoring less experienced trainees.

Formal situations (such as journal club, above) is part of every departmental timetable and provide specific learning experiences. External courses will be available to trainees. Each rotation/attachment will allow time during the week for personal study, and the trainee will meet their educational supervisor regularly for specific input.

Most of the curriculum is suited to delivery by work-based experiential learning and on-the-job supervision. Where it is clear from trainees' experience that parts of the curriculum are not being delivered within their work, appropriate education or rotations to other work places will be arranged.

The key will be regular work-based assessment by educational supervisors who will be able to assess, with their trainee, their on-going progress and whether parts of the curriculum are not being delivered within their present work-place. To see details about Rotations, visit CPSP website: cpsp.org.edu

6.3 Supervision

OMFS postgraduate training program is supervised to ensure safety of the patient and the trainee. Training program structure ensures:

Supervision policy

Supervision of a resident is a multifaceted job. In our institute we adopt following supervision policy for post graduate resident (PGR)

- Each PGR have a designated main supervisor and PGR register with the supervisor at the time of his/her induction.

Main supervisor

- Main supervisor has the most fundamental role and not only ensure and monitor adequate training but also provide continuous helpful feedback regarding the progress of the training.
- The supervisor must be adept at providing guidance in writing dissertation / research articles (which are essential components of training)
- Supervisor coordinates with the administration of institute in order to ensure that his/her residents do not have administrative problems hampering their training.
- Supervisor ensure that the resident regularly fill their e- logbook
- In case the supervisor plans to be away for more than two months, he/she must arrange satisfactory alternate supervision during the period.

Head of Department

- HoD is part of supervisory team and contributes his expertise in assisting the main supervisor throughout the academic carrier of PGR and may act as supervisor of sections of the project in consultation with main supervisor

Deputy Commandant Clinical and Training

- Their role is to provide idyllic support and advice. Role of supervisor is attached as Annexure 2a.

Commandant (Head of Institute)

- To ensure taking into account the PGR mode of study, the progress of PGR and oversee appropriate supervisory arrangements, induction, availability of recourses.

6.4 Feedback and Reflection

Effective feedback is known to enhance learning, and combining self-reflection with feedback promotes deeper learning. Trainees are encouraged to seek feedback on all they do, either informally, through verbal feedback at the end of a learning event, or formally through work-place based assessments (WBAs). Trainee self-assessment provides a regular opportunity for focused and structured reflection and development of self-directed goals for learning as well as developing these goals through dialogue with supervisors. Constructive feedback is expected to include three elements i) a reflection on performance ii) identification of the trainee's achievements, challenges and aspirations and iii) an action plan.

All the assessments in the curriculum are designed to include a feedback element as well as to identify concerns in multiple ways:

• WBA: immediate verbal dialogue after a learning episode

• CBD: meeting with a consultant trainer to discuss the management of a patient case

• Formal examinations: summative feedback on key areas of knowledge and skills

• SSLM: a feedback meeting with student staff liaison meeting including the Deputy of Clinical and Training.

7. Methods of Assessment

The purpose of training is to promote patient safety by working to ensure that specialists have achieved the appropriate learning outcomes. The training of Oral and maxillofacial surgery in AFID aims to promote excellence in the practice of Oral and maxillofacial surgery. It is responsible for maintaining standards through training, assessments, examinations and professional development. Assessment is a process of determining the extent to which students have achieved the instructional objectives.

- Two mid-term and two final term exams are conducted during first two years of training at AFID.

7.1 Purpose of Assessment

- The purpose for conducting mid-term and final-term examination in Armed Forces Institute of Dentistry is to internally assess and evaluate the OMFS resident. It also prepares the OMFS resident to appear in the CP&SP IMM examination. This assessment improves clinical/ practical knowledge of Trainees under supervision of Head of Departments (HODs) and Senior Consultants. The Institute aims not only to produce professionally competent and efficient specialists but also ensures inculcation of following:-

- Empathy and development of effective communication skills
- Punctuality
- Personal grooming

7.2 Structure of Internal Assessment

Two internal exams are conducted for all four quarters to assess knowledge, skill and attitude of OMFS PGR.

- Structure of internal mid-term exams is as follows:

25 MCQs (each MCQ=1, Total Marks= 25)

10 stations of Task-oriented Assessment of Clinical Skills (TOACS)

- Structure of Final term exam is as follows:

100 MCQs ((each MCQ=1, Total Marks= 100)

10 Stations of TOACS

- One mid-term exam (IMM) and one exit exam (FCPS-II) being conducted by CP&SP.

7.3 Formative assessment for IMM

AFID is practicing Work Placed Based Assessment (WPBA) in addition to institutional/ departmental assessments according to guidelines laid down by CPSP. This is to ensure that the graduates are fully equipped with the clinical competencies. Forms of DOPS and Mini CEX are attached as Annexure 5 and 6 respectively.

7.3.1 Mini Clinical Evaluation Exercise (Mini-CEX)

During training in FCPS Oral and Maxillo-Facial Surgery, CP & SP demands that at least one Mini- CEX (find Mini CEX form in Annexure 6) be conducted in each quarter from the list given below:

- Mini-CEX is entirely a formative tool of assessment and is to be accompanied with constructive feedback
- Each Mini-CEX encounter extends for about 20 minutes with 05 minutes for feedback and further action plan
- In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame
- All topics given below are to be covered.
- Non-compliance by the resident has to be reported in quarterly feedback.
- The performance is reported online on the prescribed form.

7.3.2 Topics for Mini-CEX

- Examination of Neck Nodes (U/L and B/L) in Infection
- Examination of Cheek swelling
- Examination of TMJ
- Examination of Parotid gland swelling
- Examination of Sub-mandibular swelling
- History-taking & Examination / Diagnosis of Trigeminal Neuralgia
- Examination of Maxilla Fracture
- Examination of Mandible Fracture
- Examination of Zygomatic bone Fracture
- Examination of Blowout Fracture
- Examination of Nasoorbito-ethmoidal Fracture
- Examination of bony swelling in Mandible (Cyst or Tumor)

7.3.3 Guidelines for Mini-CEX Assessment

GENERIC

• During examination, head should be in appropriate position.

TOPIC-SPECIFIC

Examination of neck nodes (U/L and B/L) in infection

• Findings for nodes to be noted in anterior and posterior triangle of neck: Site, Size, Shape, Number, Tenderness, Consistency (Matted, Firm, Attached), etc.

Examination of Cheek swelling

• Findings to be noted for swelling: Site, Size, Shape, Tenderness, Consistency (Firm, Attached), etc.

Examination of TMJ

• All the findings are to be noted while patient opens and closes mouth
• Mouth opening is to be checked
• Intra-oral examination is to be done

Examination of Parotid Gland Swelling

• All the findings for swelling are to be noted
• Intra-oral and extra-oral examination is to be done
• Saliva flow through duct is to be checked

• Comparison to normal side

• Checking for indications of nerve damage

Examination of Sub-mandibular swelling

• All the findings for swelling are to be noted

• Intra-oral and extra-oral examination is to be done

• Bimanual palpation

• Saliva flow through duct is to be checked

• Comparison to normal side

History-taking & Examination / Diagnosis of Trigeminal Neuralgia

• All the findings of neuralgia (severity, distribution and relief of pain, etc) are to be noted before as well as afterthe use of tablet Tegral and Local Anaesthesia

• Comparison to normal side

Examination of Maxilla Fracture

• Presence of clinical evidence of fracture is to be noted on both sides

• Checking for CSF leakage

• Eye examination

Examination of Mandible Fracture

• Presence of clinical evidence of fracture is to be noted

• Status of occlusion of mouth

• Checking for indications of nerve damage

Examination of Zygomatic Bone Fracture

• Presence of clinical evidence of fracture is to be noted

• Status of occlusion and opening of mouth

• Checking for indications of nerve damage

• Eye examination

Examination of Blowout Fracture

• Presence of clinical evidence of fracture is to be noted

• Checking for indications of nerve damage

• Eye examination including checking for diplopia

(monocular / binocular)

Examination of Naso-orbito-ethmoidal Fracture

• Presence of clinical evidence of fracture is to be noted

• Eye examination

Examination of bony swelling in Mandible (Cyst or Tumor)

• All the findings for swelling are to be noted

• Checking for indications of nerve damage

7.4 Direct Observation of Procedural Skills (DOPS)

• DOPS is entirely a formative tool of assessment and is to be accompanied with constructive feedback

• Each DOPS encounter extends for about 20 minutes with 05 minutes for feedback and further action plan

• In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame

• All topics given below are to be covered

• Non-compliance by the resident has to be reported in quarterly feedback.

• The performance is reported online on the prescribed form (sample attached as Annexure 5)

During training in FCPS Oral and Maxillo-Facial Surgery, according to CP & SP at least one DOPS in each quarter is to be conducted from the list given below.

7.5 Topics / Procedures for DOPS

• Intra-oral interrupted silk suture

• Extra-oral interrupted silk suture

• Incision, Flap design (Intra-orally)

• Local Anaesthesia (Infiltration, Block)

• Biopsy (Incisional)

• Arch bar application

• Eyelets application

• Removal of impacted mandibular molar

• Surgical Endodontics / Peri-apical surgery

• Pre-prosthetic (Mandibular ridge contouring)

• Enucleation of Cyst

• Marsupialization of Cyst

7.5.1 Guidelines For Procedure-specific DOPS Assessment

Intra-oral / Extra-oral interrupted silk suture

• Aseptic measurement, types/ strength of suture

• Suture, equal depth and distance from incision line on both sides, approximation.

• Passage of needle, knot tying

• Tissue closer (suture) without tension

• Knot should never lie on incision line

• Averted wound margin

• **Appropriate selection and use of instruments:**

Retractor size, Tooth forceps, Scissor, Curved cutting suture, Needle

holder

Incision, Flap Design (Intra-orally)

• Flap of proper size, shape

• Incision on sound bone

• Pen grasp of scalpel for intra-oral incision

• Continuous (layer by layer) stroke of blade

• No sharp angles of incision

• Broad-based flap, good access

• **Appropriate selection and use of instruments:**

Blade number, Retractor size, Tooth forceps, Dissecting scissor, Periosteal elevator

Local Anaesthesia (Infiltration, Block)

• Infiltration of maxillary site

• Site of mandibular block

• Land mark of mandibular nerve

• Effectiveness of anaesthesia

• **Appropriate selection and use of instruments:**

Syringe, Cartridge, Retractor

Biopsy (Incisional)

• Anesthesia 1 cm away from lesion

• Tissue stabilisation

• Lesion & normal tissue piece provide material for evaluation

• Incision should be parallel to the course of nerve, arteries

• Handling of tissue and hemostasis

• Identification of surgical margin

• Specimen care and biopsy data sheet

• **Appropriate selection and use of instruments:**

Blade number, Syringe, Cartridge, Retractor, Suture, Needle holder, Scissor, Hemostatic material, Jar with preserving agent

Arch Bar Application

• Size and design (with or without hook) of eyelets

• Interdental passage, tightness, strength

• **Appropriate selection and use of instruments:**

Stainless steel wire / 0.45, Arch bar with and without hooks, Wire holders, Wire cutter, Retractor, Proper light

Eyelets Application

• Size and design of eyelets

• Interdental passage, tightness, strength

• Fracture site eyelets passage

• **Appropriate selection and use of instruments:**

Stainless steel wire / 0.45, Wire holders, Wire cutter, Retractor, Proper light

Removal of Impacted Mandibular Molar

• Incision, reflection flap for accessibility, design of flap

• Removal of overlying bone with bur, chisel

• Sectioning of the tooth required or not

• Delivery of sectioned tooth with elevator

• Debridement of wound and wound closure

• **Appropriate selection and use of instruments:**

Blade number, Syringe, Cartridge, Periosteal elevator, Round and Fissure Surgical bur, Surgical hand piece with motor,

Extraction forceps, Cyrier, Retractor, Suture material with Needle holder, Scissor, Proper light

Surgical Endodontics / Peri-Apical Surgery

- Anesthesia and flap design
- Incision and reflection
- Peri-apical exposure, curettage, Apical root sectioning, irrigation
- Flap replacement and suturing
- **Appropriate selection and use of instruments:**

Blade number, Cartridge, Periosteal elevator, Curette, Surgical bur, Surgical hand piece, Motor, Retractor, Suture with Needle holder, Scissor, Proper light

Pre-prosthetic (Mandibular ridge contouring)

- Anesthesia and flap design
- Incision and reflection
- Exposure, filing or burring, irrigation
- Flap repositioning and suturing
- **Appropriate selection and use of instruments:** Blade, Cartridge, Periosteal elevator, Bone cutter, Bone nibbler, Bone file , Surgical bur, Surgical hand piece with Motor, Retractor, Proper light

Enucleation of Cyst

- Anaesthesia and flap design
- Incision and reflection

• Incision on normal bone

• Exposure of cyst linning with bur, chisel

• Periosteal enucleation of cyst wall

• Curettage, debridement, dead space management

• Closure of wound, stitches, packing, dressing

• **Appropriate selection and use of instruments:** Blade, Cartridge, Periosteal elevator, Bone nibbler, Surgical burs, Surgical hand piece with Motor, Retractor, Proper light, Suture with Needle holder, Hemostatic agents

Marsupialization of Cyst

• Anaesthesia and flap design

• Incision and reflection

• Incision on normal bone

• Exposure of cyst with bur, chisel

• Marsupialisation of cyst wall

• Closure of wound after putting and securing 2 tube for wash and drainage.

• **Appropriate selection and use of instruments**:

Blade, Cartridge, Periosteal elevator, Bone nibbler, Surgical burs, Surgical hand piece with Motor, Retractor, Proper light, Suture with Needle holder, Hemostatic agents, Tube.

7.6 TOACS

To test clinical skills, the examination shall consist of: TOACS (Task Oriented Assessment of Clinical Skills) only those candidates who qualify in the MCQs paper will be eligible to take the TOACS examination. Task Oriented Assessment of Clinical Skills (TOACS) are taken in AFID as part of formative examination according to the format of examination issued by CPSP. Stations are required to be "Static" and "Interactive". At these stations, the candidates will be required to perform a task, for example, taking history, performing clinical examination, counseling, assembling an instrument or any other task. One examiner will be present at each interactive station and will rate the performance of the candidate and ask questions testing critical thinking and problem-solving skills.

7.7 Summative Assessment

Eligibility requirements for appearing in Intermediate Module (IMM) examination and FCPS part II are issued by CPSC are followed by the trainee and mentored by the Supervisor.

7.8 Examination Schedule

The examination for bothIntermediate Module (IMM) examination and FCPS part II is issued by the CPSP and followed by the trainee.

FORMATIVE ASSESSMENT FOR FCPS II trainee:

Topics for Mini-CEX for 3rd Year and 4th Year trainees:

- Examination of Neck Nodes (U/L and B/L) in Infection
- Examination of Check swelling
- Examination of TMJ

• Examination of Parotid gland swelling

• Examination of Sub-mandibular swelling

• History-taking & Examination / Diagnosis of Trigeminal Neuralgia

• Examination of Maxilla Fracture

• Examination of Mandible Fracture

• Examination of Zygomatic bone Fracture

• Examination of Blowout Fracture

• Examination of Naso-orbito-ethmoidal Fracture

• Examination of bony swelling in Mandible (Cyst or Tumor)

GUIDELINES FOR MINI-CEX ASSESSMENT

GENERIC

• During examination, head should be in appropriate position.

TOPIC-SPECIFIC

Examination of neck nodes (U/L and B/L) in infection

• Findings for nodes to be noted in anterior and posterior triangle of neck: Site, Size, Shape, Number, Tenderness, Consistency (Matted, Firm, Attached), etc.

Examination of Check swelling

• Findings to be noted for swelling: Site, Size, Shape, Tenderness, Consistency (Firm, Attached), etc.

Examination of TMJ

- All the findings are to be noted while patient opens and closes mouth.
- Mouth opening is to be checked.
- Intra-oral examination is to be done.

Examination of Parotid Gland Swelling

- All the findings for swelling are to be noted
- Intra-oral and extra-oral examination is to be done
- Saliva flow through duct is to be checked
- Comparison to normal side
- Checking for indications of nerve damage

Examination of Sub-mandibular swelling

- All the findings for swelling are to be noted
- Intra-oral and extra-oral examination is to be done
- Bimanual palpation
- Saliva flow through duct is to be checked
- Comparison to normal side

History-taking & Examination / Diagnosis of Trigeminal Neuralgia

• All the findings of neuralgia (severity, distribution and relief of pain, etc) are to be noted before as well as after the use of tablet Tegral and Local Anaesthesia.

• Comparison to normal side

Examination of Maxilla Fracture

• Presence of clinical evidence of fracture is to be noted on both sides

• Checking for CSF leakage

• Eye examination

Examination of Mandible Fracture

• Presence of clinical evidence of fracture is to be noted

• Status of occlusion of mouth

• Checking for indications of nerve damage

Examination of Zygomatic Bone Fracture

• Presence of clinical evidence of fracture is to be noted

• Status of occlusion and opening of mouth

• Checking for indications of nerve damage

• Eye examination

Examination of Blowout Fracture

• Presence of clinical evidence of fracture is to be noted

• Checking for indications of nerve damage

• Eye examination including checking for diplopia (monocular / binocular)

Examination of Naso-orbito-ethmoidal Fracture

• Presence of clinical evidence of fracture is to be noted

• Eye examination

Examination of bony swelling in Mandible (Cyst or Tumor)

• All the findings for swelling are to be noted

• Checking for indications of nerve damage

Direct Observation of Procedural Skills (DOPS)

During training in FCPS Oral and Maxillo-Facial Surgery, at least one DOPS in each quarter is to be conducted from the list given below.

• DOPS is entirely a formative tool of assessment and is to be accompanied with constructive feedback

• Each DOPS encounter extends for about 20 minutes with 05 minutes for feedback and further action plan

• In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame

- All topics given below are to be covered
- Non-compliance by the resident has to be reported in quarterly feedback.
- The performance is reported online on the E-logbook, presecribed form is attached as Annexure..

Topics / Procedures for DOPS

- Intra-oral interrupted silk suture
- Extra-oral interrupted silk suture
- Incision, Flap design (Intra-orally)
- Local Anaesthesia (Infiltration, Block)
- Biopsy (Incisional)
- Arch bar application
- Eyelets application
- Removal of impacted mandibular molar
- Surgical Endodontics / Peri-apical surgery
- Pre-prosthetic (Mandibular ridge contouring)
- Enucleation of Cyst
- Marsupialization of Cyst

GUIDELINES FOR PROCEDURE-SPECIFIC DOPS ASSESSMENT

Intra-oral / Extra-oral interrupted silk suture

• Aseptic measurement, types/ strength of suture

• Suture, equal depth and distance from incision line on both sides, approximation.

• Passage of needle, knot-tying

• Tissue closer (suture) without tension

• Knot should never lie on incision line

• Averted wound margin

• **Appropriate selection and use of instruments:**

Retractor size, Tooth forceps, Scissor, Curved cutting suture, Needle holder Incision, Flap Design (Intra-orally)

• Flap of proper size, shape

• Incision on sound bone

• Pen grasp of a scalpel for intra-oral incision

• Continuous (layer by layer) stroke of the blade

• No sharp angles of incision

• Broad-based flap, good access

• **Appropriate selection and use of instruments:**

Blade number, Retractor size, Tooth forceps, Dissecting scissor, Periosteal elevator,Local Anaesthesia (Infiltration, Block)

• Infiltration of maxillary site

• Site of mandibular block

• Land mark of mandibular nerve

• Effectiveness of anaesthesia

• **Appropriate selection and use of instruments:**

Syringe, Cartridge, Retractor

Biopsy (Incisional)

- Anesthesia 1 cm away from lesion
- Tissue stabilisation
- Lesion & normal tissue piece provide material for evaluation
- Incision should be parallel to the course of nerve, arteries
- Handling of tissue and hemostasis
- Identification of surgical margin
- Specimen care and biopsy data sheet
- **Appropriate selection and use of instruments:**

Blade number, Syringe, Cartridge, Retractor, Suture, Needle holder, Scissor, Hemostatic material, Jar with preserving Agent.

Arch Bar Application

- Size and design (with or without hook) of eyelets
- Interdental passage, tightness, strength
- **Appropriate selection and use of instruments:**

Stainless steel wire / 0.45, Arch bar with and without hooks, Wire holders, Wire cutter, Retractor, Proper light, Eyelets Application

- Size and design of eyelets

• Interdental passage, tightness, strength

• Fracture site eyelets passage

• **Appropriate selection and use of instruments:**

Stainless steel wire / 0.45, Wire holders, Wire cutter, Retractor, Proper light

Removal of Impacted Mandibular Molar

• Incision, reflection flap for accessibility, design of flap

• Removal of overlying bone with bur, chisel

• Sectioning of the tooth required or not

• Delivery of sectioned tooth with elevator

• Debridement of wound and wound closure

• **Appropriate selection and use of instruments**:

Blade number, Syringe, Cartridge, Periosteal elevator, Round and Fissure Surgical bur, Surgical hand piece with motor, Extraction forceps, Cyrier, Retractor, Suture material with Needle holder, Scissor, Proper light

Surgical Endodontics / Peri-Apical Surgery

• Anaesthesia and flap design

• Incision and reflection

• Peri-apical exposure, curettage, Apical root sectioning, irrigation

• Flap replacement and suturing

• **Appropriate selection and use of instruments:**

Blade number, Cartridge, Periosteal elevator, Curette, Surgical bur, Surgical hand piece, Motor, Retractor, Suture with Needle holder, Scissor, Proper light

Pre-prosthetic (Mandibular ridge contouring)

- Anaesthesia and flap design
- Incision and reflection
- Exposure, filing or burring, irrigation
- Flap repositioning and suturing
- **Appropriate selection and use of instruments:**

Blade, Cartridge, Periosteal elevator, Bone cutter, Bone nibbler,

Bone file , Surgical bur, Surgical hand piece with Motor, Retractor, Proper light

Enucleation of Cyst

- Anaesthesia and flap design
- Incision and reflection
- Incision on normal bone
- Exposure of cyst linning with bur, chisel
- Periosteal enucleation of cyst wall
- Curettage, debridement, dead space management
- Closure of wound, stitches, packing, dressing
- **Appropriate selection and use of instruments:**

Blade, Cartridge, Periosteal elevator, Bone nibbler, Surgical burs, Surgical hand piece with Motor, Retractor, Proper light, Suture with Needle holder, Hemostatic agents.

Marsupialization of Cyst

• Anaesthesia and flap design

• Incision and reflection

• Incision on normal bone

• Exposure of cyst with bur, chisel

• Marsupialisation of cyst wall

• Closure of wound after putting and securing 2 tube for wash and drainage

• **Appropriate selection and use of instruments:**

Blade, Cartridge, Periosteal elevator, Bone nibbler, Surgical burs, Surgical hand piece with Motor, Retractor, Proper light, Suture with Needle holder, Hemostatic agents, Tube

PART II CLINICAL EXAMINATION

The Clinical section comprises of two components:

• **First Component:**

• TOACS

• **Second Component:**

• One Long Case

• Four Short Cases

Only those candidates who pass through TOACS examination will be allowed to appear in the remaining components of clinical examination.

FORMAT OF TOACS

In Task Oriented Assessment of Clinical Skills (TOACS), all stations are required to be "Interactive". At these stations, the candidates will be required to perform a task, for example, taking history, performing clinical examination, counseling, assembling an nstrument or any other task.

One examiner will be present at each interactive station and will rate the performance of the candidate and ask questions testing critical thinking and problem-solving skills.

FORMAT OF LONG CASE

Each candidate will be allotted one long case and allowed 30 minutes for history taking and clinical examination. Candidates should take a careful history from the patient (or relative) and after a thorough physical examination identify the problems which the patient presents with. During the period a pair of examiners will observe the candidate.

In this section the candidates will be assessed on the following areas:

Interviewing Skills

- Introduces one self. Listens patiently and is polite with the patient
- Is able to extract relevant information

Clinical Examination Skills

• Takes informed Consent

• Uses correct clinical methods in a systematic manner

(including appropriate exposure and re-draping)

Case Presentation / Discussion

• Presents skillfully

• Gives correct findings

• Gives logical interpretations of findings and discusses differential diagnosis

• Enumerates and justifies relevant investigations

• Outlines and justifies treatment plan (including rehabilitation)

• Discusses prevention and prognosis

• Has knowledge of recent advances relevant to the case

• During case discussion the candidate may ask the examiners for laboratory investigations which shall be provided, if available. Even if they are not available and are relevant, candidates will receive credit for the suggestion.

FORMAT OF SHORT CASES

Candidates will be examined in at least four short cases for a total of 40 minutes jointly by a pair of examiners. Candidates will be given a specific task to perform on patients, one case at a time. During this part of the examination, the candidate will be

assessed in:

Clinical Examination Skills

• Takes informed Consent

• Uses correct clinical methods

• Examines systematically

Discussion

• Gives correct findings

• Gives logical interpretations of findings

• Justifies diagnosis

As the time for this section is short, the answers given by the candidates should be precise, succinct and relevant to the patient under discussion.

Assessment methods mentioned above are blueprinted to the curriculum in the tables that follow. All the components of the curriculum cannot be assessed by each method. The assessment methods indicated have been selected on the basis of their suitability for measuring specific dimensions of practice. These should be applied as appropriate to the stage of training and circumstances of the training environment.

To successfully achieve the above competencies, trainees must obtain experience of inpatient management including exposure to emergency work, and be exposed to appropriate well-focused general medical and surgical training to develop competence in ward care.

8. Managing Curriculum and Implementation

The curriculum will be made available to all OMFS residents of AFID. Deputy of Clinical Training, Head of Department and Clinical Supervisor will ensure that OMFS residents are familiar with the curriculum and use it as a blueprint for training. Supervisors will ensure that trainees have a good appreciation of the curriculum and this will help them understand their responsibilities and clinical activities as OMFS trainees. Deputy of Clinical Training will oversee the training and trainees interest within departmental rotations and will plan individual placements to ensure that all relevant knowledge and skills can be attained.

The curriculum covers the full range of knowledge and skills required for achievement of certification of completion of oral and maxillofacial training in Oral Surgery. The Assessment committee will devise process will assist in the identification of any deficiency in experience. Assessment will identify any deficiency in competence relative to the stage of training. Deputy of Clinical Training with assistance from the Supervisor will arrange for deficiencies to be rectified in other parts of the rotation. It is expected that trainees will take personal responsibility for ensuring that deficiencies are identified and reported. The curriculum outlines the minimum training requirements for delivery in a training program. It guides trainers in the teaching methods required to deliver the curriculum and guides trainees in the learning and assessment methods required for satisfactory completion of training. The Deputy of Clinical Training must ensure that each post or attachment within the program is approved by the relevant deanery. Quality management is the responsibility Quality Assurance Cell. The Quality Assurance Cell will quality-assure OMFS training program. It is the responsibility of the assigned educational supervisor of a particular post or attachment within a program to ensure that the training delivered in their post meets the requirements of the relevant section(s) of the curriculum. They must undertake regular appraisal with their trainee to ensure structured and goal-oriented delivery of training.

Trainees must familiarise themselves with the curriculum and with the minimum training requirements to satisfactorily complete each stage of training. They must also be familiar with the requirements of the relevant CPSP examination and must make appropriate use of clinical E-logbooks and personal portfolios.

8.1 Curriculum review and updating

The curriculum will be evaluated and monitored by the Quality assurance cell and medical educationist, feedback from OMFS trainees, feedback from supervisors. Feedback will be send to Dean, Deputy of Clinical Training, Head of Departments and Supervisors.

9. Equality and Diversity

The Faculties of Armed Forces Institute of Dentistry Rawalpindi, Pakistan, CPSP bind to beliefs that equality of opportunity is fundamental to the selection, training and assessment of trainees in dental specialities. The Faculties seek to promote a selection process that does not unfairly discriminate against trainees on the basis of race, religion, ethnic origin, disability, age and gender. Patients, trainees, trainers and all others, amongst whom interactions occur in the practice of dental specialties, have a right to be treated with fairness and transparency in all circumstances and at all times.

10. Appendix A

ORAL AND MAXILLOFACIAL SURGERY CURRICULUM and TIMETABLE

I. Medically Compromised Patients & Medical Emergencies in Dental Clinic							
Upon completion of the program, the traine							
	Theme/ Topics	**Learning Outcomes** .... should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition .... should be able to	**Skill** .... should be able to	**Attitude** ... should be able to		
1.	**Medically Compromised States/ Emergencies**	Evaluate the Health Status of the patient Manage medical emergencies of patients.	-List common medical conditions likely to develop into emergencies in the dental office. -Describe intra & extra-oral examination for oral & maxillofacial problems. -Enumerate major signs & symptoms of compromised status of the following: -CVS -Respiratory System -Endocrinal System -Hematological disorders -Renal and hepatic disorders -Gastro-intestinal system -CNS - List relevant investigations. -List essential drugs and equipment required for managing medical emergencies in dental clinics -Identify the special needs of females undergoing dental surgery while they: -Are pregnant -Are breast feeding -Identify the need of relevant medical referral(s) and consultation(s).	-Identify medically compromised State of patient. -List components of medical history of patient requiring dental surgery. -Show which drugs should be included in the dental emergency kit. -Administer basic life support in cases of medical emergencies -Administer initial management of the following medical emergencies: ➢ Acute Anaphylaxis ➢ Vasovagal syncope ➢ Foreign body inhalation and aspiration ➢ Hypo / hypertension status -Emergencies affecting any of the above-mentioned systems.	-Recognise the importance of basic sciences for understanding health and disease. (This is assumed to be the case for all sections that follow).	• Attend courses. -Self-directed learning, e.g. Journal club review (JCM); supervised outpatient clinics; ward-based learning, including ward-rounds and consultations; planned teaching e.g. specialist registrar training days; clinical and scientific meetings, departmental, regional, national and international. -The above are relevant to all sections that follow, choosing the most appropriate and available. -Interactive	• DOPS • Mini CEX • MCQs • TOACS

			-Outline when, who and whom to refer patients having serious medical emergencies.			Lectures -Small Group Discussion -PBL / CBL	

II. BASIC SURGICAL PRINCIPLES							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives** **Cognition** …. should be able to	**Skill** …. should be able to	**Attitude** … should be able to	**Instructional Strategy**	**Assessment Tools**
2.	**Basic Principles of Oral Surgery**	Demonstrate knowledge and skill of basic surgical principles.	• List steps of a minor oral surgery procedure. • Describe the principles of aseptic and sterile surgical protocol. • Describe the principles of the following in oral surgery: • Pre-op, intra-op and post-operative pain & anxiety control (select appropriate method – LA, LA + sedation,GA). • Define these terms related to oral surgery flaps: height, base, apex, width, length, corners, sides, triangular, rectangular, sub marginal, semi-lunar • Describe basic principles of flap design in oral surgery.	• Show armamentarium used for basic oral surgical practice. • Assess medical condition of patient preoperatively. • Manage Pain and perform anxiety control when required. • Interpret clinical and radiological assessment for tooth extraction. • Perform edema control. • Manage hemostasis and dead space. • Show appropriate use of suture/ ligature materials and basic principles of anastamosis.	-Recognise the importance of basic sciences for understanding health and disease. (This is assumed to be the case for all sections that follow). -Maintain disposition to do good to patients and always act in patients' best interests.	-Clinical experience with skilled trainers including attendance at appropriate clinics. - Suitable collection of clinical cases for observational and personal treatment. - Attendance at didactic teaching sessions within department. -Attendance at suitable courses. -Attendance at appropriate meetings. -Self-directed study.	• DOPS • Mini CEX • MCQs • TOACS

			• Draw & label the following flaps used in minor oral surgery: 1, 2, 3 sided flaps and their variations. • Sub-marginal / semi lunar. • For tori removal. • For impacted maxillary canines. • 1st and 2nd stage implant surgery • For impacted wisdom teeth. name suture materials and needles used in oral surgery.			- Involvement in training dental students or in specialist practice.	
		Manage patients with conditions of impaired wound healing and treat the underlying etiological factors.	• Describe the physiology of wound repair (soft tissues &bone) by: ➢ Primary intention, ➢ Secondary intention, ➢ Healing of an extraction wound andOsseo-integration. • Describe the factors that impair woundhealing. • Classify nerve injuries (Seddon&Sunderland). • Describe the principles of management of nerveinjuries.	• Interpret underlying pathology as well as level of wound repair. • Demonstrate management of impaired wound healing.	Same as above.		
		• Interpret Medico-legal issues. • Prepare a patient for a procedure so that they fully understand the implications and effects of that treatment. • Take necessary care regardingocumentationo	• List the common areas of dentallitigation. • List the steps to reduce risk oflitigation. • Describe the role of a dentist in forensicodontology. • Describe the legal issues relating to managing and	• Demonstrate awareness of legal issues. • Recognise non-accidental injuries in children andadults. • Follow ethical standards in dentistry, research and on	Same as above		

		f Consent.	treating adults and children.	socialmedia.			

	III. Exodontia Including Local Anesthesia						
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition …. should be able to	**Skill** …. should be able to	**Attitude** … should be able to		
3.	**Exodontia**	Develop treatment plan for management of simple exodontia cases.	• Name the nerves that need to be anesthetised to extract individualteeth. • Enlist indications and contra-indications for the removal ofteeth.	• Record medical and dentalhistory. • Set up the instrumenttray. • Perform intra and extra oral examination. • Order relevant investigations. • Determine differential and definitive diagnosis for exodontia case. • Formulate a treatment plan.	• Welcome, introduce; seat the patient. • Fully address concerns, ideas and expectations of the patient and /or their parent/guardian. • Respect patient confidentiality. • Value patient comprehension and views. • Show concern regarding importance of a collateral history in uncertain situations. • Recognise own limits and choose appropriately when to ask for help. • Act in the best interest of the	• Same as above section of instructional strategy.	• DOPS • Mini CEX • MCQs • TOACS

					patient		
		• Design treatment plan for Complicated Exodontia. • Formulate a treatment plan for the Management of Impacted Teeth.	• Define an impactedtooth. • Enlist the indications for openextractions. • Name commonly impacted teeth, and reasons for theirimpaction. • Enlist the indications for removal of impactedteeth. • Enlist the contraindications for removal of impactedteeth. • Classify impacted teeth & determine the level of difficulty forextraction.	• Select appropriate flaps for adequate access for complicatedexodontia. • Plan the sequence of multiple extractions. • Demonstrate the management of a patient with an impacted thirdmolar. • Select appropriate treatment option for a patient with an impactedcanine. • Evaluate difficulty Index of removal of impacted teeth • Determine pre, per and post-operative Complications & management when removing impacted teeth. • Demonstrate the step-wise surgical procedure for the removal of impactedteeth.	• Take Consent and enlist the potential risks and complications for the removal of impactedteeth. • Recognise own limits and choose appropriately when to ask for help. • Act in the best interest of the patient		

		• Develop treatment plan for the Management of Impacted Teeth.	• Describe the technique used for open extraction of single and multi-rooted teeth. • Describe the procedure to remove fractured root fragments/ tips. • State the justification for leaving root fragments in the socket.				

IV. Oral & Maxillofacial Infections							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** .... should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition .... should be able to	**Skill** .... should be able to	**Attitude** ... should be able to		
4.	**Odontogenic & Non OdontogenicInfections**	Develop a treatment plan to manage and prevent the spread of odontogenic infections.	• Enlist microbiology of odontogenic infections. • Outline the factors (host, micro-organisms, anatomical) that govern the spread of odontogenicinfections. • Describespreadandpathophysiologyoffollowinginfectionsinheadandneck: ➢ Odontogenic infection to primary and secondary fascialspaces. ➢ Cavernous sinus thrombosis/orbitalcellulitis. ➢ Mediastinitis. ➢ Ludwig'sangina. ➢ Osteomyelitis. ➢ Candidiasis, necrotising fasciitis, actinomycosis.	• Order and interpret relevant investigations. • Diagnose and differentiate between edema (inoculation), cellulitis andabscess. • Choose and prescribe appropriate antibiotic(s) for odontogenicinfections. • Justify prophylaxis against infectious endocarditis and total jointreplacement. • Plan management for odontogenicinfections: ➢ Remove thecause. ➢ Surgically drain pus and insert drains, ifindicated. ➢ Provide supportive	Same as above section.	Same as above section.	• MCQs • TOACS

				therapy: select appropriate antibiotic and manage airway, nutrition,and hydration.			

V. Oral & Maxillofacial Trauma							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition …. should be able to	**Skill** …. should be able to	**Attitude** … should be able to		
5.	**Advanced Trauma Life Support**	Apply Advanced Trauma Life Support (ATLS) Principles to maxillofacial trauma patients.	• List steps of ATLS evaluation (primary survey) of patients with maxillofacial trauma.	• Demonstrate the detailed clinical examination of Maxillofacial trauma patients.	Same as the above section	• Same as above section.	• DOPS • Mini- CEX • MCQs • TOACS

6.	**Facial Soft Tissue Injuries and Dent alveolar Trauma**	Manage treatment plan for facial soft tissue injuries and dentoalveolar trauma.	• State etiology of maxillofacial trauma. Dentoalveolar trauma, facial soft and hard tissueinjuries. • Define abrasion, contusion,laceration. • Classify traumatic injuries to the teeth and supporting structures (WHOClassification).	• Formulate treatment plan for facial soft tissue injuries • Order and interpret relevant investigations. • Splint teeth using acid etch technique or wires on a model. • Make aneyelet. • Do IMF on a model using eyelets and archbars.	• Same as above section	• Same as above section	• DOPS • Mini- CEX • MCQs • TOACS
7.	**Mandibular Fractures**	Develop management plan for Mandibular fractures.	• Classify mandibular fractures according to the type, site and favorability to reduction. • Name possible complications of mandibular fractures.	• Order and interpret relevant investigations. • Formulate a treatment plan for mandibular fractures in adults andchildren.	• Same as above section	Same as above section	• DOPS • Mini- CEX • MCQs • TOACS
		Formulate treatment plan for the management of facial and mid-face fractures.	• Classify mid and upper face fractures according to the type and site/level offracture. • Discuss principles of management of mid-facialfractures. • Name complications of mid and upper facefractures.	• Order and interpret relevantinvestigations. • Demonstrate management of patients with multiple facialinjuries. • Demonstrate the			• MCQs • TOACS

			• Describe considerations in the management of pediatric and geriatric maxillo-facialtrauma. • Describe principles of management of fire arm injuries involving theface. • Identify instruments used in management of OMFtrauma.	managementoffracturesofzygomaticboneandarch,frontalbone and NOE complex. • Apply basic ORIF (open reduction and internal fixation) and reconstructive surgery principles.			

VI. Cysts, Tumors, Periapical, Antral and Other Pathological Lesions							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition …. should be able to	**Skill** …. should be able to	**Attitude** … should be able to		
6	Oral & maxillofacialpathology	Evaluation and differential diagnosis of suspected lesion of the head and neck.	• State the indications of Biopsy. • Describe the principles of Biopsy. • Describe each soft and hard tissue biopsy. • Identify instruments used for oral Biopsy.	• Order and interpret relevant investigations. • Interpret clinical screening of suspicious lesions, including fluorescent light and vital staining. • Write a biopsy request form for histo-pathological examination properly. • Demonstrate proper handling of biopsy specimens.	• Maintain a disposition to do good to patients and always act in patients' best interests. • Resist pressure from patient or care-giver (in case of one) to provide inappropriate treatment. • Be willing to offer care. • Behave appropriately when dealing with a difficult patient.	• Same as above	• MCQs • DOPS • Mini-CEX • TOACS
		Determine treatment options for cysts.	• Classify jaw cysts. • Differentiate between radicular, dentigerous, and keratocyst. • State the indications, advantages, disadvantages and techniques for managing jaw cysts and cyst-like lesions.	• Formulate differential diagnosis and definitive diagnosis of odontogenic cysts. • Develop treatment options for odontogenic cysts.	• Keep patient's best interest at hear. • Show empathy. • Maintain composure when dealing with difficult patients.		

		Determine the management of jaw tumors, including soft tissue tumours, pre-malignant lesions, and malignant tumours of oral cavity.	• Explain the management of jaw tumors based on the types of resection. • Discuss the management of benign soft tissue tumours. • Discuss the management of potentially malignant (pre-malignant) lesions. • Describe the management of malignant tumors of the oral cavity according to the following factors: Histopathology, grade, extra-capsular spread and TNMstaging.	• Formulate a differential diagnosis and definitive diagnosis of tumors. • Develop treatment options for benign soft tissue tumors, pre-malignant lesions, and malignant tumors of the oral cavity.	• Act with compassion and understanding at all times. • Respect the right to confidentiality. • Respect for patient/ carers points of view and wishes. • Willingness to seek appropriate advice and to put patient welfare first. • Know when to seek advice from other specialists on management or when to refer.		
		Diagnose and outline treatment Plans for Salivary Gland Disorders.	• Explain the presentation and pathophysiology of obstructive, retentive, infectious, and neoplastic salivary gland disease. • Describe the principles of management of the following salivary gland disorders: sialolithiasis,	• Describe various diagnostic modalities for salivary gland disorders	• Same as above.	• Same as above	• MCQs • DOPS • Mini CEX • TOACS

			Mucocele, ranula, infections, traumatic injuries to salivary glands, pleomorphic adenoma, Warthin's tumor, mucoepidermoid carcinoma, adenoid cystic carcinoma, adenocarcinoma.				
		Outline management of Periapical & Peri radicular Pathology.	• Name the different endodontic surgical procedures • Discuss indications for surgical endodontic procedures. • List contraindications for surgical endodontics.	• Order and interpret relevant investigations. • Select and demonstrate the appropriate procedure, flap, technique, and (root-end filling) materials for surgical endodontics. • Discuss the post-operative instructions after endodontic surgery.	•		
		Explain dental management of patients undergoing Radiotherapy & Chemotherapy.	• Describe odontogenic and non-odontogenic infections of the maxillary sinus and their differential diagnoses. • Classify oro-antral communication according to size. • Explain management	• Demonstrate the treatment of sinusitis.	• Same as above.		

			of oro-antral communication according to the timeelapsed. • Enlist the common maxillary sinus tumors of odontogenic and non-odontogenic origin.				
		Explain dental management of patients undergoing Radiotherapy & Chemotherapy.	• State the mechanism of action of radiotherapy and regimes of radiotherapy and list its adverse oraleffects. • Define osteoradionecrosis. Describe its stages and management plan. • DefineMRONJ.	• Describe the dental management of patients undergoing radiotherapy to the OMFregion. • State the dental management of a patient. Undergoing systemic chemotherapy. • State the management of a patient at risk of MRONJ needing dentalextraction.	• Same as above.		

VII. Dentofacial Deformity and Orthognathic Surgery							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** .... should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition .... should be able to	**Skill** .... should be able to	**Attitude** ... should be able to		
7	Oral & maxillofacialdeformity	Design treatment planning for Dentofacial Deformity and orthognathic Surgery.	• Enlist causes of dentofacial deformities. • Explain the pre-surgical preparation for orthognathic surgery patients. • Describe the role and advantages of distraction osteogenesis in the OMF region	• Order and interpret relevant investigations. • Demonstrate the surgical treatment options(osteotomies) for the following: mandibular excess, mandibular deficiency, maxillary and mid-face deficiency, combination deformity, and facial asymmetry.	• Make decisions about operative interventions in partnership with allied subjects, patient and/or patient/guardian. • Recognise own limitations and choose appropriately when to seek advice from surgical or other colleagues. • Assess outcomes	Work-place (clinical) experience with appropriate trainers, including attendance at appropriate multidisciplinary clinics. Appropriate range of clinical cases for observational and personal treatment. Attendance at didactic teaching sessions within the department. Attendance at suitable courses. Attendance at suitable meetings. Independent study	• MCQs • DOPS • Mini CEX • TOACS
		Diagnose and plan sequentially the steps of management of Oro-facial Clefts.	• Name the number of different types of rare facial clefts in addition to cleft lip and palate. • Classify cleft lip and palate for communication and recordkeeping. • Enlist the OMF problems faced by a cleft patient.	• Constitute a team for the treatment of a cleft patient. • Demonstrate the treatment of a cleft patient according to the sequence and surgical procedures.	• Same as above.		

		Reconstruction of OMF Defects	• State the general principles of OMF reconstruction. • Describe the biology of bone reconstruction and define osteo-induction, osteo-conduction, osteo-promotion andosteo-genesis. • Classify bone grafts on the basis of source and vascularity(autogenous) • Enlist the goal of mandibular reconstruction: restoration of continuity, alveolar bone height, osseous bulk, and function. Describe the role of maxillofacial prosthetics in the rehabilitation of OMF defects.				

VIII. Prosthetics and Implants Surgery							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** .... should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition .... should be able to	**Skill** .... should be able to	**Attitude** ... should be able to		
8	**Pre-prosthetic and implant surgery**	Outline the management steps of patients requiring preprosthetic surgery.	• Enlist objectives of pre-prosthetic surgery. • Name and describe ridge extension, augmentation, and correction (osteotomies) procedures for the	• Identify abnormalities of soft and hard tissues that interfere with denture (partial/complete) construction and formulate a treatment plan. • Demonstrate	• Maintain a disposition to do good to patients and always act in patients' best interests. • Work within a team structure	Work-place (clinical) experience with appropriate trainers, including attendance at appropriate	• MCQs • DOPS • Mini CEX • TOACS

			mandible and maxilla. • Discuss complications of pre-prosthetic surgery. • Summarise the principles of following surgical procedures: ➢ Alveloloplasty simple, intraseptal (Dean's), ➢ tuberosity reduction, exostosis, and undercuts correction, tori removal, ➢ mylohyoid ridge reduction, ➢ genial tubercle reduction, ➢ retromolar pad reduction, ➢ lateral palatal soft tissue excess removal, ➢ unsupported hypermobile tissue removal, ➢ inflammatoryfibroushyperplasiaremoval, ➢ Labial and lingual frenectomy • Describe the surgical protocol for immediate denture placement/constructi	methods of ridge preservation surgically on a patient.	to ensure appropriate restoration of the dentition. • Recognise: - the importance of basic science and understanding of health and disease. – the relevance and interrelationship of dental implant treatment on overall patient care and long-term maintenance and function, and on patient well-being and self-esteem. - the cost implications of treatments involving implants and guidelines applicable to provision of such treatment.	multidisciplinary clinics. Appropriate range of clinical cases for observational and personal treatment. Attendance at didactic teaching sessions within the department. Attendance at suitable courses. Attendance at suitable meetings. Independent study.	

			on. • Describe methods of ridge preservation. • Describe the procedure and advantages of overdenture.				
		Demonstrate management steps of patients requiring Dental implant surgery	• Define dental implants and identify its components. • Define osseointegration and list factors influencing osseointegration. • Define the following terms related to dental implants: endosseous, root-form, cover screw, healing abutment/gingival former, single/two stage, screw/cement-retained biotypes. • Describe the following considerations for implant placement: soft tissue, hard tissue, and Biomechanical-al considerations. • Enlist complications of implant surgery and describe theirmanagement. • Name the following special maxillofacial implants: zygomatic and extra-oral.	• Assess a patient in need of dental implant(s) by history, clinical examination, and imaging. • Describe the surgical procedure for one-stage, two-stage, and immediate dental implant placement. • Show the peri-operative management of dental implant placement. • Perform ridge augmentation and preservation, guided bone regeneration,onlay bone grafting, sinus lift, and distraction osteogenesis for dental implant placement.	• Same as above.		

IX. Pain / TMJ Surgery / Salivary Gland Diseases							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition …. should be able to	**Skill** …. should be able to	**Attitude** … should be able to		
9	**TMJ and facial pain disorders**	Describe TMJ Disorders and outline their management	• ClassifyTMJdisordersas: myofascial, internal derangement (Wilke's), systemic-arthritis conditions, chronic recurrent dislocation, ankylosis, neoplasia and infections.	• Select management options for TMD and ankylosis.	-Recognise the ethical and legal aspects of managing adult and child behaviour in the dental setting. - The need for empathy and patient counselling skills.	Same as above.	• Same as above
		Identify causes of Oro-facial Pain and describe principles of their management.	• Describe the pathophysiology of neuropathic pain. • Classify oro-facial pain according to site and aetiology. • Differentiate trigeminal neuralgia from pre-trigeminal neuralgia, odontalgia, and post-herpetic neuralgia, neuroma, burning mouth syndrome, glossopharyngeal neuralgia and headaches.	• Manage a patient suffering from trigeminal neuralgia.	-Same as above.		

X. Hospitalised patients & Anesthesia (Local/Regional/General)							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition …. should be able to	**Skill** …. should be able to	**Attitude** … should be able to		
10	**Management of hospitalized patients**	Pre and post-operative management of hospitalised patients.	• Identify the need of patient hospitalization. • Describe and Advise the pre-anesthesia investigations.	• Write consultation and referral requests to other specialities. • Perform the pre and post-operative management of hospitalized patients. • Maintain operative and post-operative records of hospitalized patients.	• Recognize and apply appropriately the ethical and legal requirements of practitioners delivering conscious sedation. • Construct and lead an appropriate dental team for conscious sedation delivery. • Recognize and apply appropriately the ethical and legal requirements of practitioners delivering dental treatment under GA. • Construct and lead an appropriate dental team for care under GA delivery.	Same as above	Same as above
			• Determine primary goals of giving local, general and sedation anesthesia. • Describe the classification, chemistry, and pharmacologic effects of local and general anaesthetic drugs. • Explain adverse effects and drug interactions	• Ordering preoperative G/A fitness from Anesthesiologist. • Preparations and dosage of local anaesthetic drugs, their general therapeutic uses, and side effects when used in dentistry	• Same as above.	Same as above	Same as above

			of local and general anaesthetic drugs. • Discuss principles of general anaesthesia and IV sedation.	• Methods of administration and mechanisms of action of general anesthetic drugs including inhalation agents and intravenous agents. • Determine the differentiation between analgesia and sedation and their application in oral surgery.			
			• Enlist vesiculobullous lesions of the oral cavity and oral ulcerations. • Explain autoimmune disorders related to OMFS. • Outline red and blue lesions of the oral cavity • Discuss the white lesion of the oral cavity.	• Manage oral ulcers and various lesions of the oral cavity in relation to OMFS.	• Same as above.		
			• Enumerate fibro-osseous lesions of the OMFS region •Outline giant cell lesions of the OMFS region. • Explain metabolic bone diseases. • Discuss developmental bone disorders.	• Formulate a treatment plan for fibro osseous lesion of OMFS region and developmental bone disorders.	• Same as above.		

XI.ASEPSIS, STERILISATION AND CROSS INFECTION CONTROL							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition …. should be able to	**Skill** …. should be able to	**Attitude** … should be able to		
11.	**Asepsis, sterilization, and cross-infection control.**	Manage and regulate the protocols of Asepsis, sterilization, and cross infection control in dental facility.	• Discuss surgically important and communicable microbes related to OMFS. • Explain differentiation between sterilisation, disinfection, Asepsis etc. • Enlist different techniques of instrument sterilisation by heat, gas and by chemicals.	• Perform the methods of maintenance of sterility in dental surgery unit, room and OT. • Demonstrate the methods of scrubbing, gowning, gloving and assisting the surgical staff. • Managing postsurgical Asepsis.	• Same as above section.	Same as above section.	Same as above section.

XII. **ANTIMICROBIAL THERAPY / ANALGESICS USE IN OMFS/ DENTISTRY**							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** .... should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition .... should be able to	**Skill** .... should be able to	**Attitude** ... should be able to		
12.	**Antimicrobial therapy and analgesic use in OMFS**	Evaluate the patient in need of antimicrobial therapy or analgesic medication. Manage patients with under or over-dosage, allergic reactions to antibiotics and analgesics.	• Outline commonly used antimicrobials and analgesics. • Explain the basic principles of prophylactic and therapeutic antibiotic use. • Discuss basic principles of analgesic use • Indications, precautions & contraindications of antibiotic therapy. • Discuss drug interactions, advantages & disadvantages of combination therapy. • Determine the significance of culture and sensitivity testing with basic knowledge of dosage and routes of administration & their issues. • Summarise consequences of under or over-dosage, allergic reactions to antibiotics and analgesics.	• Manage under or over-dosage, and allergic reactions to antibiotics and analgesics.	• Same as above section.	Same as above section.	Same as above section.

XIII. **RADIOLOGY AND IMAGING TECHNIQUES USED IN OMFS/ DENTISTRY**							
Upon completion of the programme, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition …. should be able to	**Skill** …. should be able to	**Attitude** … should be able to		
		Evaluate radiology and imaging used in OMFS.	• Explain the different techniques of radiology and imaging used, including intra- and extraoral radiological investigations.	• Ordering various techniques of radiology and imaging used, including intra- and extraoral radiological investigations. • Interprets radiographs for providing OMF surgical care.	•		

XIIV. EQUALITY AND DIVERSITY							
Upon completion of the program, the trainee ….							
	Theme/ Topics	**Learning Outcomes** …. should be able to	**Learning Objectives**			**Instructional Strategy**	**Assessment Tools**
			Cognition …. should be able to	**Skill** …. should be able to	**Attitude** ... should be able to		
13.	Equality and Diversity.	Practice equality and diversity while treating patients and dealing with colleagues.	• Describe fundamentals of law pertaining to equality and diversity.	• Treat patients/parents/carers fairly to promote equal opportunities for all patients or groups of patients. • Treat all team members and other colleagues fairly.	• Demonstrate a non-discriminatory approach to patients/parents/carers and colleagues.	Role modeling	

11. Appendix B

Weekly Timetable (OMFS Residency Program)

Monday	**(Group A)** 0800hrs onwards Operation theatre	**(Group B1+B2)** 0800-0900hrs Morning Ward round	**(Group B1+B2)** 0900-1100hrs Clinical work in OSD	**(Group B1+B2)** 1100-1130 hrs Break	**(Group B1)** 1130-1430hrs Clinical work in OSD **(Group B2)** 1130-1430hrs Library SDL	**(Group B1+B2)** 1430-1500 hrs Break	**(Group B1)** 1500-1800hrs Clinical work in OSD **(Group B2)** 1500-1800hrs Research work/IT	**(Group B1+B2)** 1800--1830hrs Evening Ward round
Tuesday	**(Group B)** 0800hrs onwards Operation theatre	**(Group A1+A2)** 0800-0900hrs Morning Ward round	**(Group A1+A2)** 0900-1100hrs Clinical work in OSD	**(Group A1+A2)** Break 1100-1130 hrs	**(Group A1)** 1130-1430hrs Clinical work in OSD **(Group A2)** 1130-1430hrs Library SDL	**(Group A1+A2)** 1430-1500 hrs Break	**(Group A1)** 1500-1800hrs Clinical work in OSD **(Group A2)** 1500-1800hrs Research work/IT	**(Group A1+A2)** 1800--1830hrs Evening Ward round
Wednesday	**(Group A)** 0800hrs onwards Operation theatre	**(Group B1+B2)** 0800-0900hrs Morning Ward round	**(Group B1+B2)** 0900-1100hrs Clinical work in OSD	**(Group B1+B2)** 1100-1130 hrs Break	**(Group B1)** 1130-1430hrs Clinical work in OSD **(Group B2)** 1130-1430hrs Library & SDL	**(Group B1+B2)** 1430-1500 hrs Break	**(Group B1)** 1500-1800hrs Clinical work in OSD **(Group B2)** 1500-1800hrs Research work/IT	**(Group B1+B2)** 1800--1830hrs Evening Ward round
Thursday	**(Group B)** 0800hrs onwards Operation theatre	**(Group A1+A2)** 0800-0900hrs Morning Ward round	**(Group A1+A2)** 0900-1100hrs Clinical work in OSD	**(Group A1+A2)** Break 1100-1130 hrs	**(Group A1)** 1130-1430hrs Clinical work in OSD **(Group A2)** 1130-1430hrs Library SDL	**(Group A1+A2)** 1430-1500 hrs Break	**(Group A1)** 1500-1800hrs Clinical work in OSD **(Group A2)** 1500-1800hrs Research work/IT	

Friday	**(Group A+B)** 0800-0900hrs JCM/CPC	**(Group A+B)** 0900hrs-0930hrsMorning Ward round -	**(Group A+B) 0900-** 1130hrs Clinical work in OSD	**(Group A+B)** 1300-1200 hrs Break	**(Group A+B)** 1200-1300hrs Clinical Audit meeting	**(Group A+B)** 1300-1400 hrs Break	**(Group A+B)** 1400-1500 hrs Academic session /lecture	**(Group A/B)** 1500--1830hrs Clinical work and evening round
Saturday	Duty dental officer in OMFS ward on rotation basis							
Sunday	Duty dental officer in OMFS ward on rotation basis							

Group A consists of 10 PGRS

Group B Consists of 10 PGRs

12. Appendix C

Recommended Textbooks

- Contemporary Oral & Maxillofacial Surgery. 6th Edition 2013. Peterson, Ellis, Hupp, Tucker
- Maxillofacial Surgery by Peter WardBooth
- Handbook of Local Anesthesia. 6th Edition, 2013 Stanley F.Malamed.
- Killeys- Midface fractures vol I; Mandible fracturesvol-II
- Medical Problems in Dentistry, by Scully &Cawson
- Minor Oral Surgery by Geoffery L.Howe

Reference Books

- Petersons's Principles Of Oral and Maxillofacial Surgery
- Fonseca Oral and Maxillofacial Surgery
- Maxillofacial Surgery, 2nd edition, Booth, Schendel,Hausamen
- Operative Maxillofacial Surgery, 2nd edition, 2009. Langdon,Patel.
- An Outline of Oral Surgery Part-I & Part-II by Killey, Sewarde&Kay
- Oral & Maxillofacial Surgery by Laskin
- Oral & Maxillofacial Surgery by Kruger
- Pain And Anxiety Control for the Conscious Dental Patient, Meechan JG, Robb ND, Seymour RA-Oxford University Press(1998)
- Color Atlas of Dental Analgesia and Sedation in Dentistry, Hill C M & MorrisPJ
- Hand Book of Nitrous Oxide and Oxygen Sedation Clark MS &Burnick Al. Mosby (1999).
- Oral & Maxillofacial Surgery by JohnPeddler.
- Resuscitation Handbook, Basket PKF (1989)