



# CMSA

The Colleges of Medicine of South Africa NPC

Nonprofit Company (Reg No.1955/000003/08)  
Nonprofit Organisation (Reg. No. 009-874 NPO)  
Vat No. 4210273191

27 Rhodes Avenue, PARKTOWN WEST, 2193

Tel: +27 11 726 7037; Fax: +27 11 726 4036

Website: [www.cmsa.co.za](http://www.cmsa.co.za)

General: [Academic.Registrar@cmsa.co.za](mailto:Academic.Registrar@cmsa.co.za)

JOHANNESBURG OFFICE

EXAMINATIONS & CREDENTIALS

November 2019

## REGULATIONS

### FOR ADMISSION TO THE FELLOWSHIP OF THE COLLEGE OF MAXILLO - FACIAL AND ORAL SURGEONS OF SOUTH AFRICA

### FCMFOS(SA)

#### 1.0 COMPONENTS

The examination comprises Primary (Part IA), Intermediate (Part IB) and Final (Part II).  
The Final must be passed within six years of passing the Intermediate

#### 2.0 PURPOSE OF ASSESSMENT

This qualification forms part of a process to accredit dental or medical and dental qualified practitioners, as specialists in Maxillo - facial & Oral Surgery. The Health Professions Council of South Africa (HPCSA) stipulates training requirements, including a minimum period of experiential learning. It is usual for the examination to be taken and passed prior to the completion of the required period of supervised learning specified by the HPCSA. The aim of this qualification is to meet the needs for formal examination certification, as well as to set standards, nationally, for such a qualification.

#### 3.0 ADMISSION TO THE EXAMINATION

(to be read in conjunction with the Instructions for Admission to CMSA Examinations)

*Website link*

##### **Primary (Part IA)**

3.1 A candidate may be admitted to the Primary (Part IA) examination having:

3.1.1 a dental or medical qualification to practice dentistry or medicine which is registered or registerable as a dental or medical practitioner with the HPCSA.

3.2 The CMSA Senate, through its Examinations and Credentials Committee, will review all applications for admission to the examination and may also review the ethical and professional standing of candidates

##### **Intermediate (Part IB)**

3.3 A candidate may be admitted to the Intermediate (Part IB) examination if he/she produces evidence of having

3.3.1 passed the Primary fellowship examination or of having passed all the required primary examination components of a Master's degree in Maxillo-Facial and Oral Surgery at a South African university, as part of the National Professional Examination by submitting the official academic record / transcript(s) reflecting the examination marks / results for the required components from the recognised university.

3.3.2 completed not less than 9 months of approved registrar training in Maxillo - Facial and Oral Surgery, and has completed a rotation of 6 months in surgical disciplines, which must include - intensive care, neuro - surgery, ear, nose and throat surgery, plastic surgery and ophthalmology in an academic approved unit with a minimum of four rotational attachments as requirement for the Principles of Surgery component; permitting the rotational period to be reduced to 4.5 months, after documented proof of prior learning in a MBChB/MBBS course has been evaluated.

3.3.3.../

- 3.3.3 attended an approved course of not less than 1.5 months in oral pathology as requirement for the Oral Pathology component;
- 3.3.4 a valid ATLS Certificate before the Intermediate as requirement for the Principles of Surgery component;
- 3.3.5 should a candidate pass the Intermediate examination before all the requirements (3.3.1 to 3.3.4) have been complied with, the result of the examination are null and void.

### **Final**

- 3.4 A candidate may be admitted to the Final of the examination for a National Professional Examination if he/she produces evidence of having
  - 3.4.1 a dental or a dental and medical qualification(s)
  - 3.4.2 passed the Primary and the Intermediate examinations of the College of Maxillo - Facial and Oral Surgeons, or, of having completed and passed the Primary and the Intermediate sections of the Master's degree, in Maxillo - Facial and Oral Surgery from a HPCSA accredited South African university as part of the National Professional Examination by submitting the official academic record / transcript(s) reflecting the examination marks / results for the required components from the recognised university.
  - 3.4.3 completed no less than nine months of training after successfully completing all Intermediate examination components before the actual date of the Final examination.
  - 3.4.4 completed no less than 42 months in an HPCSA approved fulltime postgraduate training post in Maxillo - Facial and Oral Surgery
  - 3.4.5 submitted a portfolio (logbook and other activities, in printed or electronic format) to the Academic Registrar for the convenor on or before the cut - off date for registration for the Final  
It is recommended that all candidates entering into their registrar training from 1 January 2019 use the LogBox online portfolio. This is a free service and the app is available in both Apple and Android format. Please register at [www.logbox.co.za](http://www.logbox.co.za)<sup>1</sup>
  - 3.4.6 certificates covering completion of the academic programme and research project for the university's master dissertation to the satisfaction of the Head of the Maxillo - Facial and Oral Surgery Department where training has occurred
  - 3.4.7 an ATLS Certificate from 3.3.4

## **4.0 FORMAT OF THE EXAMINATION**

- 4.1 **PRIMARY (PART IA)**
  - i) Anatomy and Embryology
  - ii) Physiology
  - iii) Principles of Pathology including microbiology
- 4.2 **INTERMEDIATE (PART IB)**
  - i) Principles of Surgery
  - ii) Oral Pathology
- 4.3 **FINAL (PART II)**
  - The theory and practice of Maxillo - Facial and Oral Surgery including
    - a) operative surgery and the application of related basic sciences,
    - b) related surgical and non - surgical fields.

4.4 The Primary, Intermediate and Final examinations will each respectively be considered as a separate unit, consisting of their various components.

4.5 Only three (3) attempts for each examination are allowed.

## **4.6 CONDUCT OF THE PRIMARY (Part IA) EXAMINATION**

(See notes for the guidance of candidates – Appendix A)

- 4.6.1 Three subjects with three written papers in
  - Anatomy and Embryology
  - Physiology
  - Principles of Pathology including microbiology

The examinations are written papers or EMQ

<sup>1</sup> LogBox recommendation effective for new Registrars – 1 January 2019

- 4.6.2 Candidates must write ALL of the subjects listed above at one single sitting of the examinations of the Colleges of Medicine of South Africa
- 4.6.3 The examination comprises:
- a three - hour written paper in each of the subjects listed above
- 4.6.4 Should a candidate elect not to enter for all sections of the FCMFOS(SA) Primary examination as required in terms of rules 4.1, 4.6.1 and 4.6.2, a reduced examination fee will be payable for each subject or sub-section.<sup>2</sup>
- 4.6.4.1 In order to pass each subject a candidate must achieve an average mark  $\geq 50\%$ .
- 4.6.4.2 A candidate who passes all three subjects in terms of rule 4.6.4.1 will have passed the Part IA examination.
- 4.6.4.3 A candidate who passes two of the three subjects, and has an average mark  $\geq 40\%$  for the failed subject, may attempt the failed subject at the next consecutive examination of the CMSA to a maximum of two consecutive attempts.
- 4.6.5 A candidate who fails the remaining subject at either of the next consecutive two examination periods will be deemed to have failed the FCMFOS(SA)Part I examination. Such a candidate will need to repeat ALL THREE subjects at a later examination.

#### 4.7 CONDUCT OF THE INTERMEDIATE (Part IB) EXAMINATION

- 4.7.1 Two written papers:
- 4.7.1.1 Principles of Surgery, including applied Pharmacology for surgery and
- 4.7.1.2 Oral Pathology  
(each paper has a minimum of 6 questions OR an EMQ)
- 4.7.2 Practical examination (Oral Pathology)
- 4.7.3 Oral examinations in Principles of Surgery and Oral Pathology (including related Maxillo - Facial Radiology)
- 4.7.4 Should a candidate elect not to enter both sections of the FCMFOS(SA) Intermediate examinations as required in terms of rules 4.2, and 4.7.1 to 4.7.3, a reduced examination fee will be payable for each subject or sub-section.<sup>3</sup>

#### 4.8 EXAMINATION SEQUENCE

- 4.8.1 The Primary and Intermediate should be taken separately. The Primary must be taken and passed before the Intermediate
- 4.8.2 Once the candidate has passed the Primary he/she should proceed to the Intermediate at a subsequent examination, within a period of six years.
- 4.8.3 If a candidate is unsuccessful in either Oral Pathology or Principles of Surgery, credit will be given for the subject passed and will be able to re - write the failed subject only. This exemption is only valid for the next two consecutive examination periods. If the candidate is again unsuccessful with the failed subject, the entire examination will have to be taken at the next attempt.

#### 4.9 CONDUCT OF THE FINAL (Part II) FELLOWSHIP EXAMINATION

The theory and practice of Maxillo - Facial and Oral Surgery (see Appendix C) including operative surgery and the applied basic and related sciences (see Appendixes A and B)

The examination will consist of:

- 4.9.1 [A] Two 3 - hour EMQ's and/or written papers or an EMQ and a paper (of at least 6 questions):
- 4.9.1.1 A paper shall include all topics of maxillo - facial and oral surgery (see Appendix C)
- 4.9.1.2 An EMQ shall comprise of all topics of maxillo - facial and oral surgery
- 4.9.1.3 Candidates must pass 4 out of 6 questions in a written paper OR obtain a subminimum of 45% for each EMQ<sup>4</sup>
- 4.9.1.4 Candidates must obtain a subminimum of 50% for the written examination (i.e. aggregate for both papers OR for both EMQs OR one written paper and one EMQ)
- 4.9.2 [B] Moderated oral examination:
- 4.9.2.1 Clinical and oral examinations on principles and practice of maxillo - facial and oral surgery

4.9.2.2.../

<sup>2</sup> Component options and fee structure – effective FS 2020

<sup>3</sup> Component options and fee structure – effective FS 2020

<sup>4</sup> Change in number of question to pass – effective FS 2020

- 4.9.2.2 The moderated oral component will entail a minimum of 6 stations (or 3 stations) divided in two or three groups (minimum of two examiners, maximum three examiners per station). Each candidate to be allocated 15 to 20 minutes per station
- 4.9.2.3 Examination: One convenor/moderator plus a minimum 6 examiners. The 6 examiners may group in two or three groups. It is recommended that a Head of an Academic Department, and should he/she be not available another Senior Consultant from the same university, whose candidate(s) will be examined, be part of the examiner's panel.
- 4.9.3 [C] Evaluation of Portfolio:
- 4.9.3.1 Evaluation of the portfolio (prescribed certificates, summary/abstract of the research for the Master degree, surgical logbook and other): convenor plus two local examiners (preferable not involved with the candidates training), mark submitted to the examination panel.
- 4.9.4 **The weighting for the examinations<sup>5</sup>:**
- |                          |     |
|--------------------------|-----|
| Written essays           | 25% |
| Written MCQ's            | 25% |
| Moderated oral component | 40% |
| Portfolio                | 10% |
- 4.10 **ABBREVIATIONS:**
- EMQ – Electronic Multiple questions
  - SBA – Single best answer
- 4.11 **EXAMINATION PASS RATE:**  
50%<sup>6</sup>
- 4.12 Candidates who achieve the required marks in the written component of the FCMFOS(SA) Final examination but who fail the oral and clinical examinations will be exempt from the written component of the next examination session. Such exemption applies to one sitting only and must be exercised in the following semester.

**5.0 ADMISSION AS A FELLOW**

5.1 Only candidates who have completed training in a CMSA recognised registrar post may be awarded a fellowship if successful in the examination.

5.2 **Candidates who have written the examination as a prerequisite from the HPCSA for inclusion on the specialist register are not eligible to be awarded a Fellowship but will be sent a letter confirming their success in the examinations**

All other candidates will be asked to sign a declaration as below:

I, the undersigned, ..... do solemnly and sincerely declare

that while a member of the CMSA I will at all times do all within my power to promote the objects of the CMSA and uphold the dignity of the CMSA and its members

that I will observe the provisions of the Memorandum and Articles of Association, By - laws, Regulations and Code of Ethics of the CMSA as in force from time to time

that I will obey every lawful summons issued by order of the Senate of the said CMSA, having no reasonable excuse to the contrary

and I make this solemn declaration faithfully promising to adhere to its terms

Signed at .....this .....day of

..... 20 .....

Signature .....

Witness .....

(who must be a Fellow, Member, Diplomate or Commissioner of Oaths)

5.2 A two - thirds majority of members of the CMSA Senate present at the relevant meeting shall be necessary for the award to any candidate of a Fellowship

5.3 A Fellow shall be entitled to the appropriate form of certificate under the seal of the CMSA

5.4 In the event of a candidate not being awarded the Fellowship (after having passed the examination) the examination fee shall be refunded in full excluding HPCSA candidates who are not entitled to a Fellowship

5.5 The first annual subscription is due one year after registration (statements are rendered annually)

## APPENDIX A

### GUIDELINES FOR THE FCMFOS(SA) PRIMARY EXAMINATION

#### 1.0 ANATOMY

##### 1.1 Head:

Surface anatomy; osteology of calvaria, especially base of skull and temporal region; upper mid and lower face, orbit, nasal cavity; mandible; individual bones of the skull

The scalp; temporo - mandibular articulation; muscles of mastication, facial expression, of tongue, of palate; contents of orbit; nasal cavity and paranasal air sinuses; pterygopalatine fossa, infratemporal fossa; structures of the oral cavity: lips, cheeks, tongue, floor of mouth, palate, teeth, gingivae; salivary glands; ear, external and middle; oropharynx; blood vessels and nerves; blood and nerve supplies, lymphatic drainage, relations, variations

Neurocranial contents; brain stem; cranial nerves; major intracranial vessels and sinuses

Radiology anatomy of head

##### 1.2 Neck:

Surface anatomy; osteology of cervical vertebrae, hyoid; muscles; triangles of the neck, and contents; larynx and trachea; laryngopharynx and upper oesophagus; thyroid and parathyroids; blood vessels and nerves; blood and nerve supplies, lymphatic drainage, relations; radiological anatomy

##### 1.3 Thorax:

Surface anatomy; thoracic wall; diaphragm, intercostal muscles and accessory muscles of respiration; trachea, lungs, pleural cavities; mediastinum including heart and great vessels, oesophagus; blood and nerve supplies, lymphatic drainage, relations; radiological anatomy

##### 1.4 Abdomen and Pelvis:

Abdominal wall, abdominal and pelvic organs as well as vessels and nerves; osteology and radiological anatomy of the spine and pelvis

##### 1.5 Lower Leg and Forearm

Osteology, blood supply and nerve supply

#### 2.0 EMBRYOLOGY

##### 2.1 General knowledge:

Early embryological events; cardiovascular system; respiratory system; gastrointestinal system

##### 2.2 Detailed knowledge:

Development of pharyngeal (branchial) arches; pharyngeal arch derivatives; development of pharyngeal pouches: middle ear, tonsil, thymus, parathyroid, ultimobranchial body; other pharyngeal derivatives especially thyroid; development of face, jaws, oral and nasal cavities and paranasal sinuses, tongue and palate, salivary glands, pharynx; development of blood and nerve supplies and muscles of the face of mastication and of the tongue; development of teeth; tooth eruption; osteogenesis; development of temporo - mandibular joint; development of cranium and the abnormalities

#### 3.0 HISTOLOGY

##### 3.1 General knowledge:

Primary tissues: epithelia, connective tissues and blood, nerve tissue, muscle; skin; cardiovascular system; respiratory tract; endocrine system (especially thyroid, parathyroid, pituitary); tooth: enamel, cementum, dentine, pulp, alveolar bone

##### 3.2 Detailed knowledge:

Cheeks, lips, tongue, floor of mouth, palate; salivary glands; cartilage, bone, sutures; striated muscle

## 4.0 PHYSIOLOGY

### 4.1 Basic cell functions:

Cell structure; chemical composition of the body; molecular control mechanisms – DNA and proteins, energy and cellular metabolism; movement of molecules across cell membranes

### 4.2 Control systems:

Neural control mechanisms; hormonal control mechanism; muscle

### 4.3 Co - ordinate body functions:

Circulation and blood; respiration and blood; regulation of water and electrolyte balance; digestion and absorption of food; defence mechanisms: immunology; sensory systems; body movement; consciousness and behaviour

### 4.4 Oral physiology:

Composition and functions of saliva, swallowing and chewing; oral sensation; ossification and mineralisation of teeth; hormonal and dietary influences on oral tissues including peridontium; growth

### 4.5 Recommended reading<sup>7</sup>

Suggested textbook:

- Human Physiology From Cells to Systems, 9th Edition. Sherwood. (Thompson, Brooks/Cole)

Alternative/Additional reading:

- Review of Medical Physiology. 25th Edition. Ganong (McGraw Hill)
- Medical Physiology. 13th Edition. Guyton & Hall (Elsevier Saunders)

## 5.0 PRINCIPLES OF PATHOLOGY - (Implementation from the 1st semester 2017)

### 5.1 Cell injury and cell death:

- Cell injury and necrosis;
- Apoptosis;
- Sub - cellular responses to cell injury;
- Ionising radiation

### 5.2 Adaptions, intracellular accumulations and cell ageing:

- Cellular adaptations of growth and differentiation;
- Intracellular accumulations;
- Pathologic calcification;
- Cellular ageing;
- Pigments

### 5.3 Inflammation:

- Acute inflammation - (including chemical mediators and morphological patterns);
- Understand the general features, stimuli and the vascular changes as well as the cellular events.
- Know the mechanism of the following chemical mediators:
- Vasoactive amines: histamine, plasma proteins; complement system
- Cytokines and chemokines: tumour necrosis factor and interleukin - 1
- Arachidonic acid metabolites: prostaglandins
- Morphological patterns of acute inflammation
- Chronic inflammation causes, morphological features;
- Granulomatous inflammation
- Lymphatics in inflammation

**5.4 Infectious diseases:**

- Transmission and dissemination of microbes;
- How micro - organisms cause disease;
- Immune evasion by microbes;
- Spectrum of inflammatory responses to infection

**5.5 Diseases of Immunity**

- General features of the immune system - The role of T and B lymphocytes, macrophages in normal immune system, Cytokines of immune system, function of histocompatibility molecules
- Disorders of the immune system (hypersensitivity reactions) - Mechanism/ pathogenesis of hypersensitivity reaction in type I,II,III and IV
- Autoimmune diseases - mechanisms of autoimmune disease
- Immunologic deficiency syndromes - primary immunodeficiency's and acquired immunodeficiency syndrome (AIDS)
- Amyloidosis - physical and chemical nature of amyloid, classification, pathogenesis and morphology

**5.6 Genetic disorders:**

- Mutations, mendelian disorders - different type of mutations. Transmission patterns of gene disorders, biochemical and molecular basis of single gene disorders. Disorders associated with defects in structural proteins, receptor proteins and defects in proteins regulating cell growth;
- Disorders with multifactorial inheritance;
- Cytogenic disorders - disorders involving autosomes and sex chromosomes;
- Molecular diagnosis;
- Diagnoses of genetic disorders

**5.7 Tissue repair:**

- Control of normal cell growth - proliferative activity, stem cells, growth factors and signalling mechanisms;
- Extra cellular matrix and cell - matrix interaction - three groups role in matrix, fibrous structural proteins, adhesive glycoproteins, proteoglycans and hyaluronic acid;
- Repair by connective tissue (regeneration and fibrosis) - the different stages of healing, angiogenesis and scar formation;
- Wound healing - healing by first intention, second intention and wound strength. Factors influencing wound healing and complication in cutaneous wound healing

**5.8 Neoplasia:**

- Characteristics of benign and malignant neoplasms - differentiation, anaplasia rate of growth, local invasion and metastasis
- Epidemiology - incidence, geographic and environmental variables, age, heredity and preneoplastic lesions
- Molecular basis of cancer - carcinogenesis of tumours, genetic lesions in tumours, growth signals, growth inhibitory signals, evasion of cell death
- Biology of tumour growth - sustained angiogenesis, ability to invade and metastasise, re programming of energy metabolism, evasion of immune system, tumour - promoting inflammation
- Carcinogenic agents and their cellular interactions - chemical carcinogens , radiation carcinogenesis, viral and microbial oncogenesis
- Host defense against tumours/tumour immunity - tumour antigens, anti - tumour effector mechanisms and immune surveillance and immune evasion
- Clinical features of tumours - effect on host
- Nomenclature of tumours - eg. carcinoma, sarcoma hamartoma teratoma



**5.9 Blood vessels:**

- Vascular wall cells and their response to injury - structure of vessels, endothelial cells, intimal thickening as response to injury
- Vascular diseases - vasculitis non - infectious, mechanisms of non - infectious vasculitis
- Atherosclerosis - risk factors, pathogenesis, morphology and clinical consequences
- Hypertensive vascular disease - pathogenesis and morphology
- Aneurysms and dissection – different types and forms, pathogenesis, abdominal aortic aneurysm with morphology, thoracic aortic aneurysm and aorta dissection with morphology

**5.10 Haemodynamic disorders**

- Oedema - pathophysiologic causes of oedema, morphology of oedema
- Hyperaemia and congestion - mechanisms and morphology
- Haemorrhage - differences in appearance and clinical consequences
- Haemostasis and thrombosis - normal haemostasis with endothelium, coagulation factors and coagulation cascade, thrombosis with endothelial injury, abnormal blood flow and hypercoagulability, morphology of thrombi and the fate of the thrombus
- Embolism - different types of emboli, pulmonary thromboembolism and systemic thromboembolism
- Infarction - factors influencing development and morphology of infarcts
- Shock different types of shock, pathogenesis of septic shock and stages of shock

**5.11 The heart:**

- Pathophysiologic pathways/Principal mechanism of heart disease
- Heart failure - congestive heart failure, left heart failure with causes and morphology, right heart failure with causes and morphology. Clinical features of heart failure.
- Ischaemic heart disease - clinical presentation, pathogenesis, angina pectoris, myocardial infarction with pathogenesis and morphology, consequences and complications
- Hypertensive heart disease - systemic hypertensive heart disease with morphology, pulmonary hypertensive heart disease with causes and morphology
- Valvular heart disease - etiology of valve disease, degenerative valve disease with pathogenesis and morphology, rheumatic valvular disease and infective endocarditis

**5.12 Hormonal disorders**

- Definition of a hormone and its function
- Calcium homeostasis, bone diseases and effect of radiation and medication on bone turnover, iron metabolism, functions and related diseases
- Diabetes types I and II and related pathology

**5.13 Suggested textbook:**

- Robbins Basic Pathology, international edition - Kumar, Abbas and Aster. ISBN9780808924326.

**Alternative/Additional reading:<sup>8</sup>**

- General and Systematic Pathology (Book, 5th Ed) J.C.E. Underwood, Simon S. Cross Churchill Livingstone. ISBN-13978-0-443-06889-8

## APPENDIX B

### GUIDELINES FOR THE FCMFOS(SA) INTERMEDIATE EXAMINATION

#### 1.0 ORAL PATHOLOGY

1.1 This should relate to requirements for the practice of Maxillo - Facial and Oral Surgery

1.2 The paper will comprise six questions in two sections:

1.2.1 **Section A**

Two core questions, all must be answered

1.2.2 **Section B**

Four questions orientated towards Maxillo - Facial and Oral Surgery

**Note:** Of the four questions in Section B the candidates may choose two and shall answer only two questions

#### 1.3 The syllabus includes:

1.3.1 Lesions and diseases of the oral mucosa

- Developmental abnormalities
- HIV/AIDS related
- Geriatric changes
- Infections
- Reactive lesions
- Immune - mediated diseases
- Ulcerations
- White lesions
- Red lesions
- Pigmented lesions
- Potentially malignant disorders
- Neoplasms
- Oral manifestations of systemic diseases

1.3.2 Diseases of bone

- Developmental abnormalities
- Infections and inflammatory lesions
- Tumours and tumour - like lesions
- Odontogenic tumours
- Cysts

1.3.3 Diseases of salivary glands

- Infections and inflammatory lesions
- Non - neoplastic diseases, as well as those in HIV/AIDS patients
- Neoplasms
- Cysts

1.3.4 Soft tissue diseases and conditions

- Tumours of neural origin
- Tumours of vascular origin
- Tumours of fat origin
- Tumours of muscle origin
- Tumours of fibroblast origin
- Tumours of the lympho - reticular system

1.3.5 The special investigations which may be utilised in the diagnosis and management of diseases.

- Exfoliative and aspiration cytology
- Rapid diagnosis and frozen section

#### 1.4 RECOMMENDED READING

Updated and current textbooks and latest developments published in refereed journals, with special reference to:

- Neville BW, Damm DD, Allen CM, Bouquot JE. *Oral and Maxillofacial Pathology*. 3<sup>rd</sup> Ed. Saunders Elsevier, 2009.
- Relevant scientific articles published during the last two years in the following journals:
  - *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology,*
  - *Endodontics.*
  - *Oral Diseases.*

#### 2.0 GENERAL PRINCIPLES OF SURGERY

2.1 This examination is designed to test the candidate's understanding of aspects of patient care basic to the perioperative period, viz principles of pre - operative assessment, supportive measures and nutrition, as well as normal post - operative progress and complications for both adults and children

The syllabus includes:

##### 2.1.1 Pre - Operative Care

Surgical nutrition: Parenteral and enteral; Fluid and electrolyte therapy; Blood transfusions and its hazards; Infection and antimicrobial agents; Diagnostic aids - clinical chemistry; Acute management of the injured patient

##### 2.1.2 Intra - Operative Care

Aseptic and antiseptic techniques; Hazards and precautions in operating theatres; Electrical safety and hazards; Radiation effects and hazards; Wound healing and care of the wound; Perioperative management of diabetes mellitus; Perioperative management of the patient on steroid therapy

##### 2.1.3 Normal and Postoperative Care and Complications

Convalescence: The metabolic response to trauma; Hypovolaemic shock; Cardiac arrest; Acid - base metabolism; Gram negative - bacterial endotoxic shock; Respiratory support and mechanical ventilation; Pulmonary aspiration; Adult respiratory distress syndrome; Deep vein thrombosis and pulmonary embolism; Fat embolism; Haemostatic disorders; Postoperative acute renal failure; Management of the jaundiced patient; The recognition of cardiac arrhythmias and cardiac failure and its management; Multiple organ failure; Postoperative care of infants and children; Management of ulcers, sinuses and fistulae

##### 2.1.4 Neurosurgery, ENT and Ocular Emergencies

Head and cervical spine injuries; Coma; Raised intracranial pressure; Foreign bodies in the nose and throat; Infection of the throat; Tracheostomy; Foreign bodies and penetrating injuries of the eye

##### 2.1.5 Plastic Surgery and Orthopaedic Surgery

Principles of treatment of wounds including excision and debridement closure and antibiotic therapy; Osteomyelitis; Management of patients with burns; General principle of orthopaedics

##### 2.1.6 Applied Pharmacology for Surgery

This comprises: core pharmacotherapeutics and relevant clinical aspects of the most common and important diseases and conditions.

###### 2.1.6.1 Antimicrobial drugs and principles for use

Concepts of selective toxicity, bacteriological efficacy and mechanisms for predicting efficacy, antibiotic resistance, prophylactic vs. therapeutic use of antimicrobials and rationale for choice of a specific agent

- Spectrum, side - effects and indications for:  $\beta$  - lactam antibiotics and alternatives for Gram positive infections such as macrolides

**2.1.6.2 Antibiotics in surgery**

- Concepts of therapeutic and prophylactic therapy
- Classify wounds according to contamination
- Name the properties of bacteria which are important in surgical wounds
- Factors which cause wound infection with regard to
  - Bacterial load
  - Surgical technique
  - Host resistance
  - List and explain the circumstances in which prophylactic antibiotics are justified
  - Know the accepted method of prophylaxis
- New antimicrobial drugs
  - Be aware of the new developments in the field of antibiotics and the impact they will have on future treatment of the patient.

**2.1.6.3 Antiviral therapy**

- Principles of virus replication and the pharmacodynamics of antiviral drugs
- Useful antiviral therapy for the following conditions: HIV, Herpes I and II (HSV I & II), Herpes zoster (VZV),

**2.1.6.4 Outpatient infections**

- Explain the rational treatment of the following upper respiratory tract infections:
  - sinusitis, pharyngitis, tonsillitis, laringo - tracheobronchitis and otitis media

**2.1.6.5 Hypertension and oedema**

- Target blood pressure values for various risk groups with co - morbid conditions such as diabetes mellitus, kidney failure, post - myocardial infarction and isolated systolic hypertension in the elderly
- Treat essential hypertension according to supplied guidelines suggest rational antihypertensive therapy for patients with various co - morbid conditions according to supplied guidelines

**2.1.6.6 Approach to HIV therapy**

- Interpret the diagnostic and serologic tests used in HIV
- CDC and WHO staging of HIV / EC - Clearinghouse Classification for Oral lesions in patients with HIV/AIDS
- Role and mechanisms of action of antiretroviral
- Prophylaxis of opportunistic infections

**2.1.6.7 Prophylaxis and treatment of DVT and PTE**

- Drugs which are used prophylactically to prevent DVT and PTE (=anticoagulants) and treatment of DVT and PTE (A11)
- Know the following drugs' pharmacodynamics, pharmacokinetics, monitoring, contraindications, complications, drug interactions and place in therapy:
  - Unfractionated heparin
  - LMWH (low molecular weight heparins)
  - Enoxaparin and dalteparin
    - ❖ Lepirudin
    - ❖ Warfarin
- Bleeding complication due to an overdose of anticoagulant (ie Vit K and protamine sulphate)
- Bleeding complication due to an overdose of thrombolytic drug

- 2.1.6.8 **Substance abuse and withdrawal**
- Dynamics and kinetics of habit forming drugs or substances
  - opioids
  - barbiturates
  - benzodiazepines
  - methaqualone
  - meprobamate
  - cocaine
  - amphetamine and related substances
  - dagga / cannabis
  - alcohol
  - LSD
  - Pathophysiology of substance dependence regarding the above listed substances (T4)
- 2.1.6.9 **Rational use of glucocorticosteroids**
- Mechanism of action and the effects of cortisone
  - Compare the different semi - synthetic glucocorticosteroids
  - Explain the unwanted effects of the glucocorticosteroids
  - Prescribe a short course or long term glucocorticosteroid therapy
- 2.1.6.10 **Pain management**
- Familiar with the pharmacokinetics and pharmacodynamics of the different agents used in treating pain:
    - non - steroidal anti - inflammatory drugs
    - opioids
  - Different aspects concerning the routes of administering analgesics:
    - orally
    - intramuscularly
    - intravenously
- 2.1.6.11 **Management of acute pain and migraine**
- Know the various opioids, including examples, pharmacodynamics, commencement of action, duration of action, effectivity, side - effects, dangers:
    - Morphine
    - Codeine
    - Pethidine
    - Dextropropoxyphene
    - Tilidine
    - Tramadol
- 2.1.6.12 **Approach to cancer pain**
- Cause of pain in a patient with cancer
  - Pain killers to prescribe
  - Logic steps to follow if initial medication does not help to control pain
- 2.1.6.13 **The management of chronic pain**
- Patient with chronic pain and a good life expectancy
  - Patient with chronic pain and a poor prognosis
  - Patient with pain due to bone metastases
  - Development of tolerance to pain medication
- 2.1.6.14 **Epilepsy & Neuralgic Pain Medication**
- Pharmacodynamics and - kinetics of the following drugs
    - Sodium Valproate
    - Carbamazepine
    - Oxcarbazepine
    - Phenytoin
    - Lamotrigine
    - Vigabatrin
    - Gabapentin
    - Clonazepam

**2.1.6.15 Acute heart failure (a haemodynamic disorder)**

- Know the positive inotropic drugs and explain their mechanism of action.

**2.1.6.16 Angina pectoris and acute myocardial infarction**

- Initial therapy of an acute myocardial infarct as well as the indications for the administration of each drug:
  - Morphine
  - Atropine
  - Lignocaine and the other anti - arrhythmic drugs
  - Intravenous thrombolytic drugs
  - Antiplatelet drugs

**2.1.6.17 Treatment of diabetes mellitus**

- Classification of diabetes
- Know diabetic coma's
  - Hypoglycaemic
  - Keto - acidosis
  - Hyperosmolar hyperglycaemia
- How to start treatment on insulin therapy(diabetic sliding scales)

## APPENDIX C

### 1.0 GUIDELINES FOR THE FCMFOS(SA) FINAL EXAMINATION

With regard to the Principles and Practice of Maxillo - Facial and Oral Surgery, the candidate should have a sound knowledge of

- 1.1 Diagnostic imaging and evaluation for facial structures:
  - 1.1.1 Intra - oral radiographic evaluation
  - 1.1.2 Facial imaging, as standard radiographs, computerised tomography, cone - beam imaging, magnetic resonance imaging (two and three dimensional)
  - 1.1.3 Specialised facial imaging, sialogram and ultrasound
  - 1.1.4 Cephalometric analysis for orthognathic and pre - prosthodontic cases
- 1.2 Minor oral and dento - alveolar surgery
  - 1.2.1 Soft tissue surgery (frenectomy, biopsy, autogenic mucosal transplantation)
  - 1.2.2 Dento - alveolar hard tissue surgery (apicectomy, residual root, embedded molar mobilisation, exposure of tooth, coronectomy of impacted tooth, surgical removal of impacted tooth, auto - transplantation)
- 1.3 Surgical approaches and flaps
  - 1.3.1 Intra - oral approaches (circum - mandibular, transantral[Caldwell - Luc] and for antro - oral fistula, condylar–endoscopic, coronoid)
    - 1.3.1.1 Flaps (mucosal flap, buccal fat pad, tongue flap, local myo - [osseo - ] - mucosal flap)
  - 1.3.2 Extra - oral approaches (Risdon - submandibular, transmassetric - anterior parotid, preauricular, midfacial deglove, mandibular - zygomatic swing access, transconjunctival/subciliary, blephro, bicoronal)
    - 1.3.1.1 Flaps (skin, facia, myo - [osseo - ] - cutaneous flap)
- 1.4 Pre - prosthodontic surgery
  - 1.4.1 Preprosthetic surgery
    - 1.4.1.1 Sulco - /vestibuloplasty
    - 1.4.1.2 Alveolotomy/alveolectomy, mental/inferior alveolar nerve repositioning/lateralisation, mylohyoid ridge reduction, mandibular/palatal torus reduction, osseous tuberosity reduction, alveolar augmentation
    - 1.4.1.3 Bone regeneration materials and techniques
    - 1.4.1.4 Distraction of alveolar ridge
    - 1.4.1.5 Sinus lift procedure
  - 1.4.2 Implant surgery
    - 1.4.2.1 Subperiosteal implants
    - 1.4.2.2 Osseointegrated implants
  - 1.4.3 Implanto - reconstructive and implanto - orthognathic surgery
    - 1.4.3.1 Mandible
    - 1.4.3.2 Maxilla
  - 1.4.4 Extra - oral/prosthetic, intra - oral and extra - oral oncological implant surgery
- 1.5 Cranio - facial traumatology
  - 1.5.1 Cranial/craniofacial trauma (upper facial third)
    - 1.5.1.1 Frontal bone and sinus
    - 1.5.1.2 Superior orbital ridge
    - 1.5.1.3 Soft tissue trauma around the orbit
    - 1.5.1.4 Orbital bone trauma, including blow - out fractures
    - 1.5.1.5 Dacrocystorhinotomy
    - 1.5.1.6 Traumatic canthal displacement

- 1.5.2 Central and lower midfacial trauma (middle facial third)
    - 1.5.2.1 Nasal fractures
    - 1.5.2.2 Zygoma fractures
    - 1.5.2.3 LeFort I, II and III fractures
  - 1.5.3 Mandibular fractures (lower third facial)
  - 1.5.4 Dento - alveolar and tooth fractures
  - 1.5.5 Facial soft tissue and lip trauma
  - 1.5.6 General management of the patient with facial injuries
    - 1.5.6.1 Tracheotomy
    - 1.5.6.2 Pharyngostomy
  - 1.5.7 Clinical significance in treating HIV/AIDS patient with facial trauma
  - 1.5.8 Management of the complications following trauma to the face and jaws
- 1.6 Cranio - facial, orthognathic surgery and aesthetic facial surgery
- 1.6.1 Facial growth
  - 1.6.2 Diagnosis and treatment planning of dentofacial and craniofacial deformities including cephalometric analysis and development of visual treatment objective
  - 1.6.3 Principles of cranio - facial surgery and distraction
  - 1.6.4 Zygoma and nose
    - 1.6.4.1 Circum nasal osteotomy (Converse, Reyneke and other)
    - 1.6.4.2 Zygomatic osteotomy
    - 1.6.4.3 Principle of nasal reconstruction
  - 1.6.5 Maxillary osteotomies
    - 1.6.5.1 LeFort I, II and III osteotomies and distraction osteogenesis
    - 1.6.5.2 Quadrangular osteotomies
    - 1.6.5.3 Palatal osteotomies and distraction osteogenesis
  - 1.6.6 Mandibular osteotomies
    - 1.6.6.1 Ramus and corpus osteotomies and distraction osteogenesis
    - 1.6.6.2 Subapical osteotomies
    - 1.6.6.3 Genioplasty
    - 1.6.6.4 Functional partial glossectomy
  - 1.6.7 Corticotomy with and without distraction osteogenesis
  - 1.6.8 Alloplastic reconstructive materials and techniques
  - 1.6.9 Basic principles of aesthetic surgery
    - 1.6.9.1 Skin, subdermal, submental fat, blepharo fat surgery
- 1.7 Clinical aspects and management pathological conditions of maxillo - facial, oral and neck regions
- 1.7.1 Neck evaluation and surgery for lymph nodes, cysts and other pathological conditions, including immune system based neoplasms
  - 1.7.2 Tongue evaluation and surgery for pathological conditions
  - 1.7.3 Lip evaluation and surgery for pathological conditions, including vermilionectomy, resections and reconstructions with flap procedures
  - 1.7.4 Salivary gland evaluation and surgery for pathological conditions, including dilatations/canalisation/endoscopic approach, sialolithotomy, excision – including parotidectomy, closure of fistula
  - 1.7.5 Cysts evaluations and surgery, soft tissue intra - oral and extra - oral including branchial cyst/hygrota, bone cyst intra - oral and extra - oral approaches
  - 1.7.6 Bone evaluation and surgery for pathological conditions from biopsy to minor and major resection and reconstruction, including bisphosphonate osteonecrosis
  - 1.7.7 Specific surgical procedures for pathological conditions as for the facial skeleton (various maxillectomies and mandibulectomies, orbit exenteration and skull base approaches)
  - 1.7.8 Basic principles of neck dissections and reconstructions, including the management of the irradiated patient and osteoradionecrosis
  - 1.7.9 Specific treatment of the HIV/AIDS infected compromised patient with a pathological condition (and related most common oral malignancies) as well as associated infections
  - 1.7.10 General maxillo - facial and oral infections, including principles of antibiotic therapy with specific emphasis on oral and facial cavities, facial spaces, osteomyelitis and salivary glands



- 1.8 Facial pain and temporomandibular joint management
  - 1.8.1 Neuromuscular or muscular and neuralgic pain management for trigger points (manipulative, injections – including Botox), nerve sections and resections.
  - 1.8.2 Temporomandibular joint
    - 1.8.2.1 External derangement management for acute and chronic dislocations and intra - oral and extra - oral coronoidectomy
    - 1.8.2.2 Internal derangement management (dysfunction and pathologies), occlusal appliances, arthrosynthesis, arthroscopy, arthroplasty, condylectomy, ramus - osteotomy
    - 1.8.2.3 Diagnosis and reconstruction after ankylosis
    - 1.8.2.4 Temporomandibular joint prosthesis
- 1.9 Management of cleft lip and palate deformities
  - 1.9.1 Basic principle of primary cleft lip reconstruction
  - 1.9.2 Basic principle of primary cleft hard palate reconstruction including anterior nasal floor closure
  - 1.9.3 Basic principle of primary soft palate reconstruction
  - 1.9.4 Basic principle of primary columella lengthening
  - 1.9.5 Basic principle of velopharyngeal incompetency and its reconstruction
  - 1.9.6 Secondary osteoplasty or osteofusion
  - 1.9.7 Principle of orthognathic surgery in patients with cleft deformities
  - 1.9.8 Very basic principle of cleft revision surgery of soft tissue and cleft nose deformity
- 1.10 Harvesting of autogenic tissue
  - 1.10.1 Intra - oral bone and mucosa
  - 1.10.2 Extra - oral tissue
    - 1.10.2.1 Skin, dermis and fat
    - 1.10.2.2 Bone (iliac crest, tibia, rib, costo - chondral, cranium)
    - 1.10.2.3 Cartilage (sternal, auricular, nasal septum)
- 1.11 Treatment of haemorrhage
  - 1.11.1 Local haemorrhage
    - 1.11.1.1 Intra - oral
    - 1.11.1.2 Nasal and other after trauma and orthognathic surgery
  - 1.11.2 Dyscrasias
  - 1.11.3 Ligation of maxillary artery
- 1.12 Current and new developments in Maxillo - Facial and Oral Surgery

## 2.0 RECOMMENDED READING

Updated and current textbooks and latest developments published in refereed maxillo - facial and oral surgical and related journals