

September 2010

**THE COLLEGE OF PAEDIATRICIANS OF SOUTH AFRICA**

**R E G U L A T I O N S**

**FOR ADMISSION TO THE EXAMINATION FOR THE  
POST-SPECIALISATION**

**SUB-SPECIALTY CERTIFICATE**

IN

**PULMONOLOGY**

**Cert Pulmonology(SA)**

**1.0 ELIGIBILITY TO TAKE THE EXAMINATION**

In order to be eligible to enter for this examination, the candidate:-

- 1.1 must comply with the requirements for registration as a medical practitioner, as prescribed by the Medical, Dental and Supplementary Health Services Act.
- 1.2 must be registered as a specialist Paediatrician

**2.0 ADMISSION TO THE EXAMINATION**

(to be read in conjunction with the Instructions)

The following are the requirements for admission to the examination:

- 2.1 registration as a specialist Paediatrician
- 2.2 certification of having completed at least 18 months as a subspecialty trainee in an accredited Pulmonology unit in a teaching hospital, registered and approved by the Health Professions Council of South Africa
- 2.3 submission of a written report from the head of the institution/programme in which he or she trained indicating satisfactory completion of all training requirements
- 2.4 submission of a satisfactorily completed logbook
- 2.5 presentation or acceptance for presentation of an original first author research poster or paper at a local or international congress OR submission or acceptance for publication of an original first or co-authored manuscript in a peer reviewed journal.

3.0.../

**3.0 SYLLABUS AND TRAINING**

See Appendix A

**4.0 FORMAT AND CONDUCT OF THE EXAMINATION**

See Appendix B

**A P P E N D I X A**

**CONTENT OUTLINE - PAEDIATRIC PULMONOLOGY**

**1.0 CLINICAL DISEASES**

**1.1 Disorders of the upper airways:**

1.1.1 Congenital abnormalities:

- Choanal atresia/stenosis
- Craniofacial abnormalities in micrognathia
- Laryngeal web
- Laryngeal atresia – NA
- Laryngeal cysts
- Laryngomalacia
- Vocal cord paralysis
- Subglottic stenosis
- Subglottic haemangioma
- Laryngotracheo-oesophageal cleft
- Congenital abnormalities of the tongue

1.1.2 Infections:

- Viral croup (laryngotracheobronchitis)
- Epiglottitis
- Bacterial tracheitis

**1.2 Congenital disorders of the lower airway:**

- Tracheo and bronchomalacia
- Sequestration
- Lung cyst

**1.3 Asthma:**

- Epidemiology
- Aetiology/genetics
- Pathophysiology
- Diagnosis and clinical manifestations
- Prevention and therapeutic approach
- Prognosis

**1.4 Bronchiolitis:**

- Epidemiology
- Aetiology/genetics
- Pathophysiology
- Diagnosis and clinical manifestations
- Prevention and therapeutic approach
- Prognosis

- 1.5 **Cystic fibrosis**
  - Epidemiology
  - Aetiology/genetics
  - Pathophysiology
  - Diagnosis and clinical manifestations
  - Prevention and therapeutic approach
  - Prognosis
  
- 1.6 **Interstitial lung disease:**
  - Epidemiology
  - Aetiology/genetics
  - Pathophysiology
  - Diagnosis and clinical manifestations
  - Prevention and therapeutic approach
  - Prognosis
  
- 1.7 **Pneumonia:**
  - Bacterial pneumonia
  - Viral pneumonia
  - Fungal pneumonia
  - Tuberculous including TB Effusion, nodal compression, cavity and fibrosis
  - Parasitic
  
- 1.8 **Disorders of the chest wall, diaphragm, and pleural space:**
  
- 1.9 **Acute lung diseases in the newborn infant:**
  - Epidemiology
  - Aetiology/genetics
  - Pathophysiology
  - Diagnosis and clinical manifestations
  - Prevention and therapeutic approach
  - Prognosis
  
- 1.10 **Respiratory failure:**
  
- 1.11 **Aspiration/inhalation injuries:**
  - Foreign body aspiration
  - Aspiration of liquid and food
  - Aspiration of hydrocarbons
  - Smoke inhalation
  - Near drowning
  - Gastroesophageal reflux in infants and children
  
- 1.12 **Bronchopulmonary dysplasia:**
  
- 1.13 **Pulmonary vascular diseases in childhood**
  - Cor pulmonale
  - Pulmonary oedema
  - Pulmonary emboli/infarction
  - Pulmonary hypertension
  - Pulmonary haemorrhage
  - Haemosiderosis

- 1.14 **Adult respiratory distress syndrome (ARDS):**
- 1.15 **Pulmonary manifestations of immunosuppression:**
  - Acquired immunodeficiency syndrome (HIV/AIDS)
  - Acute lung diseases
  - Chronic lung diseases
  - Other immunosuppressive disorders
- 1.16 **Control of breathing disorders:**
  - Obstructive sleep apnoea syndrome
  - Alveolar hypoventilation syndrome
  - Apnoea of prematurity
  - Apparent life-threatening events
  - Sudden infant death syndrome
- 1.17 **Miscellaneous lung diseases:**
  - Alpha 1-antitrypsin deficiency
  - Ciliary dysmotility
  - Oncology
  - Trauma
  - Sarcoidosis
  - Hypersensitivity pneumonitis

## **2.0 EVALUATION/DIAGNOSIS**

- 2.1 **Pulmonary history:**
- 2.2 **Physical examination:**
- 2.3 **Pulmonary function testing:**
  - 2.3.1 **Static lung volumes:**
    - Spirometry
    - Helium dilution
    - Nitrogen washout
    - Plethysmography
  - 2.3.2 **Flows and timed volumes**
    - Forced expiratory volumes
    - Peak expiratory flow
    - Maximal expiratory flow volume curve
  - 2.3.3 **Diffusing capacity:**
  - 2.3.4 **Airway responsiveness:**
    - Bronchodilator testing
    - Bronchoprovocation (challenge) testing
  - 2.3.5 **Exercise testing:**
  - 2.3.6 **Respiratory muscle testing:**
  - 2.3.7 **Interpretation of pulmonary function tests:**

**2.3.8 Oscillometry and impedance:**

**2.3.9 Optional body box lung function and measurement of exhaled nitric oxide:**

**2.4 Invasive procedures:**

- Bronchoscopy, bronchoalveolar lavage
- Vascular sampling/access
- Pleural drainage
- Thoracentesis
- Intubation

**2.5 Imaging:**

- X-ray studies
- Fluoroscopy
- Angiography
- Computed tomography (CT scan)
- Magnetic resonance imaging (MRI)
- Ultrasonography
- Nuclear medicine
- Angiography

**2.6 Laboratory diagnostic studies:**

- Sputum/nasopharyngeal washes
- Pleural fluid analysis
- Blood analysis
- Oximetry
- Biopsy techniques
- Molecular biologic approaches

**3.0 LUNG GROWTH AND DEVELOPMENT**

**3.1 Foetal:**

- Structure
- Physiology

**3.2 Perinatal:**

- Physiology

**3.3 Postnatal:**

- Structure
- Physiology

**3.4 LUNG DEFENCE MECHANISMS**

**3.5 CELL BIOLOGY AND BIOCHEMISTRY**

**3.6 GAS EXCHANGE, VENTILATION-PERFUSION, ACID BASE**

- Gas exchange
- Carbon dioxide transport
- Acid-base
- Exercise physiology

3.7 **RESPIRATORY MECHANICS**

3.8 **CONTROL OF BREATHING**

3.9 **PULMONARY VASCULATURE PHYSIOLOGY**

3.10 **RESEARCH METHODS**

- Statistics
- Research design
- Clinical trials
- Evidence based methods
- Cochrane and systematic reviews

## **A P P E N D I X B**

### **1.0 FORMAT AND CONDUCT OF THE EXAMINATION**

#### **1.1 Evaluation of Competence**

- 1.1.1 Evaluation of overall competence of the trainee will be based on:
- a) an appraisal by the Head of Unit/Division/Department of the institution where training was undertaken
  - b) an examination under the auspices of the Colleges of Medicine of South Africa (CMSA).

### **2.0 LOGBOOK /PORTFOLIO**

- 2.1 A portfolio/logbook is a mandatory requirement for entry to the examination.
- 2.2 The portfolio for the sub-specialty is attached (Appendix C).
- 2.3 The portfolio includes six-monthly formative assessments (as a minimum) made by the supervisor/divisional head, which is signed by both candidate and trainer. These assessments should, however, be kept confidential and should not be submitted to the CMSA.
- 2.4 Each candidate will be expected to submit their portfolio/logbook to the CMSA by 15 January or 15 June of each year (for the relevant March or August examination).
- 2.5 The Convenor is responsible for reviewing each portfolio.
- 2.6 A portfolio may be judged as being unsatisfactory if any of the required minimum number of identified activities have not been satisfactorily completed.
- 2.7 An unsatisfactory portfolio may result in disqualification from participation in the current examination.

### **3.0 EXAMINATION CONVENORS**

- 3.1 A list of potential convenors will be provided by the College of Paediatricians (hereafter referred to as the “College”).
- 3.2 The College will select convenors for each examination.
- 3.3 In the case of a convenor from each examining centre not being represented on the convenors’ list, the College Council may at its discretion appoint a convenor from another centre for a particular examination.

### **4.0 CONVENOR RESPONSIBILITIES**

#### **The Convenor will:**

- 4.1 Recommend an examiner’s panel from the approved list of examiners supplied by the College.
- 4.2 Be sensitive to the following issues in selecting examiners:
- 4.2.1 Rotation of examiners (representation from different centres)
  - 4.2.2 Exposure of junior sub-specialists (new examiners)
  - 4.2.3 Representation from different centres in South Africa (must have representation from three different centres, except in exceptional circumstances)
  - 4.2.4 The CMSA’s transformation goals.
- 4.3 Forward the recommended examiners’ panel to the College for approval
- 4.4 Recommend a moderator for the examination to the College.
- 4.5 Forward a copy of the draft written paper to the College for review by the moderator.
- 4.6 Submit a written report to the College Council after each examination outlining the conduct of the examination, marks achieved, success rates, problems identified and recommendations for future examinations. This report will also be sent to the Head of each training centre and the CMSA Examinations office.



**5.0 EXAMINER SELECTION**

- 5.1 Examiners will be appointed by the College following recommendation by the convenor.
- 5.2 A Certificate examiner must be registered with the Health Professional Council of South Africa (HPCSA) as a sub-specialist, and should be at least two years post his or her certification examination or registration as a sub-specialist.
- 5.3 Use of a non-specialist examiner or one from an allied subspecialty must be motivated for in writing to the College.
- 5.4 The examination panel will consist of three examiners, including the convenor. This number of examiners is considered fair to the needs of the candidate and the CMSA.
- 5.5 Any request to alter the examiner numbers for an individual examination must be motivated in writing to the College.
- 5.6 The written and oral/OSCE examinations will be conducted by the same set of examiners.
- 5.7 An examiner will not necessarily be excluded if he/she is the trainer/supervisor of the candidate.
- 5.8 Ideally, no more than one examiner will be chosen from any single centre in South Africa for each examination.
- 5.9 The selection of Certificate examiners will be independent of the FC Paed(SA) Part II examiner selection process.
- 5.10 Whenever possible the same examiner should not be involved in a Certificate examination and a FC Paed(SA) Part II examination simultaneously.
- 5.11 The CMSA Academic Office will be responsible for notifying examiners about their selection for an individual examination.

**6.0 MODERATORS**

- 6.1 In order to adhere to CMSA standards and for quality assurance, a process of 'moderation' of each examination is considered necessary.
- 6.2 A moderator shall be appointed by the College for the Certificate examination. This individual will ideally be a senior member of the sub-specialty.
- 6.3 Prior to the conduct of the written examination, the moderator will check that the examination questions and marking memorandum reflect a fair spread of the curriculum (reliability), match the curriculum (validity), and that the mark allocation of the questions is fair and appropriate.
- 6.4 The moderator will complete a report and return this to the College and the CMSA at the end of each examination. The College will formally review the report.

**7.0 STRUCTURE OF THE EXAMINATION**

- 7.1 The Certificate examination has two components:
  - a) A written component
  - b) A oral/OSCE/OSPE/clinical component.
- 7.2 Each of the two components contributes 50% to the overall mark
- 7.3 The pass mark for the overall exam is 50%.
- 7.4 A sub-minimum pass mark of 50% is expected for each of the two (written and the oral/OSCE/clinical) components of the examination.
- 7.5 There is no sub-minima for individual papers, questions or sub-sections of the OSCE/oral/clinical examination.

**8.0 EXAMINATION CENTRE**

- 8.1 Ideally the centre/region hosting the FC Paed(SA) Part II examination will be the host centre for each Certificate examination.
- 8.2 The Convenor of the examination will preferably, but not necessarily, originate from that centre/region.
- 8.3 Exceptions may be granted where there is no suitable Convenor based at that centre/region or the sole candidate in an examination is from the host centre.

**9.0 WRITTEN EXAMINATION**

- 9.1 Certificate examinations will comprise of two three-hour written papers. Paper I will consist of 4 long questions or scenarios (may contain sub-parts), worth 25 marks each (each examiner shall submit 2 such questions to the Convenor). Paper II will consist of 10-12 short questions, worth 10 marks each (each examiner to submit 5 such questions to the Convenor).
- 9.2 A marking memorandum – a basic outline to the expected answer - will be provided, by each examiner at the time of question acceptance, including an indication of the allocation of marks for each section/part answer.
- 9.3 The language of written papers will follow College recommendations.

**10.0 CLINICAL / ORAL / OSCE EXAMINATIONS**

- 10.1 This examination will last NO LONGER THAN 3 hours (the recommended duration is 1–3 hours).
- 10.2 If the examination is longer than 1½ hours the candidate must be given a 15-minute break with refreshments.
- 10.3 This examination will consist of 5 ‘stations’ and/or 3–5 ‘clinical scenarios. (Ideally, this examination should contain at least 5 ‘stations’ and/or 3–5 ‘clinical scenarios).
- 10.4 The examination will be structured, balanced and similar for each candidate.
- 10.5 The language of the oral/OSCE/clinical examinations will follow College recommendations.

**11.0 TIMING OF ORAL/OSCE/CLINICAL EXAMINATIONS**

- 11.1 The examination will be held in the same week as the FC Paed(SA) Part II clinical examination.
- 11.2 Exceptions will be by written motivation to the College.

**12.0 RESPONSIBILITY OF THE COLLEGE IN THE EXAMINATION PROCESS**

- 12.1 Selection of Convenors, examiners, and moderators.
- 12.2 Monitoring of the conduct of each Certificate examination.
- 12.3 Reviewing all aspects of each examination on completion.
- 12.4 Tracking performance and success rates in individual examinations.

**13.0 APPEALS PROCESS**

- 13.1 The CMSA has an appeals process that will be followed.