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JOHANNESBURG
ACADEMIC OFFICE

June 2017

THE COLLEGE OF PHYSICIANS 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

ALLERGOLOGY

Cert Allergy(SA)Phys

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 Physician.

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 Physician

2.2 certification of having completed at least 18 months, but preferably 2 years, as a subspecialty trainee in an accredited Allergology 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.

2.6 Training is valid for a period of three years from the date of completion in a numbered sub-speciality training post. Candidates who do not successfully complete the sub-speciality examination within the period must motivate with support from their HOD to the College of Physicians for extension.

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3.0 EXIT LEVEL OUTCOMES
See Appendix A

4.0 SYLLABUS / CURRICULUM
See Appendix B

5.0 RECOMMENDED READING
See Appendix C

6.0 IN COURSE EVALUATION
See Appendix D

7.0 FORMAT AND CONDUCT OF THE EXAMINATION
See Appendix E

A P P E N D I X A

1.0 EXIT LEVEL OUTCOMES

1.1 The candidate who passes this examination must be able to fulfil the role of a specialist clinical Allergologist in the medical and academic communities, and in society at large.

1.2 Central to this examination is its licensing function: persons awarded the certificate who fulfil the other requirements of the Medical, Dental and Supplementary Health Services Act may register and practise as a specialist clinical Allergologist in terms of the Act

1.3 The following sections briefly outline the range of competence that can be expected of the specialist clinical Allergologist. The specialist clinical Allergologist should be competent to:

1.3.1 **Assess patients:**

- 1.3.1.1 Assess multi-system or organ specific allergic diseases involving the skin, the nose, the lung, the eyes and the gastrointestinal tract
- 1.3.1.2 Competently perform a clinical interview and physical examination
- 1.3.1.3 Accurately identify and interpret relevant clinical findings
- 1.3.1.4 Succinctly define clinical problems and formulate a working diagnosis

1.3.2 **Manage patients:**

- 1.3.2.1 Select and, where needed, perform appropriate investigations
- 1.3.2.2 Initiate appropriate treatment based on best available evidence
- 1.3.2.3 Refer patients for further specialised care, when appropriate
- 1.3.2.4 Educate and counsel patients regarding their clinical problems
- 1.3.2.5 Plan and provide appropriate follow up
- 1.3.2.6 Keep adequate clinical records of all practice activities
- 1.3.2.7 Effectively communicate with health care workers in verbal and written format

1.3.3 **Acquire new medicines information and critically evaluate their quality and utility:**

- 1.3.3.1 Access information using electronic and traditional methods
- 1.3.3.2 Engage in continuing professional development activities
- 1.3.3.3 Critically appraise the quality, relevance and utility of medicines information

1.3.4 **Function as an effective team member in the broad context of health care:**

- 1.3.4.1 Treat all health care workers with respect
- 1.3.4.2 Recognise the roles other health care workers play and consult appropriately
- 1.3.4.3 Effectively communicate with health care workers in verbal and written format
- 1.3.4.4 Provide leadership when called upon to do so
- 1.3.4.5 Maintain high ethical standards

1.3.5 **Advise patients, and the broader community, on matters pertaining to health promotion and disease prevention in the field of allergology:**

- 1.3.5.1 Educate patients regarding health promotion and disease prevention
- 1.3.5.2 Demonstrate an awareness of health promotion and disease prevention priorities and strategies

1.3.6 **Play an active role in training other health care workers in the field of allergology:**

- 1.3.6.1 Regularly participate in academic teaching activities
- 1.3.6.2 Regularly participate in academic meetings
- 1.3.6.3 Able to communicate health related information effectively to colleagues (eg in asthma education, allergy avoidance management plans, diets, cross reacting drugs and foods)

1.3.7 **Engage in research:**

Be able to design, conduct and report on studies involving all aspects of allergology. This includes pre-clinical research and clinical allergology

2.0…/

2.0 TRAINING IN ALLERGOLOGY

2.1 This document details the requirements of training required for persons wishing to register as Allergologists.

The public should be able to identify Allergologists as having obtained excellence, as a result of their sub-specialty training in academic institutions both within and outside the RSA.

The curriculum defining the knowledge an Allergologist is expected to demonstrate is contained in Appendix B. Recommended reading resources are listed in Appendix C.

2.2 **Guidelines for training in allergology as a sub-specialty**
A 2 year supervised training programme in allergology is required

Objective evidence should be obtained during the 2 year period of the candidates' ability to conduct the following

2.2.1 **Evaluation of allergy patients**

- An expert and focused history and clinical allergology evaluation. This would include the influence of allergic disease on other organ systems and a knowledge of local environmental factors
- The ability of the candidates to act with sensitivity and practice high ethical standards in handling difficult allergy problems, eg in the ICU, and in patients with terminal illnesses (eg septicaemia, AIDS). This would include explanation of risks and obtaining informed consent for procedures (eg drug allergy challenge or testing)
- The ability to educate patients and communicate effectively with patients and colleagues (eg nurses, asthma educators, dieticians, public health and occupational practitioners)
- Evidence should be obtained that the candidates can provide a high standard of medical care, have acquired sharp diagnostic accuracy and the ability to select and safely perform cost effective and focused allergy tests and investigations or evaluations (eg food or drug challenges).

2.2.2 **The practice of immunotherapy**

Candidates must gain experience and be fully competent in the selection and management of patients requiring subcutaneous and sublingual allergen immunotherapy, or rapid desensitisation (eg for inhalant, venom, insulin and drug allergies) in an outpatient and in an inpatient setting.

2.2.3 **Ability to practice within many medical disciplines**

The Allergologist should be familiar with the clinical context in which allergic diseases are likely to occur (eg paediatrics, anaesthesia, occupational settings, antibiotic therapy in ICU's, dental environment, difficult food allergies in the community, in forensic medicine (in cases of fatal anaphylaxis) and to assist practitioners in the diagnosis and management of allergic diseases in such contexts.

2.2.4 **Laboratory evaluation of allergy patients**

Allergologists should be trained in laboratory allergy diagnostic medicine to the extent that they would have a complete understanding of the role of the laboratory in allergy diagnosis, selection of appropriate tests based on regional allergens (food, drug and occupational) and aerobiological data and the interpretation and reporting of the results of such tests.

2.2.5 **Evaluation of lung function**

Allergologists would be fully competent in diagnosis and management of asthma and its differential diagnosis with competence in flow volume curves, office lung function tests, peak flow monitoring, exercise studies, chest x-rays, diary card monitoring, a knowledge of indications for bronchial and nasal provocation, histamine and methacholine challenges and the importance of referral to a pulmonologist in the absence of obstructive airways disease or atypical findings (eg for bronchoscopy, or for pH studies or reflux studies).

2.2.6…/

2.2.6 **Interpreting imaging techniques of sinuses**

Because nasal allergy is often linked to pathology of the paranasal sinus Allergologists should be trained to read CT scans of sinuses and to liaise with an ENT specialist, where indicated (eg osteomeatal complex disease, polyposis)

2.2.7 **Evaluation of adverse reactions to foods**

This includes training in history taking, a basic and regional knowledge of possible local food protein and additive exposure, cross reactivity of food allergens, differentiating Type I IgE allergies from food intolerance, the selection and conducting of double blind placebo controlled food challenges, or open food challenges, laboratory cut off values for 95% predictability for common food allergies, selection of non-IgE tests, eg basophil histamine or leukotriene release for the evaluation of cellular sensitivity to proteins or additives causing adverse reactions and access to data bases and information which will assist patients to avoid inadvertent exposure.

2.2.8 **Prevention and treatments of anaphylaxis**

A knowledge of all life threatening allergies (venom, drug, food, inhalation and injected routes) and the ability to advise on specific avoidance to prevent recurrent anaphylaxis. To gain experience in educating patients on how to recognise early signs of anaphylaxis and how to self-treat early, if exposed. The Allergologist could be called upon to serve as an expert witness in cases of fatal or near fatal anaphylaxis.

2.2.9 **Training in aerobiology and local allergological exposure/sampling**

The candidate would require knowledge of the use of the Burkard Spore trap, the interpretation of data obtained from pollen and fungal spore sampling and implications of aerobiological data for selection of vaccines and timing of immunotherapy. In addition a knowledge of the techniques for measuring house dust mite, pet and other antigen (eg latex) exposure and their avoidance (eg ELISA techniques, microscopy) is required.

2.2.10 **Knowledge of the global and local epidemiology of allergic diseases and provision of allergy services**

This applies particularly to Africa. This includes the effects of migration, tuberculosis, AIDS, urbanisation, immunisation, parasites and "adopting a Western life style" on the development and clinical expression of the allergic response. The effects of "context" or "habitat" on interpretation of the results of allergy tests (eg IgE) and measures being investigated, or legislated to limit inadvertent exposure to allergens (eg local food labelling laws or latex avoidance laws).

The Allergologist should be able to intelligently advise our requirements for allergy services at a primary care level, particularly in relation to screening tests (eg skin prick tests) and asthma education and to provide consultant support to practitioners who have the Diploma in Allergology of the College of Family Physicians of South Africa who are operating at a level of a regional hospital.

The specialist Allergologist would be trained in planning and delegating allergy services from the primary health clinic through to the tertiary (teaching) hospital and would have a clear understanding of services required at the 3 different levels, as outlined in the Strategic Health Plan Framework Document.

2.2.11 **Collaboration of disciplines for training of Allergologists**

Adequate training and broadening the scope of postgraduate students in allergology would require collaboration with the following specialities:

- Specialist Allergy Clinics at a Tertiary Hospital
- Epidemiologists
- Pulmonologists
- Dermatologists
- ENT surgeons
- Occupational Health Specialists
- Radiologists
- Primary Care Facilities
- Allergy Laboratory Services
- Allergy Clinics at a Regional Hospital
- Immunologists …/

- Immunologists
- Dieticians
- Food Scientists
- Pharmacologists
- Paediatricians
- ICU Specialists
- Adult Physicians
- Forensic Pathologists
- Aerobiologists

2.2.12 **Proposed arrangement for sub-specialisation in either paediatric allergology, adult allergology or both**

Candidates will choose to follow either a paediatric track or an adult track depending on their primary specialist qualification. Provision may also be made for Allergologists to treat both adults and children (in the field of allergology) as a specialist, if they have received training and have accepted competence in both the adult and paediatric tracks. Subspecialists in Allergology who enter from the Family Practice stream should spend equal time in paediatric and adult allergy clinical training modules.

This would be important particularly in the early years of the sub-specialty when sub-specialist Allergologists are few and may need to provide services in allergy diagnosis and management across the age spectrum, in a region or province. A precedent has been set for special permission given for provision of services across the traditional adult/paediatric age boundary, where sub-specialists in a region are rare.

Such permission would be given upon special recommendation by a faculty to the HPCSA depending on special circumstances of the candidate and the services required in a particular region.

2.2.13 **Examination of candidates in allergology**

Ongoing evaluation of candidates will be undertaken by registered Allergologists in units accredited by the Health Professions Council of South Africa. Such evaluation will be documented in prescribed format (Appendix D) and presented to the CMSA before the final examination.

2.2.14 **Summary of the examination components**

- Semi-quantitative in house evaluation
- In course evaluation of ability to conduct research
- An end of course written exam, clinical cases and an oral examination (see Appendix E)

A P P E N D I X A (1)

1.0 ADMISSION AS A CERTIFICANT

1.1 The candidate having passed the examination and having been admitted as a Certificant in Allergology of the College of Physicians of South Africa, will be asked to sign a declaration, as under:

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 Founder, Associate Founder, Fellow, Member, Diplomate or Commissioner of Oaths)

1.2 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 Certificate

1.3 A Certificant shall be entitled to the appropriate form of certificate under the seal of the CMSA

1.4 In the event of a candidate not being awarded the Certificate (after having passed the examination) the examination fee shall be refunded in full

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

A P P E N D I X B

SYLLABUS/CURRICULUM

1.0 GENERAL CONCEPTS / BASIC SCIENCES

1.1 **Definition of Allergy, Atopy, Hypersensitivity, Intolerance.**
- 1.1.1 World Allergy Organization Guidelines on "What is an Allergist".
- 1.1.2 World Allergy Organization "Requirements for Physician Training in Allergy 2006"

1.2 **The Genetics of Allergic Disease, Asthma and the Allergic March**
Eg Beta2 receptor polymorphisms, genes linked to allergic cytokines, asthma and steroid receptor genes.

1.3 **Environmental Factors and Allergic Disease**
- 1.3.1 Allergen Nomenclature (biology, molecular biology of the major allergens [food, drug, aeroallergens], geographical distribution, cross-reactivity).
- 1.3.2 Indigenous allergens in Southern Africa (Environmental Exposure):
  - 1.3.2.1 Indoor (eg house dust mites, cockroach, fungal, pets, latex, laboratory animals)
  - 1.3.2.2 Outdoor (eg aeroallergens, fungal spores)
  - 1.3.2.3 Pollutants (eg sulphur dioxide emissions)
  - 1.3.2.4 Adjuvants
  - 1.3.2.5 Aero biology / pollen monitoring
  - 1.3.2.6 Allergen sampling (Burkard)
- 1.3.3 Allergen vaccine, production, standardisation, biological units, protocols, routes of administration, potency, shelf life, storage and regulatory approval for importation.

1.4 **Immunology and Biochemistry of Allergic Disease**
- 1.4.1 Anatomy and normal physiology and function of the immune system
- 1.4.2 The developing immune system and allergy
- 1.4.3 IgE regulation: Specific IgE responses
- 1.4.4 Cytokine and Chemokine regulation of the immune response (IL4. IL5, IL10, TGFβ, IL13, □IFN)
- 1.4.5 T-cells and allergy (TH1, TH2, Modified TH2 response, Regulatory CD25, T cells)
- 1.4.6 Early and late phase reactions
- 1.4.7 The biology of mast cells, secretagogues and mediators
- 1.4.8 Immunoglobulins, IgG, IgM, IgA. Synthesis/half life
- 1.4.9 Complement system (C1 esterase inhibitor, C4)
- 1.4.10 Mouse models of allergies (knock out mice)
- 1.4.11 Biology of histamine
- 1.4.12 Diurnal variations of corticosteroids and catecholamines
- 1.4.13 Laboratory tests available to measure cytokines, chemokines and mediators.

1.5 **Pharmacology / Pharmacokinetics**
- 1.5.1 Antihistamines (old and new generation)
- 1.5.2 Corticosteroids (different types: topical, oral, inhaled, intranasal, systemic, new steroids [eg ciclesonide, Momethazone])
- 1.5.3 Beta-2 agonists (SABA, LABA, Ultra LABA)
- 1.5.4 Anticholinergics
- 1.5.5 Leukotriene synthesis modifiers and leukotriene receptor antagonists
- 1.5.6 Anti-IgE
- 1.5.7 Theophyllines
- 1.5.8 Adrenaline (biology, half life, correct usage)
- 1.5.9 Combination therapy (corticosteroids + LABA, Corticosteroid + LTRAs)
- 1.5.10 Dosing in the young (drugs registered for paediatrics versus off label usage)
- 1.5.11 HFA vs CFA / spacers / delivery
- 1.5.12 New drugs for allergies (eg recombinant molecules, genetically modified molecules, monoclonal antibodies)
- 1.5.13 Calcineurin inhibitors (eg Pimecrolimus, Tacrolimus)
- 1.5.14 Immunosuppressants (eg cyclosporine, methotrexate)
- 1.5.15 Bradykinin receptor antagonists (eg. Icatibant)

1.6 **Strategies for Prevention of Allergy**
- 1.6.1 Identification of high-risk infants
- 1.6.2 Primary prevention
- 1.6.3 Secondary prevention / Avoidance of exposure
- 1.6.4 Allergy in pregnancy

1.7 **Immunotherapy**
- 1.7.1 History and objectives
- 1.7.2 Types of immunotherapy:
  - Subcutaneous injection (SIT)
  - Sublingual (SLIT)
  - Peptide
  - Recombinant
- 1.7.3 Mechanisms: SIT/SLIT
- 1.7.4
  - Indications and contra-indications
  - Available vaccines
  - Vaccines relevant in the RSA
- 1.7.5
  - Practical aspects
  - Regulatory considerations
  - Protocols
- 1.7.6 Risk and precautions
- 1.7.7 Duration
- 1.7.8 Follow up
  - Quality of life

1.8 **Psychosocial effects on allergy**
- 1.8.1 Epidemiology of allergic diseases in South Africa
- 1.8.2 Hygiene hypothesis
- 1.8.3 Effects of affluence
- 1.8.4 Family size
- 1.8.5 Obesity
- 1.8.6 Créche exposure
- 1.8.7 Influence of viral infections
- 1.8.8 Allergic disease and quality of life

2.0 CLINICAL DISEASES

2.1 **Asthma**
- 2.1.1 Epidemiology:
  - ISAAC and Adult Global
  - South African Asthma Epidemiology
- 2.1.2 Aetiology/genetics
- 2.1.3 Pathophysiology
- 2.1.4 Allergy investigations
- 2.1.5 Lung functions / small airways
- 2.1.6 Diagnosis and clinical manifestations at different ages
- 2.1.7 Differential diagnosis
- 2.1.8 Prevention and therapeutic approach
- 2.1.9 GINA Guidelines and National Guidelines
- 2.1.10 Asthma control
- 2.1.11 Prognosis and risk factors for severe asthma
- 2.1.12 Special situations in asthma:
  - Occupational
  - Asthma under the age of 5
  - Aspirin induced
  - Immunotherapy and asthma
  - United airway concept
  - Pregnancy
  - Difficult asthma
- 2.1.13 Approach to chronic cough

2.2 **Allergic Rhinitis**
Non Allergic, Vasomotor

NARES (non allergic rhinitis with eosinophilia)

2.2.1 Epidemiology
2.2.2 Aetiology/ genetics
2.2.3 Pathophysiology
2.2.4 Diagnosis and clinical manifestations and differential diagnosis
2.2.5 Prevention and therapeutic approach (National Guidelines, ARIA Guidelines, monosensitive versus polysensitive, nasal cytology, rhinometry)
2.2.6 Prognosis

2.3 **Sinusitis**

2.3.1 Epidemiology:
- Acute
- Chronic

2.3.2 Aetiology/ Association with allergy
2.3.3 Pathophysiology and organisms
2.3.4 Diagnosis and clinical manifestations in young children and in older subjects. CT scanning
2.3.5 Prevention and therapeutic approach.
- Medical/Surgical referral criteria
- Duration of treatment
- Antibiotic recommendations

2.3.6 Complications

2.4 **Nasal Polyposis**

2.4.1 Pathophysiology and aetiology
2.4.2 Diagnosis and clinical manifestations: Association with Aspirin sensitivity
2.4.3 Therapeutic approaches:
- Medical
- Surgical referral indications
- Desensitisation

2.4.4 Prognosis

2.5 **Food Allergy**

2.5.1 Nomenclature and definitions of adverse reactions to food (allergy, intolerance, toxic, aversion)
2.5.2 Classification:
- IgE mediated
- Non IgE mediated

2.5.3 Epidemiology
2.5.4 Aetiology / major allergens:
- Stable versus unstable allergens
- Cross-reacting allergens
- Major food families
- Profilins

2.5.5 Pathophysiology
2.5.6 Diagnosis and clinical manifestations
- Anaphylaxis / Angioedema
- Eczema
- Elimination diets
- Skin prick tests
- Recombinant allergens
- RASTs
- Cut off values
- Open challenges
- Double blind placebo controlled food challenges

2.5.7 Specific Syndromes:
- Eosinophilic oesophagitis
- Oral allergy syndrome
- Latex/ Food allergy syndrome

2.5.8 Prevention and therapeutic approaches

2.5.9…/

2.5.9 Prognosis
2.5.10 When to re-challenge (guided by in vitro or skin prick test cut off values)
2.5.11 Genetically modified foods
2.5.12 Common food additives and preservatives
2.5.13 South African food labelling laws

2.6 **Atopic Eczema (Dermatitis)**
2.6.1 Epidemiology: Prevalence
2.6.2 Aetiology / genetics: Adults vs Children
2.6.3 Pathophysiology:
- Allergic March
- Histology

2.6.4 Diagnosis and clinical manifestations:
- Extensive
- Flexural
- Nummular
- Neurodermatitis

2.6.5 Prevention and therapeutic approaches:
- Role of food/diet
- Topical steroids
- Calcineurin inhibitors

2.6.6 Prognosis

2.7 **Contact Dermatitis**
2.7.1 Epidemiology
2.7.2 Common contact allergens and sensitising agents
2.7.3 Pathophysiology
2.7.4 Diagnosis and clinical manifestations (including differential diagnosis with eczema): Role of patch testing
2.7.5 Prevention and therapeutic approach:
- Wet wraps
- Emollients
- Topical steroids

2.7.6 Prognosis
2.7.7 Referral to a Dermatologist (UVB, biopsy immunosuppressants)

2.8 **Urticaria**
2.8.1 Classification:
- Acute
- Intermittent
- Chronic

2.8.2 Aetiology:
- Physical
- Allergic
- Food additive induced
- Autoimmune
- Idiopathic

2.8.3 Pathophysiology
2.8.4 Diagnosis and clinical manifestations (including differential diagnosis):
- Including elimination diet
- Autoantibody to IgE receptor

2.8.5 Prevention and therapeutic approach (eg. anti IgE antibodies)
2.8.6 Prognosis

2.9 **Papular Urticaria and other insect bites**
2.9.1 Epidemiology
2.9.2 Pathophysiology
2.9.3 Diagnosis and clinical manifestations (including differential diagnosis)
2.9.4 Prevention and therapeutic approach
2.9.5 Prognosis

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2.10 **Angioedema**

2.10.1 Epidemiology

2.10.2 Classification:
- Hereditary
- Drug induced (eg ACE inhibitors)
- Food additive induced
- Idiopathic

2.10.3 Pathophysiology

2.10.4 Diagnosis and clinical manifestations (including differential diagnosis)

2.10.5 Prevention and therapeutic approach:
- Management of life threatening angioedemas
- Use of Danazol, EACA, use of concentrates (eg Berinert)

2.10.6 Prognosis and long term follow up

2.11 **Allergic Eye Diseases**

2.11.1 Epidemiology

2.11.2 Classification:
- Allergen
- Vernal conjunctivitis
- Contact lens
- Chemical (eg Benzalkonium chloride)

2.11.3 Pathophysiology

2.11.4 Diagnosis and clinical manifestations (including differential diagnosis)

2.11.5 Prevention and therapeutic approach

2.11.6 Prognosis

2.12 **Drug Allergy**

2.12.1 Epidemiology:
- In general population
- In high risk subjects (AlDS, cystic fibrosis)

2.12.2 Aetiology/ genetics

2.12.3 Pathophysiology

2.12.4 Diagnosis and clinical manifestations:
- Drug allergy testing (controlled titrated skin prick testing, in vitro tests and controlled drug challenges)

2.12.5 Prevention and therapeutic options including desensitisation / Medic Alert

2.12.6 Prognosis

2.12.7 Reporting of adverse drug events

2.13 **Latex Allergy**

2.13.1 Epidemiology.

2.13.2 Aetiology:
- Health care workers
- Spina Bifida cases

2.13.3 Pathophysiology

2.13.4 Diagnosis and clinical manifestations

2.13.5 Prevention

2.13.6 Occupational health aspects and notification

2.13.7 Development of hospital latex policies and latex free environments

2.13.8 Prognosis and containing the epidemic

2.14 **Anaphylaxis**

2.14.1 Epidemiology

2.14.2 Aetiology:
- Allergic, Idiopathic, exercise induced
- Determination of serum tryptase levels

2.14.3 Pathophysiology

2.14.4 Diagnosis and clinical manifestations

2.14.5 Prevention and therapeutic approach: Correct use of Adrenaline

2.14.6 Education and prognosis

2.14.7 Resuscitation of anaphylaxis

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2.15 **Occupational Asthma and Allergies**
- 2.15.1 Epidemiology
- 2.15.2 Aetiology: Allergic/ irritant
- 2.15.3 Diagnosis and monitoring
- 2.15.4 Notification: The Occupational Health Act/ COIDA
- 2.15.5 Compensation process
- 2.15.6 Prevention and management

2.16 **Allergies of the Gastrointestinal Tract**
- 2.16.1 Oral allergy syndrome
- 2.16.2 Allergic / eosinophilic oesophagitis / gastroenteropathy
- 2.16.3 Milk induced enterocolitis
- 2.16.4 Food intolerances
- 2.16.5 Allergic colitis
- 2.16.6 Gastro oesophageal flux

2.17 **Miscellaneous Allergic / immunological Diseases**
- 2.17.1 Mastocytosis
- 2.17.2 immune deficiency disorders:
  - IgG deficiency
  - IgG subclass deficiency
  - C1 esterase inhibitor deficiency
  - C6 deficiency
- 2.17.3 Hyper IgE syndrome
- 2.17.4 Hyper IgM syndrome
- 2.17.5 Allergy in HIV and AIDS
- 2.17.6 Allergy to vaccines
- 2.17.7 MCAS (Mast Cell Activation Syndrome)

2.18 **Special Consideration in Allergy and Asthma**
- 2.18.1 Pregnancy
- 2.18.2 Infancy, especially milk allergies, substitutes and natural history

2.19 **Future Therapies**
- 2.19.1 Therapy directed against mediators
- 2.19.2 Gene therapy
- 2.19.3 Immunomodulation

3.0 ALLERGY EVALUATION AND DIAGNOSTIC PROCEDURES

3.1 **History Taking in Allergy**

3.2 **Physical Examination**

3.3 **Pulmonary Function Testing**
- 3.3.1 Static lung volumes
  - Spirometry
- 3.3.2 Flow and timed volume
  - Peak expiratory flow
  - Forced expiratory volumes
  - Maximal expiratory flow volume curve
- 3.3.3 Airway responsiveness
  - Bronchodilator response test
  - Bronchoprovocation (challenge testing)
  - Exercise testing
- 3.3.4 Interpretation of pulmonary function tests

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3.4 **Airway Inflammation**
- 3.4.1 Fractional exhaled nitric oxide
- 3.4.2 Inflammatory markers in induced sputum and serum (ECP, IL-5, Tryptase, etc)
- 3.4.3 Urinary leukotrienes
- 3.4.4 Determination of leukotrienes in exhaled breath condensates

3.5 **Nasal Cytological Examination**
- 3.5.1 Examination of nasal cavity (head lamp)
- 3.5.2 Sampling technique and processing of nasal specimen (blowing, swab, lavage, scrapings)
- 3.5.3 Fixation and staining (for eosinophils and neutrophils, eg Hansels stain)
- 3.5.4 Microscopic examination (in collaboration with Haematology laboratory)

3.6 **Laboratory / Diagnostic Studies**
- 3.6.1 Sensitivity, specificity, positive and negative predictive values
- 3.6.2 Phadiatope, Fx5E
- 3.6.3 CAST testing (sulphido leukotriene release assays)
- 3.6.4 Skin-prick testing
- 3.6.5 Atopy patch test
- 3.6.6. Induced sputum
- 3.6.7 Oximetry
- 3.6.8 Audiometry
- 3.6.9 Micro array techniques (new)
- 3.6.10 IgE (Immunocap), Total IgE
- 3.6.11 Serum tryptase
- 3.6.12 Western blotting / dot blotting
- 3.6.13 Basophil histamine release tests
- 3.6.14 Staining for eosinophils and application of eosinophilic cationic protein in nasal smears, sputum
- 3.6.15 C1 esterase inhibitor functional and antigenic assays
- 3.6.16 Reference values, co-efficient of variation, quality control of the allergy laboratory
- 3.6.17 Indication for referral for bronchoscopy in asthmatics
- 3.6.18 ISAC Microchip Allergen Array tests

3.7 **Elimination-Challenge Testing in Food Allergy**
- 3.7.1 Basic elimination diet
- 3.7.2 Open challenges
- 3.7.3 Single-blind challenges
- 3.7.4 Open challenges
- 3.7.5 Double blind placebo controlled food allergy challenges (DBPCFC)

3.8 **Evaluation of Drug Allergy**
- 3.8.1 Clinical:
  - Allergic (Type l)
  - Other adverse reactions
- 3.8.2 In vitro tests (IgE, CAST, flow CAST)
- 3.8.3 In vivo tests (skin prick titrated tests)
- 3.8.4 Ancillary tests (controlled challenges)

3.9 **Desensitisation for Drug Allergy (Protocols)**
- 3.9.1 Antimicrobials (eg Penicillin, Cephalosporin, Trimethoprim)
- 3.9.2 NSAID's (Aspirin)
- 3.9.3 Immunosuppressive agents
- 3.9.4 Insulin
- 3.9.5 Miscellaneous (other drugs)

3.10 **Imaging**
- 3.10.1 X-ray studies
- 3.10.2 Computed tomography (CT scan) and limited CT scans
- 3.10.3 Ultrasonography
- 3.10.4 Nuclear medicine

3.11…/

3.11 **Quality of life in allergic diseases**

3.11.1 Rhinitis
3.11.2 Atopic eczema
3.11.3 Chronic urticaria
3.11.4 Asthma
3.11.5 Food allergy

The use of validated specific quality of life indices (eg Juniper for Rhinitis or SF36) in assessment and monitoring of allergic interventions in the above diseases

4.0 RESEARCH METHODS

4.1 Basic statistics: Parametric / Non parametric tests
4.2 Research design, protocol development and computer literacy: Use of medical search engines
4.3 Clinical audits / Record keeping / Allergy databases
4.4 Clinical trials/ GCP
4.5 Evidence- based methods / Levels of evidence / Cochrane database
4.6 How to write a paper: The candidate would be expected to conduct a literature review, design and conduct a self-initiated supervised allergy research project during the 2-year training period, analyse the results, presentation of work at a congress and to submit the research for publication.

5.0 PLANNING NATURAL AND REGIONAL SERVICES IN ALLERGY

5.1 Primary health care
5.2 Secondary or regional hospitals
5.3 Tertiary services in allergy
5.4 Education in allergy (undergraduate and postgraduate)
5.5 Good allergy practice

A P P E N D I X C

RECOMMENDED READING

1.0 General textbooks:

1.1 Principles and Practice of Allergy (Middleton E)
1.2 Essential Immunology (Roitt K)
1.3 Allergy (Kaplan)
1.4 The ALLSA Handbook of Allergy (3rd Edition)
1.5 Drug Allergy (D Vervloet, M Pradel)
1.6 Manual of Allergy, 3rd Edition (Lawler, Fischer, Adelman)
1.7 Asthma and Rhinitis (Busse, Holgate)
1.8 Atlas of Allergy (Fineman, Slavin)
1.9 Occupational Asthma (Bardena, Montanaro, O'Hollaren)
1.10 Pollinosis: A Global Approach (Amato, Bonini)
1.11 Paediatric Allergy (Warner)
1.12 Cutaneous Allergy (Charlesworth)
1.13 Allergy, 3rd Edition, 2006 (Holgate, Church, Lichtenstein)

2.0 Reviews and seminal articles in leading medical and allergology journals:

2.1 The Journal of Allergy and Clinical Immunology
2.2 Clinical and Experimental Allergy (UK)
2.3 Allergy (Europe)
2.4 Annals of Allergy and Clinical Immunology (USA)
2.5 Paediatric Allergy and Immunology (UK)
2.6 International Archives of Allergy and Immunology
2.7 Journal of the World Allergy Organisation (WAO)
2.8 Current Allergy and Clinical Immunology (RSA)
2.9 The New England Journal of Medicine
2.10 The Lancet
2.11 Journal of Allergy and Clinical Immunology In Practice

3.0 The Allergy Society of South Africa Resource Centre Library

The ALLSA Resource Centre Library (3 Kotze Street, Observatory, 7924; Phone : (021) 447-9019) is an additional training resource available to trainees in allergology in the Western Cape.

This resource centre subscribes to all the major international allergy journals and to national allergy journals. It has a video/DVD library in allergy and subscribes to the ongoing postgraduate allergy training programme of the "Current Views in Allergy and Immunology", School of Medicine Medical College of Georgia.

JOHANNESBURG
June 2017

A P P E N D I X D

IN COURSE EVALUATION FOR ALLERGOLOGISTS IN TRAINING

(This form must be completed by the head of the approved allergology training unit in which the candidate receives training. Please complete in writing (not typed) and initial each item. The completed form must be submitted to the CMSA with the candidate's application for registration)

Name of candidate: …….

Primary specialty: …….....

Date of HPCSA registration of primary specialty: …….

Academic training unit: ……..

Commencement of allergology training (day/month/year): ……

Supervising Allergologists/Specialists: ……..

SIX MONTHLY REVIEWS

Please indicate the dates for every review period. Rate the candidate's ability for the first 6 items as inadequate, adequate, or excellent.

1.0 Overall Assessment of Candidate

	6 months	12 Months	18 Months	24 Months
1.1 Theoretical knowledge of allergology 1.2 Clinical skills: • Diagnostic evaluation • Interventional procedures • Therapeutic decision making 1.3 Maintenance of good ethical standards and an empathetic approach to patients 1.4 Interpretation of laboratory and in vitro allergy tests 1.5 Ability to perform and interpret lung function 1.6 Experience in immunotherapy				
Signature:				

2.0 Specific outcomes

	6 months	12 Months	18 Months	24 Months
2.1 **Allergy cases seen** • Supervised in Allergy Clinic • Supervised in Hospital Wards • Supervised in ICU • Supervised in Primary Care /Occupational • Unsupervised in Allergy Clinic • Unsupervised in Hospital Wards • Unsupervised in ICU • Unsupervised in Primary Care /Occupational 2.2 **Lung function tests** • Flow volume curves • Exercise studies • Histamine, methacholine or allergen challenge • Exhaled NO 2.3 **Laboratory experience** • IgE/RAST tests • CAST tests • Mast cell tryptase • Western blot • Auto antibody to IgE receptor • Aero allergen identification • Environmental sampling (ELISA) 2.4 **Practical procedures** • Evaluation of drug allergy • Titrated skin prick testing (drug, latex or food) • Double blind placebo controlled food challenges • Open food challenges • SLIT • SCIT • Food patch tests • Drug challenge tests • Drug skin tests 2.5 **Allergology education** • To nurses • To patients • To policy makers with hospital(eg latex) • To medical students / colleagues • Food industry / national health authorities • To public 2.6 **Organ specific training** • Time in Dermatology • Time in ENT Clinics • Time in Occupational Health Clinics • Time in rheumatology • Direct intervention with Dieticians • Interactions with the Food industry • Respiratory clinics • Pharmacology • ICU				
Signature:				

	6 months	12 Months	18 Months	24 Months
2.7 Immunology • Basic immunology • Primary immunodeficiency clinics • PID laboratory investigations **2.8 Aerobiology** • Aerobiology laboratory • Pollen monitoring • Allergen identification **2.9 Occupational allergy** • Occupational allergy clinic • Occupational health and safety laws • Latex allergy • Bakers asthma **2.10 Adolescent and adult allergy** • GSH allergy clinic • Complement deficiencies • Allergies and asthma in pregnancy • Allergies and asthma in elderly • Aspirin hypersensitivity • Antibiotic allergy • Anaesthetic allergy **2.11 Private practice training** • ADCRU clinics **2.12 GIT / food allergy** • IgE mediated food allergy • Non IgE mediated food allergy **2.13 Drug allergy** • Drug allergy **2.14 Paediatric allergy** Food challenges				
Signature:				

EXAMINATIONS

State formal tests/examinations completed (name, date, nature, result): …….
……

……

……

RESEARCH EXPERIENCE

State number of presentations delivered:

Local	
National	
International	

Publications:…/

Publications:

Local	
National	
International	

Research: Awards	
Projects: In progress	
Projects: Completed	

Provide a brief outline (one paragraph) as an annexure on A4 paper. Indicate clearly the candidate's role in the project/s.

HEAD OF TRAINING ALLERGOLOGY UNIT

I endorse that the above details correctly reflect the assessment of this candidate by a specialist Allergologist of this unit:

Name: ……

Date: ……..…

JOHANNESBURG
June 2017

A P P E N D I X E

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 PORTFOLIO

2.1 A portfolio/logbook is a mandatory requirement for entry to the examination

2.2 The portfolio for the sub-specialty is available on the CMSA website

2.3 The portfolio includes six-monthly formative assessments (as a minimum) made by the supervisor/divisional head, which is be 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 Portfolios are viewed by the HOD and satisfactory performance must be indicated in their letter to the CMSA

3.0 EXAMINATION CONVENORS

3.1 A list of potential convenors will be provided by the College of Physicians (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…/

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 FCP(SA) Part II examiner selection process

5.10 Whenever possible the same examiner should not be involved in a Certificate examination and a FCP(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 FCP(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 3 'stations

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…/

11.0 TIMING OF ORAL/OSCE/CLINICAL EXAMINATIONS

11.1 The examination will be held in the same week as the FCP(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

JOHANNESBURG
June 2017