

GHANA POSTGRADUATE MEDICAL COLLEGE

FACULTY OF DENTAL SURGERY

**CURRICULUM FOR THE TRAINING OF FELLOWS IN
DENTAL SURGERY OF THE GHANA POSTGRADUATE MEDICAL COLLEGE**

PANEL OF CONSULTANTS

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FELLOWSHIP OF THE GHANA COLLEGE OF PHYSICIANS AND SURGEONS IN DENTAL SURGERY

TRAINING PHILOSOPHY

There is a serious shortage of highly trained Consultant Dental Surgeons (Fellows) capable of leading the future development of Dentistry and Health Service Management in the country both in terms of service delivery and teaching and research.

Also a large percentage of Ghanaians live in rural settings where modern health facilities may not be readily available hence there is the need to train within a period of 3 years, a Junior Specialist capable of carrying out both general dental practice and also be fairly proficient in a sub-specialty of his or her choice within dentistry (Membership).

OBJECTIVES

The residency programme is designed to train specialists in the various aspects of Dentistry who at the end of their training will be able to:

Provide specialized dental services and to design solution for clinical problems which arise in the course of patient management.

Participate in the teaching of the subjects of his/her specialization.

Play an active role in research.

Offer adequate management and professional leadership in their roles as Consultant dental Surgeon.

Capable of leadership role within the Health Service In Ghana .

ADMISSION REQUIREMENTS

Admission into the Residency Training Programme is open to all Dental Surgeons registered with the Ghana Medical and Dental Council.

Applicants should have completed internship postings and have sat and passed the Part I Examination of the Ghana College of Physicians and Surgeons(GCPS) or equivalent (WACS) are eligible to apply and interviewed before being admitted into the College.

DURATION OF RESIDENCY PROGRAMME

The duration of the Residency Training Programme is as follows:

Membership Programme:

i. Junior Residency - 36 months: Part II Examination

Fellowship Programme following successful attainment of Membership

iii. Senior Residency - 24-30 months: Part III Examination

MEMBERSHIP IN DENTAL SURGERY COURSES

PRIMARY FELLOWSHIP COURSE (PART I EXAMINATION SYLLABUS)

A course in Applied Basic Sciences including the following :

Oral Biology

The development, structure, composition and properties of dental and oral tissues.

The development of the face including the palate, jaws, salivary glands and tongue.

The growth of the bones of the face and skull.

The morphology, relationships, nerve supply, blood supply and lymphatic drainage of the teeth.

The action, attachments and nerve supply of the muscles of the mouth and related regions.

The secretion, properties, compositions and functions of saliva.

Age changes of the teeth and jaws, and their integument.

The processes of mastication, occlusion, swallowing and speech.

Sensations including taste and proprioception arising from the oral structures.

The role of diet, hormones, vitamins and trace elements in the development and maintenance of the oral tissues.

The biochemical basis of periodontal disease and dental caries.

General Anatomy

General anatomy with emphasis on head and neck anatomy.

The morphology, histology and relationships of the extra-cranial structures of the head and neck.

The general organization of the central nervous system emphasizing the central connections of the cranial nerves.

The meninges and the venous sinuses in the cranial cavity.

The organization and topography of the autonomic system as related to structures of the head and neck.

The main arterial supply to and venous drainage from the brain.

Topographical anatomy of the thoracic wall and thoracic viscera.

The general disposition of the gastrointestinal tract, liver, spleen, kidney and adrenals.

The disposition and function of the vertebrae.

The histology of the human organs and tissues of the thorax and abdomen to the extent of recognizing these organs in histological sections.

Physiology , Biochemistry and Applied Pharmacology.

The physiology of the blood and cardiovascular system, including temperature regulation.

The function of the kidney, acid base balance, regulations of body fluids.

Respiration, especially ventilation and gaseous exchange.

Digestion, absorption, liver function.

The principles of nutrition; protein, carbohydrate and lipid metabolism.

The action and control of endocrine secretions especially those concerned with growth, glucose and calcium metabolism and stress.

The biochemical composition and properties of extracellular connective tissue components.

Cellular control mechanisms at the molecular level including DNA replication, messenger RNA transcription and protein synthesis.

The function of the nervous system with particular emphasis on reflexes, neuromuscular control and pain perception.

Basic knowledge of the special senses

Endocrine and nervous control of the human body systems

Physiological and pharmacological principles of drugs used in anaesthesia

Antibiotics and chemotherapeutic drugs

Drug interactions within the human body

Pathology and Microbiology

The principle of pathological processes and mechanisms, such as inflammation, neoplasia, wound healing, immunology and immunopathology.

Carcinogenesis, tumour spread and effects of neoplasms on the host.

Hyperplasia, hypertrophy, dysplasia, atrophy and metaplasia of tissues.

Respiratory diseases especially tuberculosis and pneumonia.

Haematology – diseases of red and white blood cells, platelets and clotting mechanisms, blood groups and the hazards of blood transfusion.

Pathology of bone and joint disease.

Cardiovascular disease with special emphasis on congenital defects, infective endocarditis and atheroma.

The basic properties of micro-organisms and their mechanisms of pathogenicity.
 Disinfection and sterilization. The spread of infectious diseases in dentistry.
 The pathogenesis of HIV infection.

PART I EXAMINATION (BASIC MEDICAL SCIENCES)

The examination consists of a 2 hour Multiple Choice Questions in the basic science subjects as outlined above.

The pass mark is 50%

MEMBERSHIP IN DENTAL SURGERY

(JUNIOR RESIDENCY PROGRAMME AND COURSES)

Upon successful completion of the Part I Examination, the resident is admitted into the Junior Residency Programme leading to the Part II Membership Examination . The minimum duration of this programme is twenty-four months. During this period, each resident rotates through the following clinical postings / rotations.

GEN. MEDICINE	4 Weeks
GEN. SURGERY	4 Weeks
GENERAL ANAESTHESIA	4 Weeks
ENT <u>or</u> OPHTHALMOLOGY <u>or</u> PLASTIC SURGERY <u>or</u> PAEDIATRICS	<u>4 Weeks</u>
	16 Weeks
	(4-Months)

OTHER DENTAL SUB-SPECIALTIES..... 2 MONTHS EACH = 8 Months

- Dept. of Restorative Dentistry (Prosthodontics, Conservative, Endo)*
- Orthodontics and Paedodontics*
- Oral Pathology / Oral Medicine/ Oral Diagnosis*
- Oral and Maxillofacial Surgery*
- Community Dentistry/Periodontology*

Written Evidence of completion these clinical rotations shall be submitted for vetting before being admitted to take the Part II examinations.

CANDIDATE’S CHOSEN SPECIALTY.....	TOTAL
	24-30 Months

NOTE: ALL JUNIOR RESIDENTS ARE REQUIRED TO FILL OUT LOG BOOK
 EACH RESIDENT IS REQUIRED TO BE MORE PROFICIENT IN HIS/HER AREA OF SPECIALIZATION . THE LOG BOOK SHOULD THEREFORE REFLECT THE GREATER SKILLS LEARNT ABOVE THE GENERAL MINIMAL REQUIREMENTS STATED FOR THE 2 MONTHS PERIODS SPENT IN SPECIALTY AREAS OTHER THAN THE CANDIDATES CHOSEN SPECIALTY.

JUNIOR RESIDENCY ROTATIONS IN ORAL AND MAXILLOFACIAL SURGERY, ORAL PATHOLOGY ,ORAL MEDICINE,AND ORAL RADIOLOGY.

Objectives

This Rotation provides the resident in Oral Surgery with the basic surgical skills. The resident acquires an in-depth knowledge of the pathophysiology of diseases affecting the head and neck.

The resident is expected to attend the ff:

Out-patient clinics;

Theatre sessions;

Ward rounds;

Clinical pathology conferences;

The candidate shall keep a log book of all work done;

Didactic teaching in the form of lectures, seminars and journal club meetings.

LECTURE/SEMINAR TOPICS

TRAUMA

Soft-tissue injuries of the head and neck

Dental Injuries

Fractures of the facial bones and zygomatic complex

Maxillary, nasoethmoidal and orbital fractures

Ophthalmic injuries

Head injuries, the Glasgow coma scale, and the indications for surgical interventions.

The principles of management of chest, abdominal and limb injuries.

Blood and fluid replacement

Parenteral nutrition.

DENTOALVEOLAR SURGERY

The assessment, management and complications of:

Tooth extraction

Impacted and unerupted teeth

Jaw cysts, odontomes

Infections of the jaws and surrounding tissues

Preprosthetic surgery, including tissues

Endodontic surgery

MAXILLARY ANTRUM

Infections and tumours of the maxillary antrum:

Oro-antral fistula

ORAL MUCOSAL DISEASE

Disorders of Keratinization, ulcerative, vesiculobullous and premalignant Lesions

TEMPOROMANDIBULAR JOINT

Pain and dysfunction
Congenital and acquired abnormalities and their management

SALIVARY GLANDS

All disorders including tumours
The means of investigation
An understanding of operative treatment

ONCOLOGY

Oral Neoplasia:
Tumours of the oral cavity and jaws and associated tissues, including odontogenic tumours, oral squamous cell carcinoma and lymphomas
The principles of operative treatment of the above.
The principles of radiotherapy and chemotherapy and their effects on orofacial structures.

DEVELOPMENTAL ANOMALIES

Cleft lip and palate; head and neck deformity
The orthodontic, dental and surgical management of these patients

ORTHOGNATHIC SURGERY

Means of assessment, diagnosis and principles of treatment
Post-operative care and follow-up

ANAESTHESIA

Assessment for fitness for anaesthesia, including knowledge of normal and abnormal cardiovascular and respiratory signs.
The principles of premedication, anaesthetic and analgesic medication.

At the end of the rotation, the junior resident should be able to:

1. Understand the basic scientific principles underlying every procedure in oral and maxillofacial surgery.
2. Be conversant with the practical steps for each surgical procedure.
3. Be aware of the general and specific indications of, as well as complications associated with each procedure.
4. Be conversant with surgical instruments, sutures and appliances employed in operative and post-operative care of surgical patients.
5. Describe satisfactorily the oral disease process usually encountered in professional dental practices in private or institutional situations.
6. Employ competently a systematic procedure for analyzing diagnostic data on oral diseases.

7. Recall correctly clinical, radiographic and microscopic features of oral diseases presented in the course.

The candidate should also be able to:

1. Take a comprehensive history and examine an oral surgery patient to arrive at a logical clinical impression or provisional diagnosis.
2. Carry out relevant investigations, both clinical and laboratory.
3. Remove surgically:-
 - a. gingival epulis
 - b. small cystic lesions
 - c. simple impacted 3rd molars
 - d. all residual tooth fragments indicated for extractions.
4. Carry out:-
 - a. incision and drainage of abscesses
 - b. closure of small oro-antral fistulae
 - c. frenectomies.
 - d. Reduction of T.M.J. dislocation manually.
 - e. Pre-prosthetic surgery including alveoloplasty.
5. Extract all teeth indicated for extraction under local or general anaesthesia.
6. Describe the pathophysiology of trauma, its haemodynamics and metabolic consequences.
7. Provide pre-operative management of surgical emergencies including initial investigations and resuscitation.
8. Treat **simple mandibular** fractures requiring closed reduction.
9. Describe the pathology, clinical features, diagnosis and management of orofacial infections.
10. Recognise and manage appropriately the basic types of oro-facial infections and wounds.
11. Carry out appropriate post-operative and follow-up care as well as rehabilitation of his patients.
12. Perform routine and special radiological investigations of the head and neck and interpret them.
13. be competent to surgically remove simple pathological lesions and cysts
14. Assess, maintain and refer major cases beyond his or her ability to the Consultant Specialist for attention

THE JUNIOR ORAL PATHOLOGY RESIDENT is also introduced to the protocol and procedures of General and oral pathology laboratories in handling of specimen received. These include procession, sectioning , staining , report writing and storage.

The Oral Pathology Resident should be able to

- a. understand and describe the pathology and pathophysiology of common oral lesions
- b. receive and process specimens sent to the pathology laboratory
- c. select and apply the appropriate stains

- d. assist in deciding the microscopic diagnosis of the prepared slides
- e. keep all records of work carried out during his or her posting in a log book which should be signed by an approved supervisor
- f. successfully processed a specified number of specimens

**ROTATIONS FOR THE ORAL PATHOLOGY RESIDENT
DURATION 24 MONTHS**

A.

Anatomical Pathology	9 Months
Oral and Maxillofacial Surgery	3 Months
General Radiology	3 Months
Laboratory Medicine	3 Months
Medicine (Dermatology)	3 Months

B.
Must attend these clinics on selected days throughout the 24 Months

- Oral Pathology**
- Oral Medicine**
- Oral Radiology**
- Oral Diagnosis.**

**RESTORATIVE DENTISTRY (CONSERVATIVE DENTISTRY,
PROSTHETICS AND PERIODONTOLOGY)**

At the end of this posting, the Residents should be able to manage common restorative dentistry cases with higher proficiency and more confidence than they did at the undergraduate level.

The programme at this level will provide each Resident with a broad academic background and a comprehensive clinical exposure to all aspects of Restorative Dentistry.

Each posting involves:

- Daily patient's clinic management.
- Weekly consultant teaching clinic.
- Didactic teaching in the form of seminars and journal club meetings.

LECTURE/SEMINAR TOPICS

Variation in the exposure to disciplines within the three specialty groups will result in candidates being stronger in some fields than in others. Examiners may make allowances for these differences.

1. Anatomy of the dentogingival junction with particular reference to clinical epithelial and connective tissue attachment levels.
2. Aetiology and pathogenesis of chronic marginal periodontitis with particular reference to the clinical, microbiological and immunological factors which distinguish adult periodontitis, juvenile periodontitis, post-juvenile periodontitis and rapidly progressive periodontitis.
3. Non-surgical and surgical periodontal treatment, including:
 - Instrumentation of root surface
 - Local drug delivery
 - Systemic drug delivery
 - Guided tissue regeneration
 - Longitudinal clinical studies
4. Epidemiology, aetiology and pathogenesis of caries with reference to smooth surface pit and fissure, enamel, dentine, coronal and root lesion.
5. Treatment methods of carious lesions with reference to preventive (Community and individual) and restorative techniques (cavity design and material selection).
6. Developmental anomalies of enamel and dentine, including ectodermal dysplasia amelogenesis and dentinogenesis imperfecta; aetiology, diagnosis and management.
7. Tooth tissue loss due to attrition, erosion and abrasion with reference to indices, diagnosis and treatment.
8. Pulpal health and disease states (histological and clinical), orthograde root canal treatment (debridement, preparation and obturation).
9. Surgical endodontics
10. Fixed and removable prosthodontics:
 - Development of Porcelain in Restorative Dentistry
 - Conventional retainer design for both fixed and removable prostheses
 - Current concepts of Resin-retained retainer design
 - Clasp and precision retained partial denture design
 - Principles of Complete dentures construction
 - Principles of Occlusion
 - Clinical and laboratory procedures in prosthodontics
 - Longitudinal clinical studies

11. Restorative dental materials and their physical properties and clinical application:

- Metal alloys; plastics
- Amalgams
- Composites
- Glass ionomers; cements
- Ceramics

OTHER AREAS

1. Observe and assist in cases involving Restorative / Surgical considerations
Implantology
Temporomandibular dysfunction and facial pain
The oncology patient, restorative problems and obturators
The trauma patient
Developmental and cleft problems
2. Restorative/orthodontic considerations
Splinting
Post periodontal disease-drifting
Oligodontia

RESTORATIVE SKILLS

The numbers indicated in the log books are the minimum requirement and candidates are encouraged to carry out as many other procedures to improve their skill in this discipline. Candidates are advised to consult the log book for further information regarding the format to be used.

Modern Restorative Techniques

1. Fixed & Removable Prosthodontics
2. Crowns
3. Bridges
4. Root-canal Treatments
 - Anterior teeth
 - Posterior teeth
5. Aesthetic Restorative
6. Minor Periodontal Surgery
 - Candidates should be conversant with all other Restorative procedures carried in the Department.
 - Candidates shall be expected to be fully conversant with Dental Laboratory procedures.

At the end of the posting in Restorative Dentistry, the Junior Resident should have satisfied the requirements including the following :

1. Anterior root fillings.
2. Posterior root fillings.
3. Basic Endodontic surgical techniques .
4. Metallic partial denture design; including surveying and designing.
5. Fabricate temporary acrylic partial denture ; Every design principles
6. Complete upper and lower dentures
7. Copy denture procedure
8. Overdentures and Precision appliances
9. Anterior jacket crowns, one of which must be porcelain fused to metal.
10. Metal crowns : gold or gold alternatives.
11. Porcelain Fused to Metallic bridges,
12. Resin bonded bridges
13. Composite and Porcelain laminate veneers

The Resident should also be able to :

14. Recognize the normal variations of form and functions of the teeth and jaws.
15. Appreciate the teeth and their soft tissue investment.
16. Understand the etiology and clinical features of periodontal diseases.
17. Recall the pathology, microbiology and immunology of inflammatory periodontal diseases.
18. Utilise the various periodontal indexes and epidemiology to assess periodontal diseases.
19. Diagnosis including radiology and treatment planning.
20. Treatment of gingival and periodontal diseases (surgical and non surgical methods)
21. Understand relevant therapeutics.
22. Understand the basis of occlusal rehabilitation.
23. Understand the fundamentals of dental implantology.
24. Maxillofacial prosthodontics / obturators

Residents are also encouraged to be familiar with all the dental laboratory aspects for the procedures.

JUNIOR RESIDENCY ROTATION IN ORTHODONTICS AND CHILD DENTAL HEALTH

The rotations in Orthodontics and Child Dental health run together .

The course comprises “clinical and diagnostic sessions”, lectures tutorials and seminars at an advanced level. A log book of work carried out should be kept for the examination purposes.

During this rotation, the resident will participate in the following clinics:

- Interceptive orthodontics clinics.
- Joint pediatric dentistry/orthodontic clinics.

- Multidisciplinary cleft/lip and palate clinics.
- Medically compromised children clinics.
- Craniofacial clinics.

The following topics will be treated in the form of lectures, seminars and journal clubs.

LECTURE/SEMINAR TOPICS

The genetic and environmental basis for defects and anomalies of:

- Tooth structure, setting, form, number
- The associated hard and soft tissues of the oral cavity
- Facial development
- The epidemiology, diagnosis and clinical management of caries and periodontal disease, including endodontics in the child.
- The diagnosis and management of traumatic injuries to the teeth and surrounding dento-alveolar structures, including the facial skeleton and associated soft tissues.
- The assessment and management of the medically compromised and handicapped child.
- The development of the occlusion both normal and abnormal including effects of soft tissue abnormalities.
- Diagnosis and treatment of patients with cleft lip and palate, to include the orthodontic and restorative management of such cases.
- The relationship between orthodontic treatment and orthognathic surgery in patients with severe malocclusions.
- The diagnosis, assessment and treatment of unerupted and supernumerary teeth.
- The restorative procedures and materials science applicable to patients with significant dental defects.
- The principles and practice of dent-alveolar surgery.

COMMUNITY DENTISTRY

AIMS AND OBJECTIVES

The programme in Preventive and Community dentistry is especially designed to assist those Residents preparing for the Fellowship examinations in Dental Surgery. The programme which has clinically and academic components will also enable residents to recognise and acquire the necessary personal and practical skills required to develop and carry out dental health policy and community schemes.

It is expected that at the end of the Junior Residency posting in community Dentistry, the resident should be able to:

1. Attain the minimum clinical and academic standard required for Community.

2. Assess oral disease levels and plan appropriate prevention and control programmes for the community in general.
3. Understand the organisation, delivery and financing of dental care programmes and have the skills necessary to evaluate them.

LECTURE/SEMINAR TOPICS

1. Principles of Public Health and Dental Public Health.
2. Health beliefs and health behaviour.
3. The concept of need, demand and utilisation of dental services.
4. Health promotion, including models of health education.
5. The Primary Health Care approach.
6. Prevention strategies.
7. Mechanisms of Fluoride action and the Public Health value of the commonly available methods of administering fluoride.
8. New theories on the aetiology of periodontal disease and how they differ from the previous theories. Implications of these new theories for planning oral health care services for a population.
9. Sugars and dental caries. Recommendations on public oral health messages and food policies.
10. Biostatistics: Review of commonly used statistical methods.
11. Review of dental epidemiology: uses, types of studies, measures of disease, criteria for survey methods, data collection and processing. Screening. Epidemiological indices.
12. Research methodology including ethical aspects of research on animals and humans, Protocol preparation, report writing, planning surveys, design and evaluation of clinical trials, examiner variability, calibration and reproducibility.
13. Computers and Dentistry:
Computing skills and information system.
14. Planning and evaluating dental services with reference to developing countries.
15. Dental manpower planning.
16. Quality assurance in community dental health; infection control.
17. AIDS and Hepatitis: Epidemiology, Public health significance and ethical considerations.
18. Oral cancer: public health aspects.

Hospital Management

Physically Handicapped Group

Team work is a central part of the programme and residents are constantly asked to find or read particular articles and to present their summary and opinions to the group. Materials and list of essential readings are provided at the beginning of the programme.

SENIOR RESIDENCY PROGRAMMES IN DENTISTRY

INTRODUCTION

This programme is designed to provide a thorough **advanced** training in the candidates chosen field of specialisation with the aim of preparing him or her for a career in senior specialty practice.

The Junior resident advances to the senior resident programme after successfully completing the Part 1 fellowship examination of the Ghana Postgraduate Medical College. This part of the training programme which takes a **minimum of 24 months**.

The Specialty areas involved are:

1. Oral and Maxillofacial Surgery.
2. Restorative Dentistry
 - o Conservative Dentistry & Endodontics
 - o Prosthodontics.
3. Periodontology
4. Child Dental Health / Paedodontics.
5. Orthodontics.
6. Community Dentistry.
7. Oral Pathology / Oral Medicine.

The Senior Resident is responsible directly to his consultant or head of department/unit and:

- a. Participates actively on the day-to-day running of the unit of his/her chosen area of specialization.
- b. Supervises Junior Residents and other members of the team.
- c. Participate actively in the didactic teaching of Junior Residents, undergraduates and supporting staff.
- d. Plans and performs a wide range of procedures, minor and major, particularly in his/her own special area.
- e. Teaches and guides Junior colleagues through less complicated procedures.
- f. Plans, executes and reports on a research project on any problem related to the practice of dentistry in his/her special area.
- g. Attend Revision courses organized by the College.
- h. All Senior residents are to fill out a log book on clinical work carried out during this training to be examined as part of final examination including :
 - i. Dissertation to be written in a researched topic and defended.
 - j. Oral examination to assess competence in the chosen specialty

SENIOR RESIDENCY TRAINING PROGRAMMES IN DENTISTRY LEADING TO THE AWARD OF FELLOWSHIP IN DENTAL SURGERY

ORAL AND MAXILLOFACIAL SURGERY

This advance training is designed to provide an understanding of applied sciences and the concept of oral and maxillofacial surgery.

This programme consists of the following:

- . outpatient clinics and operating sessions ,ward rounds
- . clinical demonstrations, seminars and journal clubs.

The Senior Resident in Oral and Maxillofacial Surgery spends some time rotating through the following departments/units: (Suggested durations could be modified to suit the institutional training arrangements)

Anaesthesia and Intensive care	:	1 month
ENT	:	1 month
Plastic Surgery	:	1 month
Radiotherapy	:	2 Weeks

Orthopaedics

The Senior Resident is expected to be able to manage all types of cases in Oral and maxillofacial including.:

Traumatology Unit: A& E cases

- Management of severe facial Injuries
- Tracheostomy and cardio-pulmonary resuscitation (CPR)
- Advanced Trauma and Life Support (ATLS)

Oncology and infections

- Management of severe facial infections
- Benign and malignant tumours of the maxillofacial region

Surgical Procedures:

- a. Mandibulectomy
- b. Maxillectomy
- c. Reduction and immobilisation of all types of fractures (including closed and open reduction)
- d. Reconstructive surgery following (a) and (b).
- e. Major flaps for reconstruction of maxillofacial defects
- f. Repair of cleft lip and palate
- g. Condylectomies
- h. Management of all oro-facial cysts
- i. Sequestrectomy
- j. Salivary gland surgery. Major and minor glands.
- k. Preprosthetic surgery
- l. Removal of impacted teeth
- m. Tooth transplantation / re-implantation
- n. Maxillofacial Implantology
- o. Orthognathic Surgical techniques

SENIOR RESIDENCY PROGRAMME ORAL PATHOLOGY

ELIGIBILITY :

THE CANDIDATE SHOULD HAVE OBTAINED THE MEMBERSHIP OF THE GHANA COLLEGE OF PHYSICIANS AND SURGEONS :

Progression to Fellowship Training:

The Oral Pathology Resident having passed the Membership Examination. is expected to proceed to the fellowship programme

OBJECTIVES

This Senior 30-month programme in Oral Pathology equips the senior resident with a comprehensive understanding of Oral Pathology at the specialist level. The Senior Resident is expected to choose an area of sub-specialization from the following sub-specialties :

Histopathology;
Oral Radiology ;
Oral Medicine

This programme involves:

Diagnostic histopathology service
Seminars and demonstrations
Outpatient clinics (oral diagnosis/oral medicine)
Clinicopathological conferences

The senior resident will in addition do a 9-month rotation through the following Departments/Units:

Anatomical Pathology/Cytology and Morbid anatomy	: 2 Months
Dermatology	: 1 Month
Haematology	: 1 Month
Chemical Pathology	: 1 Month
Medical Microbiology and Virology	: 1 Month
General Radiology	: 2 Month
Radiotherapy	: 1Month

By the end of his training the senior resident should understand the scientific principles underlying –

1. General Pathology
2. General pathology practice
3. Surgical oral pathology
4. Cytology smears
5. Oral microbiology
6. Oral pathology in clinical practice
7. Dermatologic lesions of the oral mucosa
8. Systemic diseases and their oral manifestations
9. The processing and interpretation of frozen sections.
10. Modern radiographic techniques
11. Interpretation of Radiographic abnormalities

12. Perform specialized radiographic examination of the Head and Neck.
13. Rresearch

In addition, he or she should be able to:

1. Establish and run a histopathology laboratory service.
2. Carry out autopsy procedures (at least 20 autopsies required)
3. Conduct microscopic examination of autopsy specimens.
4. Interpreter special stains.
5. Carry out histochemical procedures when necessary.

SENIOR RESIDENCY IN ORAL MEDICINE

The senior residency in oral medicine provides a comprehensive understanding of the theoretical and clinical aspects of oral medicine.

This programme consists of seminars and tutorial at an advanced level

Treatment of patients referred by general practitioners and other specialists.

The senior resident is expected to undertake a 6-month rotation through the following departments/units : (Dental, Hematology, Clinical Pathology and Radiotherapy)

The syllabus includes subjects which are relevant to oral medicine :

- The diagnosis, prevention and management of ulcerative, bullous and white or coloured lesions of the oral mucosa.
- Orofacial pain, motor and sensory disturbances of the face and mouth.
- Immunology and oral disease
- Salivary gland diseases
- Oral mucosal diseases
- Psychiatric problems in relation to dentistry
- Oral pre-cancer and cancer
- Occupational hazards in dentistry
- Medical problems in dental practice
- Oral health care of the patient with special needs

SENIOR RESIDENCY – CHILD DENTAL HEALTH

OBJECTIVES

The senior residency in Child Dental Health is designed to provide a thorough training with the aim of preparing the resident for a career in specialist practice in Child Dental Health.

The programme consists of :

- Seminars and tutorials at an advanced level.
- Treatment of patients.
- Rotation in Paediatrics (3 months)

The senior resident will also participate in consultant clinics in :

- Interceptive Orthodontics
- Sedation clinics
- Outpatient clinics
- Multidisciplinary cleft lip and Palate clinics
- Medically compromised children clinics
- Craniofacial clinics

LECTURE/SEMINAR TOPICS

Growth and Development

- (i) General principles of growth and development.
- (ii) Development of the dentition and establishment of occlusion including anomalies of tooth number, size form, structure, eruption and the clinical presentation and management.
- (iii) Development of speech and behavioral patterns in children and adolescents.

Preventive Dentistry

A thorough understanding of the theory and practice of preventive dentistry as it relates to:

- (i) The individual
- (ii) The community

Patient Management

- (i) Principles of patient behavioral management.
- (ii) The use of oral and inhalation intravenous sedation.
- (iii) The management of physically, mentally and medically compromised children.

General Principles of Paediatric Oral Surgery and Oral Medicine.

Restorative Dentistry

- (i) Periodontal disease in children and adolescents.
- (ii) The understanding and application of dental materials in children's dentistry.
- (iii) Endodontic therapy in deciduous and permanent teeth.
- (iv) Traumatic injuries to the teeth and supporting tissues.
- (v) Advanced restorative procedures in children dentistry

SENIOR RESIDENCY IN ORTHODONTICS

This **30-months** residency provides a knowledge of both theoretical and practical aspects of orthodontics for specialization.

Clinical training will consist of the treatment of a minimum of 15 completed orthodontic cases.

The senior resident will attend

- Out-patient clinics
- Multidisciplinary cleft lip and palate clinics
- Orthognathic surgery clinics

Senior residents should be able to perform the following procedures:

- Evaluate normal and abnormal occlusal and jaw relationship
- Evaluate the influence of functional components of soft tissues on dentofacial morphology
- Manage orthodontics patients using fixed and removable appliances.

SENIOR RESIDENCY IN COMMUNITY DENTAL HEALTH

The senior residency programme is designed to provide adequate clinical and academic experience that will enable the resident perform as an authority in this specialty.

The programme includes formal teaching :

- seminars
- debates
- discussions
- practical exercises

The resident carries out a series of assignments. These include :

- essays
- computer exercises
- literature searches and reviews and presentations
- research in Public Health problems

At the end of the training period , the Senior Resident in Community Dentistry should be able to carry out the following;

1. Assemble epidemiological data , carry out statistical analysis, and utilized in the planning of community oral health programmes
2. Skills in evaluating scientific literature concerned with public health care
3. Organize and lead auxiliary staff in achieving set objective in the provisio of primary oral health care in the community
4. Carry out public health programmes for different population groups
5. Organize caries prevention strategies including plaque control , application of fissure sealants and topical fluoride and monitoring through research the effectiveness of water fluoridation for communities
6. To able to hold leadership positions in the health profession in the country

LECTURE/SEMINAR TOPICS

- Definition of dental public health, its aims and objectives.
- Concepts of health, disease and of health care.

- Inequalities in health care
- Introduction of epidemiology and statistics
- Intermediate and advanced statistics
- Aetiology, pathogenesis and epidemiology of oral disease
- Principles and practice of preventing oral disease and promoting oral health
- Evidence based dentistry: introduction to theory and practice
- Interface between clinical practice and dental public health
- Health service management and planning
- Training and role of auxiliaries in health care services
- Principles of planning care for communities on a national and local level
- Needs assessments, application of principles of primary health care
- Audit and quality control in provision of health care
- Barriers to care
- Introduction to health economics
- Evaluation of outcome of health service provision and of health gain.
- Research methodology including ethical aspects of research on animals and humans, Protocol preparation, report writing, planning surveys, design and evaluation of clinical trials, examiner variability, calibration and reproducibility
- Substance abuse in Dentistry

RESTORATIVE DENTISTRY SUB-SPECIALTIES

SENIOR RESIDENCY IN CONSERVATIVE DENTISTRY

The senior residency programme in Conservative Dentistry is directed towards solving clinical problems that are beyond the scope of the general dental practice or the emphasis will be on challenging clinical problems such as :

- occlusal form and function
- restoration of appearance
- masticatory dysfunction
- practical edentulism

The residency programme consists of :

- attendance at outpatient clinics
- laboratory sessions
- seminars and journal club meetings
- research

The syllabus for didactic teaching includes :

- the applied anatomy, physiology and histology of dental and oral tissues
- the anatomy, physiology and terminology of occlusion
- techniques for the study and registration of occlusal relationships
- the pathology of dental and periodontal tissues with special reference to caries and in sequelae, the effects of instrumentation and materials, trauma and developmental anomalies of the dentition.
- the epidemiology of dental caries and periodontal disease in relation to adult restorative dentistry
- modern theories and significant research in caries and methods for caries control
- the periodontium in relation to conservative dentistry
- properties of materials used in clinical and laboratory aspects of restorative dentistry.
- Dental instrumentation
- Instruments, equipment and control of infection
- Diagnosis and radiology in relation to conservative dentistry
- Analgesia and anaesthesia in relation to conservative dentistry
- Restoration of teeth using various materials
- Aesthetics in dentistry
- Endodontic techniques including endodontic surgical procedures
- Fixed partial prostheses
- Implantology including surgical placement and provision of implant-retained partial prostheses
- Relationship of fixed to removable prostheses
- Occlusal rehabilitation.

SENIOR RESIDENCY IN ENDODONTICS

The senior residency programme in Endodontics provides advanced education as well as clinical and teaching experiences to highly qualified and motivated candidates who have attained a pass at the Part II Membership examination of the GCPS.

The primary objectives of the programme are to develop the Junior Specialist's ability in the following areas

1. be able to synthesize a rationale for the treatment of endodontic cases based on scientific knowledge
2. carry out root canal therapy, surgical therapy and associated procedures to a higher level of proficiency
3. be able to evaluate and assess endodontic therapy
4. develop the ability to analyze new technology and current literature
5. to exercise complex problem solving and independent thinking
6. be able to function as member of the medical interdisciplinary team
7. to develop the ability to trainer

The curriculum

The 24 months programme shall be devoted to both academic and clinical experiences of very high standard in quality and quantity .

The candidate is expected to participate in a series of seminars, lectures and tutorials in core dental courses relevant to endodontic practice as well as Hospital dentistry, Basic life support and Medical emergencies, Elements of sedation, Advanced Oral Radiology and interpretations, Management of oro-facial pain, Oral Medicine and Pathology, Implantology, Dental Anatomy and Oral Biology, Applied Dental Material Science, and Research Methodology.

Towards the end of the programme, the candidate is expected to carry out a research project related to Endodontic.

Clinical case requirements

The candidate is also expected to maintain an up to date log book of clinical experiences and complete a minimum of 150 Non-surgical cases and 30 surgical cases

At least 50 Non-Surgical Cases which include , but not limited to the following:

Complex root canal treatments using Rotary endodontic techniques

Re-treatment cases, vital pulpectomies, root-end closure, traumatized teeth, bleaching of discoloured endo-treated teeth etc.

At least 30 Surgical Endodontic Cases which include, but not limited to the following:

Apicectomies and Retrograde filling techniques

Pulpotomies and Pulp capping

Transplantation

Re-implantations

Root resections

SENIOR RESIDENCY IN PROSTHODONTICS

The aim of the programme is to provide a sound understanding of the basic principles of prosthetic dentistry and to develop advance clinical and laboratory skills. The resident will acquire comprehensive knowledge in the following areas :

- the scientific basis of prosthodontic care
- diagnosis and treatment planning for patients with advanced prosthodontic problems
- the clinical treatment of patients with advanced prosthodontic problems
- laboratory work: postgraduates complete all their own laboratory procedures in fixed prosthodontics and a proportion of their removable cases.
- the relationship of other dental disciplines to prosthodontic care
- clinical treatment involving combined prosthodontic and other dental therapy
- research project with a report (dissertation)

The didactic teaching will cover the following syllabus :

- anatomy, physiology of the masticatory system
- endodontics and periodontics in relation to prosthodontics
- comprehensive diagnosis and treatment planning
- prevention of dental and oral diseases
- complete dentures
- removable partial dentures
- principles of maxillofacial prosthodontics
- combination of fixed and removable prostheses
- implant supported prostheses
- properties of biomaterials and dental materials
- radiology
- pharmacology
- epidemiology
- theory and practice of occlusion including the use of all classes of articulator
- diagnosis and management of patients with temporomandibular dysfunction
- management of medically/clinically compromised patients
- fixed prostheses conforming to existing icp and anterior guidance
- complex fixed prostheses involving reorganising icp and changing anterior guidance
- review and maintenance procedure
- experience of relevant laboratory work, including diagnostic laboratory and technical aspects of fixed and removable prostheses
- `research methodology, audit and statistics
- communication, interpersonal skills and team leadership.

SENIOR RESIDENCY IN PERIODONTOLOGY

The primary goal of this residency programme is to produce a specialist periodontologist.

The course shall consist of :

- Out-patient clinics
- Seminars and tutorials.
- Research

The senior residency programme offers the following:

- General knowledge of sciences basic to dentistry in general and in depth knowledge of periodontology in particular.
- Intensive knowledge and practice of clinical periodontics.

- A broad knowledge of all aspects of clinical and public health dentistry.
- A broad knowledge of clinical medicine and surgery, of the interaction of oral and systemic diseases, and the management of the medically compromised and other patients with special needs.
- Knowledge of the clinical presentation, diagnosis, treatment and management of diseases and disorders of the periodontium.
- Expertise in the diagnosis, case selection, treatment planning and surgical aspects of oral implantology, including maintenance and salvage of failing implants.
- Skill in evaluating scientific literature especially but both exclusively relevant to periodontology, in posing pertinent research questions and hypotheses, in experimental design, and in the design, prosecution, completion and communication at peer review level of a relevant research project in the field of Periodontology.

FACULTY OF DENTAL SURGERY EXAMINATION FORMATS

PART I EXAMINATION

MCQ -Basic Medical Science (Gen Anatomy, Physiology, Biochemistry, General and Chemical Pathology, Microbiology, Pharmacology + Oral Pathology and Oral Anatomy
Pass Mark is 50%

PART II MEMBERSHIP EXAMINATION

Theory

Paper I consist of a 2-HOUR MCQ in General Dentistry, Gen Med/Surg. in relation to Dentistry.

Clinical Examinations

1. O.S.C.E. (Projected - Objective Structured Clinical Examination)
2. Clinical Case Presentation I :(Sub-Specialty Live patient clerking and presentation to the examiners)
3. Clinical Case Presentation II : (Candidate to present a case from his or her log book)
4. **Orals /Viva** (Specialty Biased)

Regulations:

- In order to obtain a overall **PASS** in the Part II examination, the Candidate must;
- A. Obtain at least 50% each of all the sections of this examination
 - B. A borderline pass (48-49%) in a section may be compensated for by a good pass in another section
 - C. A fail in any section of this examination would earn a **FAIL** in the whole examination

PART III FELLOWSHIP EXAMINATION

- a) **ELIGIBILITY** : Candidates must have passed the Part I Membership Examinations and also satisfied the regulations and conditions concerning the eligibility for enrolment in the Post-Fellowship Training of the College(See the GCPS Secretariat)
- b) **PERIOD OF TRAINING** is A MINIMUM OF TWE(2) years in chosen sub-specialty of Dentistry.
- c) **SUB-SPECIALTIES**
 - i. **ORAL & MAXILLOFACIAL SURGERY.**
 - ii. **ORAL PATHOLOGY/ORAL MEDICINE.**
 - iii. **RESTORATIVE DENTISTRY (Prosthodontics, Conservative, Endodontics)**
 - iv. **PERIODONTOLOGY.**

- v. ORTHODONTICS.
- vi. CHILD DENTAL HEALTH (Paedodontics).
- vii. COMMUNITY DENTISTRY *

d) **FORMAT OF THE PART III FELLOWSHIP EXAMINATION**

- I. Presentation of completed clinical cases managed by candidate (2 major cases)
- II ORAL EXAMINATION – In chosen specialty and related fields.
- III. Defence of Research / Dissertation
The proposal for research should be sent to the faculty within 6 months after the beginning of programme.
Dissertation should be sent to examiners 4 months before the examination.

- e) Logbooks shall be fully assessed and accepted before examination .
- f) External examiners / Internal Assessor would be present at the examination.
- g) Location - The training location will be in accredited centres in Ghana and abroad depending on the subspecialty.

NOTE : Candidates must pass ALL SECTIONS (Theory, Clinical and Orals) of the Membership and Fellowship Examinations to merit a PASS in that examination

THE EXAMINATION FORMAT IS SUBJECT TO MODIFICATION DEPENDING ON THE PREVAILING CIRCUMSTANCES. CANDIDATES WILL BE NOTIFIED.