

NATIONAL POSTGRADUATE MEDICAL COLLEGE OF NIGERIA



REGIONAL ANAESTHESIA CURRICULUM

FACULTY OF ANAESTHESIA

APPROVED BY THE SENATE ON 5TH DECEMBER, 2024

A handwritten signature in blue ink, appearing to read 'F. A. Arogundade', is positioned above the name of the Registrar.

**DR F. A. AROGUNDADE, MD FMCP
COLLEGE REGISTRAR**

FACULTY OF ANAESTHESIA
NATIONAL POSTGRADUATE MEDICAL COLLEGE OF NIGERIA
(FELLOWSHIP AND DOCTOR OF MEDICINE PROGRAMMES IN REGIONAL ANAESTHESIA)

i) MD Programme: Doctor of Medicine, Regional Anaesthesia. (MD, Regional Anaesthesia)

ii) Fellowship Programme. Fellowship of the Medical College in Regional Anaesthesia (FMC Regional Anaesthesia).

A. INTRODUCTION

The programme is designed for candidates who wish to deepen their academic and clinical knowledge in Regional Anaesthesia and increase their capacity for higher responsibilities in the field.

B PROGRAMME PHILOSOPHY

Regional anaesthesia is now extensively safe in experienced hands. The vast majority of upper and lower limb procedures can now be performed with either a peripheral regional block alone or in combination with general anaesthesia. Apart from providing intraoperative pain, regional anaesthesia can be extended to provide postoperative pain. The technique is also valuable in the management of chronic pain. It may be a technique of choice in surgical patients who have co-morbid conditions that make general anaesthesia unsuitable. The use of regional anaesthesia in ambulatory surgery reduces the cost of health care both to the patient and organizations funding health care in addition to other benefits of ambulatory surgery. Regional anaesthesia is associated with reduction in the stress response to surgery when compared with general anaesthesia. A further advantage of regional anaesthesia is that it can be done safely in emergency cases even when the patient has eaten as the risk of regurgitation and aspiration is less. The introduction of ultrasound has revolutionized the current practice of regional anaesthesia.

C. AIMS AND OBJECTIVES OF THE PROGRAMME

- i) To train safe competent practitioners of regional anaesthesia by combining traditional patient care experiences with learner-centred activities
- ii) To maximize each resident's ability to achieve technical and clinical proficiency with a variety of traditional and ultrasound-guided regional anaesthetic techniques
- iii) To understand the core principles and concepts of regional anaesthesia and pain medicine
- iv) To identify the roles of regional anaesthesia in the management of surgical patients.

D. ENTRY REQUIREMENTS (ELIGIBILITY)

Fellowship Programme: Part 1 Fellowship of the Faculty of Anaesthesia, National Postgraduate Medical College of Nigeria. Candidates must register for the programme within six months of passing the Part 1 Fellowship examination. Candidates must submit proposal for dissertation in regional anaesthesia.

MD Programme: Candidates with the Part 1 Fellowship of the Faculty of Anaesthesia, NPMCN who have registered for the MD programme.

E. DURATION OF PROGRAMME

Fellowship Programme: Minimum of 36 months of which the last 18 months must be in the specialty of Regional Anaesthesia.

MD Programme: Six (6) semesters and six (6) months before the Part 2 Fellowship examination.

The candidate is advised to do 3 months rotation in a fully accredited institution within the country or in a recognized institution outside the country

F. DOMAIN OF THE PROGRAMME

The Regional Anaesthesia Programme will be domiciled in institutions that are accredited by the National Postgraduate Medical College of Nigeria on recommendation by the Faculty of Anaesthesia

The postings in the first eighteen (18) months of the Senior Residency Programme are detailed below

G. THE FIRST STAGE OF SENIOR RESIDENCY TRAINING

The duration of this stage is eighteen (18) months.

i. GENERAL EDUCATIONAL OBJECTIVES

This period must be spent in acquiring further knowledge in the subspecialties of Anaesthesia. During this phase of training, residents are expected to perform at a higher proficiency level than they did during their junior residency, to assume a greater degree of responsibility for decision making in patient care as well as cover a much wider scope of anaesthetic practice and procedures, e.g. neonatology. More opportunities are provided at this

stage to enable each senior resident participate in teaching junior colleagues, nurses and medical students. He is also introduced to principles of health resource management in addition to problem solving skills as applied to research and anaesthetic practice.

ii. FORMAT OF TRAINING

The posting rotations for the first stage of Senior Residency Training is as follows:

POSTING	DURATION
Cardiothoracic anaesthesia	2 months
Neuroanaesthesia	2 months
Paediatric (including neonatal) anaesthesia	2 months
Obstetric anaesthesia and analgesia	2 months
Anaesthesia for other surgical specialties- (General Surgery, Urology, Orthopaedics & Trauma, Maxillo-facial, Plastic & Reconstructive, Ophthalmic, Otorhinolaryngology, Gynaecology)	4 months
Intensive Care Medicine	2 months
Pain Medicine	2 months
Regional Anaesthesia	2 months
Total	18 months

iii. COGNITIVE SKILLS

Throughout the period of the Residency Programme, the Head of Department has the responsibility to expose the residents to a systematic schedule of didactic teaching covering the core knowledge pertinent to the practice of anaesthesia, so as to give them confidence and enable them to demonstrate good judgement in dealing with real problems.

This should be presented in form of seminars, tutorials and structured lectures, use of audio-visual aids, clinical case conferences, mortality and morbidity conferences, Information technology course, management course, teaching sessions, theatres and intensive care experience, journal reviews as well as research seminars. The Senior Resident must be updated from time to time on current opinions/research/practice of the specialty

The planned schedule should identify the scope of knowledge to be covered in cycles of 36 months and thereby provide opportunities for residents to cover the same ground at least twice; one as a junior resident and one as a senior resident.

iv. PSYCHOMOTOR SKILLS

Each training institution should design its programme in such a way that the resident's acquisition of requisite anaesthetic skills spans over the 5-year (Junior and Senior Programmes) period. The mastery of specific psychomotor skills of increasing degree of complexity, such as stated below should be emphasized.

- i) The handling and care of anaesthetic machines and auxiliary equipment, storage of gases, safety devices.
- ii) The organization, disinfection and sterilization of auxiliary anaesthetic equipment appropriate for a particular technique of anaesthesia.
- iii) The preparation and setting up of monitoring devices during anaesthesia and intensive care.
- iv) The preparation and positioning of patients for regional techniques and particular operations.
- v) Participation in the prevention of explosion and fire in the operating room.

v. RESEARCH SKILLS

The head of department in the training institution should encourage residents to cultivate the habit of systematic clinical problem solving, featuring observation, interpretation, deductive reasoning, and decision-making followed by further observation. These are basic requirements for competence in research, either in the context of clinical problems or basic research projects. Periodic departmental research seminars are recommended as the forum in which young researchers present their project for discussion, and receive the criticism and guidance of their teachers and peers.

vi. COMMUNICATION SKILLS

It is important that Consultant Anaesthetists should be effective communicators not only in the ordinary run of clinical practice dealing with anxious patients, medical records documentation, or case presentation; but also, in the context of scientific conference presentation, scientific journal publication, and indeed examination writing. Therefore training institutions must provide opportunities for the acquisition and testing of various levels of communication skills.

Computers have become important tools in all spheres of anaesthetic practice such as drug prescription, equipment for diagnosis and treatment, anaesthetic machine and others. Record keeping and auditing are also computer based. The knowledge of computer in anaesthesia is relevant in communication skill and should be stressed at this level. This should include literature search, use of internet, the use of statistical software, simulation and Microsoft Power Point for presentations.

vii. CONTACT HOURS AND CREDIT UNITS FOR THE FIRST STAGE OF SENIOR RESIDENCY TRAINING– 18 MONTHS

In addition to the curriculum outline for the Junior Residency training programme, the Senior Residency Curriculum is advanced with further knowledge of the subspecialties in Anaesthesia, Pain Medicine and Intensive Care.

Specialties	Months	Contact academic (hours)	Theatre/ Clinical contact (hours)	Credit units
ANE 931. Cardiothoracic anaesthesia	2	30	180	6
ANE 932. Neurosurgical anaesthesia	2	30	180	6
ANE 933. Paediatric including neonatal anaesthesia	2	30	180	6
ANE 934. Obstetric Anaesthesia & Analgesia	2	30	180	6
ANE 935. Anaesthesia for other surgical specialties- General Surgery, Urology, Orthopaedics & Trauma, Emergency, Maxillofacial, Plastic & Reconstructive Surgery, Ophthalmology and Otorhinolaryngology and Gynaecology	4	30	180	6
ANE 936. Intensive Care Medicine	2	30	180	6
ANE 938 Pain Medicine.	2	30	180	6
ANE 939 Regional Anaesthesia	2	30	180	6
Total	18			48

viii (a). SKILLS TO BE ACQUIRED IN FIRST STAGE (18 MONTHS) SENIOR RESIDENCY TRAINING

	SKILLS	NUMBER REQUIRED TO BE PERFORMED
1	Intubation- routine	150
2	Intubation- nasal	13
3	Intubation- awake	5
4	Intubation- fiberoptic	5
5	Use of supraglottic airway devices	30
6	Difficult airway management	10
7	Double lumen tube insertion	7
8	Cricothyroidotomy	3
9	Percutaneous tracheostomy	3
10	Mini tracheostomy	3
11	Central venous cannulation	10
12	Intra-arterial cannulation	10
13	Intra-osseous cannulation	5
14	Peripheral venous cut-down	3
15	Subarachnoid block	50
16	Epidural block- lumbar	30
17	Epidural block- thoracic	1
18	Combined spinal-epidural block	20
19	Caudal block	25
20	Nerve blocks- brachial plexus, sciatic etc	10
21	Intravenous regional anaesthesia	10
22	Hypotensive anaesthesia	5
23	Total intravenous anaesthesia	5
24	One lung ventilation	7
25	Awkward positioning	25
26	CVP monitoring	5
27	Invasive blood pressure monitoring	5
28	Cardiac echocardiography	Observed/participated
29	Focused assessment for sonography (FAST)	Observed/participated

viii (b). OTHER RELEVANT SKILLS TO BE ACQUIRED IN THE FIRST STAGE (18 MONTHS) SENIOR RESIDENCY TRAINING

	SKILLS	NUMBER REQUIRED TO BE PERFORMED
1	Chest tube insertion	1
2	Ultrasound-guided vascular access	2
3	Ultrasound-guided nerve blocks	2
4	Critical care- initiation and weaning off ventilator	20
5	Critical care- arterial blood gas analysis	20
6	Critical care- sedation	12
7	Critical care- use of inotropes, vasopressors, syringe drivers and volumetric pumps	12
8	Critical care- cardiac output studies	Observed/participated
9	Critical care- cardioversion/pacing	2
10	Patient stabilization and transfer	8
11	Advanced Trauma Life Support Course	Attend 1
12	Cardiopulmonary resuscitation Course- adult/paediatric	Attend 1
13	Neonatal resuscitation	13
14	Chronic pain management	5
15	Epidural analgesia	3

Note:

- i) The candidate must be able to manage complex surgical cases as itemized in each module
- ii) Each Candidate is expected to do a minimum of 30 hours of theatre/ clinical sessions per week throughout the 18 months of the first stage of Senior Residency period, taking into cognizance the period of annual leave.
- iii) A Senior resident is expected to attend at least two (2) local or international conferences and the certificate of attendance should be submitted with the examination application form
- iv) A senior resident must attain a minimum of 75% attendance at academic sessions. This must be duly signed up by the supervising consultant.
- v) The candidate must provide a certificate of Training from a recognized CPR training programme within the 18 months of the first stage of the Senior Residency Training.

H. THE SECOND STAGE OF SENIOR RESIDENCY TRAINING (M.D. and Subspecialty in Cardiothoracic anaesthesia)

The duration of this second stage is eighteen (18) months.

I. LIST OF COURSES AND DETAILED COURSE DESCRIPTION

COURSE CODE	COURSE TITLE	DURATION (weeks)	LECTURES (hours)	PRACTICALS (hours)	CREDIT UNITS
ANE 949.1	Anatomy in relation to regional anaesthesia	3	30	90	4
ANE 949.2	Physiology in relation to regional anaesthesia	3	45	-	3
ANE 949.3	Pharmacology in relation to regional anaesthesia	4	45	-	3
ANE 949.4	Effects of diseases on regional anaesthesia	4	30	90	4
ANE 949.5	Equipment in regional anaesthesia	8	30	90	4
ANE 949.6	Head and Neck Blocks	8	30	90	4
ANE 949.7	Upper Limb including Hand and Wrist Blocks	8	30	90	4
ANE 949.8	Abdominal, Perineal and Thoracic blocks	8	30	90	4
ANE 949.9	Lower Limb including Foot and Ankle Blocks	8	30	90	4
ANE 949.10	Paediatric Regional Anaesthesia	4	30	90	4
ANE 949.11	Nerve Blocks for Ophthalmic Procedures	4	30	90	4
ANE 949.12	Complications and Side Effects of Regional Anaesthesia; Management	4	30	90	4
PMC 995	Advanced Research Methodology	1	30	-	2
PMC 996	Health Resource Management	1	30	-	2
ANR 999	Dissertation/Thesis in Regional Anaesthesia	4	90	270	12
#PMC 998	MD seminars	2	30	-	2
	TOTAL	72 (#74)			62 (#64)

For MD Candidates

In addition to the listed courses above, candidates who are registered in the MD Programme will take the College Medical Education Course and Faculty Specialty-Based Courses as stipulated in each Specialty-MD curriculum.

ANE 949.1. Anatomy in relation to regional anaesthesia

4 Units

Surface anatomy (Landmarks for peripheral regional anaesthesia, Landmarks for central neuraxial blocks). Head and neck. Upper limb. Thorax and abdomen. Pelvis and lower limbs. Spine and axial skeleton. Peripheral and central nervous system. autonomic nervous system (sympathetic and parasympathetic. Anatomy of the obstetric patient.

Ultrasound anatomy. Relevant sono-anatomy of the most common peripheral blocks (interscalene, supra- and infraclavicular, axillary, elbow and wrist blocks; femoral / saphenous, obturator, proximal and distal sciatic, popliteal and ankle blocks).

ANE 949.2. Physiology in relation to regional anaesthesia

3 Units

Structure and function of nerves. Nerve conduction and types of nerve. Pain pathways. Central, peripheral, sympathetic and parasympathetic nervous system. Pathophysiology of acute and chronic pain. Cardiovascular and pulmonary systems. Gastroenterological and renal systems. Coagulation and bleeding disorders. Specific characteristics of the newborn and the elderly. Physiology of the obstetric patient.

ANE 949.3. Pharmacology in relation to regional anaesthesia

3 Units

Local anaesthetic agents. Analgesics. Sedatives (including propofol and dexmedetomidine). Non-steroidal anti-inflammatory drugs (NSAIDS), gabalin. Gabapentin/pregabalin. Adjuvant analgesics e.g. opioids, ketamine/dexamethasone/clonidine. Vasoactive drugs (adrenaline, ephedrine, phenylephrine)

ANE 949.4. Effects of diseases on Regional Anaesthesia

4 Units

Influence of common diseases, such as hypertension, coronary artery disease, chronic obstructive pulmonary disease, central nervous disorders, polyneuropathy, diabetes, etc., on the practice of regional anaesthesia.

ANE 949.5. Equipment in regional anaesthesia

4 Units

Needles – design / application and limitations. Catheters – through needle / over needle / stimulating / ultrasound enhanced Peripheral nerve stimulators (mA, milliseconds, Frequency. Cathode, anode). Continuous infusion devices

Miscellaneous – needle guides / pressure monitors/ percutaneous nerve location devices / spinal safety connectors

Ultrasound machines: Physical principles behind the ultrasound image generation. Knobology, transducers and its applications. Potential pitfalls and artifacts in ultrasound imaging of nerves. Colour Doppler principle and its application. Biological effects of ultrasound. Equipment disinfection and sterilization.

ANE 949.6. Head and Neck Blocks

4 Units

Superficial cervical plexus and deep cervical plexus blocks. Greater and lesser occipital nerve blocks. Greater auricular nerve block. Zygomaticofacial and zygomaticotemporal nerve blocks. Mental nerve block. Infraorbital nerve block. Supraorbital and supratrochlear nerve blocks.

ANE 949.7. Upper Limb including Hand and Wrist Blocks

4 Units

Brachial plexus blocks (interscalene, supraclavicular, infraclavicular, axillary). Suprascapular nerve block. Ulnar nerve block (elbow). Median nerve block (elbow). Medial cutaneous nerve of forearm block. Radial nerve block (elbow). Lateral cutaneous nerve of forearm block. Posterior cutaneous nerve of forearm block.

Ulnar nerve block (hand). Median nerve block (hand). Radial nerve block (hand). Digital nerve block (hand).

ANE 949.8. Abdominal, Perineal and Thoracic blocks**4 Units**

Intercostal nerve block. Thoracic paravertebral block. Interpleural block. Pectoral nerve blocks. Spinal, thoracic and lumbar epidural blocks. Caudal block. Combined spinal epidural block. Central neural axial blocks for obstetric patients. Transversus abdominis plane block. Inguinal field block. Continuous catheter techniques. Inguinal canal block. Penile block. Obturator nerve block.

ANE 949.9. Lower Limb including Foot and Ankle Blocks**4 Units**

Lumbar plexus block. Femoral nerve block. Obturator nerve block. Saphenous nerve block. Sciatic nerve block. popliteal and tibial nerve blocks. Lateral cutaneous nerve of thigh block. Three-in-one block. Digital nerve block (foot). Sural nerve block. Saphenous nerve block (foot). Peroneal nerve block. Tibial nerve block. Ankle block.

ANE 949.10. Paediatric Regional Anaesthesia.**4 Units**

Caudal. Penile. Epidural. Spinal. Field block for herniotomy. TAP block. Rectus sheath block. Upper and lower limb blocks.

ANE 949.11 Nerve Blocks for Ophthalmic Procedures**4 Units**

Topical anaesthesia. Peribulbar block. Sub-Tenon block. Facial nerve block.

ANE 949.12 Complications and Side Effects of Regional Anaesthesia; Management**4 Units**

Early recognition and management of (local anaesthetic toxicity, intravascular injection and haemorrhage). Total and high spinal anaesthesia. Management of seizure and cardiac arrest. Pneumothorax and lung injury. Nerve damage (central and peripheral). Epidural abscess/haematoma/cord injury or compression. Failed or incomplete block. Rescue blocks. Nausea and vomiting. Post-operative pain. Regional anaesthesia and acute compartment syndrome. Breakthrough pain. Tourniquet pain.

PMC 995. Advanced Research Methodology (College Course)**2 Units**

The main objective of this course is to facilitate acquisition of sound knowledge and necessary skills for research in anaesthesia. Definition, Spectrum and Types of Health Research Design. Defining Research problems, Setting Objectives, Statistics and Research Methods. Writing Research Proposals (Planning, Protocol Development and Report Writing) Good Clinical Practices and Clinical Trials. Role of Computer in Medical Research (EPI Info and SPSS). Literature review, Use of Physical and Virtual Library, Use of Internet, Search Engines, Systematic Reviews and Meta-analysis. Ethical considerations in medical research. Clinical Governance. Writing –Up, presentation and defense of Theses. Evidence Based Health Care. Statistical Methods (Summary, Inferences and Interpretation). Principles of Writing Articles for Publications. Research integrity and Plagiarism. Budget and Sources of Funding for Research.

PMC 996. Health Resource Management (College Course).**2 Units**

The objective is to facilitate acquisition of knowledge and necessary skills required for management of health resources in Health institutions and for programme implementation. Principles and application of Management. Strategic Management. Health Care Planning. Health Policy formulation and evaluation. Health Resources mobilization and allocation. Human Resources Management. Organization. Monitoring and Evaluation of Health Services. Performance Management. Sustainable Development. Problem Solving and Decision-Making skills. Emotional Intelligence. Leadership. Management of Change. Risk Management. Financial Management, Material Resources Management. Quality assurance in health and equity in health. Managing the Health Team-Leadership and Team building. Health Care Financing. Financial Resources Management and Cost-Recovery Systems. Health Economics- the Economic appraisal of Health Programme. Public Private Partnership (PPP). Health Services Management Information Systems. Essentials of Budgeting and Accounting. Social Marketing of Health Programmes. Ethical and Legal Considerations in Medical practice.

ANE 999. Dissertation/Thesis in Regional Anaesthesia**12 Units**

An approved Dissertation/Thesis based on original work of candidate on an appropriate topic in Regional Anaesthesia which will be supervised and will be presented for assessment at the end of the programme.

J. SKILLS AND COMPETENCIES

At the end of twelve months, the resident or post-fellowship specialist should be able to:

- i. Perform a detailed patient history, physical examination including neurologic history and optimization of clinical status.
- ii. Assess and prepare patients scheduled for procedures under regional anaesthesia, including discussion of anaesthetic options (i.e., regional versus general).
- iii. Understand appropriate analgesic choices including regional anesthesia techniques and multimodal techniques for various clinical situations
- iv. Formulate a regional and multi-modal anesthesia plan for inpatient and outpatient surgical procedures
- v. Demonstrate selection of regional versus general anesthesia for various procedures and patients regarding patient recovery, patient outcome, operating room efficiency, and cost of care
- vi. Identify patients who can undergo a regional or neuraxial technique as the primary anaesthetic
- vii. Demonstrate competence in performing blocks of the brachial plexus including interscalene, supraclavicular, infraclavicular, axillary, and forearm blocks
- viii. Demonstrate competence in performing blocks of the lower extremity including femoral, saphenous, sciatic and ankle blocks
- ix. Demonstrate competence in performing truncal blocks including TAP, erector spinae, and paravertebral blocks
- x. Demonstrate competence in performing neuraxial blocks including spinal, epidural, and combined spinal-epidurals
- xi. Demonstrate competence in providing anesthesia and peri-operative pain management for patients undergoing orthopedic surgery

- xii. Demonstrate competence in providing anesthesia and peri-operative pain management for patients undergoing non-orthopedic surgery that is amenable to regional anesthesiology.
- xiii. Demonstrate competence in bedside point of care ultrasound for the use in placement and management of neuraxial and peripheral blocks
- xiv. Demonstrate the knowledge of the management of an incomplete, failed, or failing block.
- xv. Demonstrate the knowledge of the treatment of complications in an expedient and appropriate manner, including the use of intralipid in local anaesthetic toxicity.
- xvi. Knowledge of current guidelines of resuscitation when the need arises.
- xvii. Understand the benefits, practical application, and maintenance of peripheral nerve / plexus catheters

K. Regional and Peripheral Nerve blocks to be performed

REGIONAL/PERIPHERAL NERVE BLOCKS	REQUIRED
Spinal Procedures	100
Epidural Procedures	50
Combined spinal epidural	50
Brachial plexus –interscalene	20
Brachial plexus- infraclavicular	15
Brachial plexus- axillary	20
Others (radial, ulnar, median, digital- hand)	10
Interpleural	10
Thoracic paravertebral	10
Intercostal	10
TAP block	20
Inguinal field block	20
Penile block	20
Lumbar plexus	5
Sciatic	10
Femoral	10
Popliteal fossa block	5
Ankle block	20
Digital (foot)	10
Others (obturator, iliac crest block etc)	5
Retrobulbar	10
Peribulbar	10
Sub-Tenon	10

Deep and Superficial Cervical Plexus Block	5
Other Head and neck blocks	5
Acute Pain Management	30
Chronic Pain Management	30
TOTAL	520

L. ASSESSMENT

i) Formative Assessment

- Knowledge and skills
- Non-Technical Skills - cognitive, social and personal (effective communication, team working, leadership, decision making, situation awareness and stress management).

Summative Assessment.

Candidates is eligible to take the MD or Fellowship examination after completing the total 36 months of academic and clinical training. Standard setting with the **Modified Angoff method** will be used for summative assessment of the candidates.

i) MD Programme: Candidates will defend the MD thesis in Regional Anaesthesia during the MD defense examination.

To proceed to the Fellowship, candidates will take the following during the Part 2 Fellowship examinations (Theory Paper-MCQ/SBA, OSCE and Structured Oral examination

- Theory Paper: 2 hours. MCQ (SBA). 100 (Regional Anaesthesia- Applied Basic Sciences (20), Head and neck blocks (5), Upper limb blocks (15), Abdominal, Perineal and Thoracic blocks (15), Lower Limb blocks (10), Ophthalmic blocks (3), Central neural axial blocks (10), Effects of diseases on regional anaesthesia (10), Paediatric Regional Anaesthesia (5), Complications and side effects (5), Equipment in Regional Anaesthesia (2)
- **OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE): SIX STATIONS:** Duration of 1 hour comprising: (a) HISTORY TAKING/COMMUNICATION- 10 marks. (b) PHYSICAL EXAMINATION- 15 marks. (c) SKILLS-. 20 marks. (d) SKILLS. - 20 marks (e) INVESTIGATIONS (XRAYS, CT, HAEMATOLOGY, ECHO. ECG, ABG. CLINICAL CHEMISTRY)- 15 marks. (f) PATIENT MANAGEMENT- 20 marks
- Structured Oral examination. General (50%) and subspecialty (50%)

ii) Fellowship Programme: Part 2 Fellowship Examination

The Part 2 Fellowship examination consists of the following: Theory Paper-MCQ/SBA, OSCE and Structured Oral examination

- Theory Paper: 2 hours. MCQ (SBA). 100. Regional Anaesthesia- Applied Basic Sciences (20), Head and neck blocks (5), Upper limb blocks (15), Abdominal, Perineal and Thoracic blocks (15), Lower Limb blocks (10), Ophthalmic blocks (3), Central neural axial blocks (10), Effects of diseases on regional anaesthesia (10), Paediatric Regional Anaesthesia (5), Complications and side effects (5), Equipment in Regional Anaesthesia (2)
- **OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE): SIX STATIONS:** Duration of 1 hour comprising: (a) HISTORY TAKING/COMMUNICATION- 10 marks. (b) PHYSICAL EXAMINATION- 15 marks. (c) SKILLS-. 20 marks. (d) SKILLS. - 20 marks (e) INVESTIGATIONS (XRAYs, CT, HAEMATOLOGY, ECHO. ECG, ABG. CLINICAL CHEMISTRY)- 15 marks. (f) PATIENT MANAGEMENT- 20 marks (TOTAL 100 marks)
- Structured Oral examination. General (50%) and subspecialty (50%). Duration is 1 hour
- Dissertation presentation and defense in Regional Anaesthesia

GRADING OF MARKS

GRADE	PERCENTAGE %
A (excellent)	$\geq 70\%$
B (very good)	60-69%.
C (good)	55-59%
D (pass)	50-54%
E (borderline)	45-49%
F (fail)	< 45%

M. CONDITION FOR A PASS

- i. Candidate must pass all sections of the examination to be awarded a Pass
- ii Candidate who fails any section(s) of the examination will be required to repeat the failed section(s) in a subsequent examination.

N. ACCREDITATION REQUIREMENTS

a) General Requirements for Residency Training: The anaesthesia training programme is aimed at producing specialists in anaesthesia of a high degree of competence, comparable in the extent and depth of the training of anaesthesia Fellows in other parts of the world. The anaesthesia specialist should have a firm grasp of the scientific basis of anaesthesia, be skilled in the performance of anaesthetic duties and be conversant with

research methodology and the interpretation of research data. The provision of facilities for this level of training must be based on the objectives of the training and should cover the main areas of modern anaesthetic practice.

The institution must have accreditation for general fellowship training in addition to accreditation for training in anaesthesia.

Number of Trainers, related surgical specialties, minimum case load and variety cases, and, training facilities specific for the neuro-anaesthesia

- (a) Clinical Anaesthesia: Pre-Operative Care. Intra-Operative Care. Post-Operative Care
- (b) Resuscitation
- (c) Intensive Care
- (d) Pain Medicine

As much as possible, adequate facilities should be available in all these areas to give the candidate enough practice both in quantity, quality and variety.

Related disciplines and ancillary facilities for investigation must also be available. These include the core departments of Internal Medicine, Paediatrics, Surgery, Obstetrics & Gynaecology, Pathology, Radiology, and Medical Records. Details of their equipment in all areas are given below:

- (i) An Institution for Postgraduate Training in neuroanaesthesia must have a Department of Anaesthesia run by specialists in general and other subspecialties of anaesthesia, pain medicine and intensive care medicine, who are themselves Fellows of the National Postgraduate Medical College of Nigeria or are Fellows of other recognized Colleges or have equivalent qualifications. A minimum of two Fellows supported by residents in training would be required as a basic teaching unit.
- (ii) As many branches of surgery as possible should be available in the hospital. These include General Surgery, Obstetrics & Gynaecology, Urology, Ophthalmology, E.N.T. Surgery, Orthopaedic and Trauma Surgery, Dental Surgery, Paediatrics and Plastic Surgery. While it is desirable to have a neurosurgical unit and a cardio-thoracic unit, it is not mandatory for basic specialist training. Residents in institutions without neurosurgical and cardio-thoracic units must do senior and junior residency rotations in fully accredited institutions as specified by the Faculty.
- (iii) There must be an out-patient complex with Emergency Rooms and facilities for resuscitation, as well as out-patient theatre(s) for minor surgery and casualty.
- (iv) Laboratories – The hospital must also have facilities for investigation in: (a) Chemical Pathology
(b) Microbiology for routine and special investigations, and emergency. (c) Haematology and Blood Bank.
- (v) There should be an Intensive Care Unit for the management of critically ill or traumatised patients.
- (vi) There should be a Departmental laboratory for research.

- (vii) There must be a suitable number of operating theatres to give the various specialties of surgery adequate operating time. Each theatre should have an anaesthetic room attached to it and should be fully equipped with anaesthetic, monitoring and resuscitation equipment. It is vital that there should be a recovery room equipped with monitors, resuscitation equipment to take a minimum, of two to four beds depending on the number of theatres.
- (viii) The Radiology Department must be capable to doing routine – X-rays and other sophisticated investigations (CT, MRI, contrast studies, Ultrasound, Doppler) which may be required by existing specialties and such facilities should extend to theatre and ICU.
- (ix) There must be a good library with current anaesthesia journals and books in anaesthesia and related subjects. Internet connectivity and subscription to data bases should be available.
- (x) Other departments viz: Medicine, Paediatrics, Surgery, Obstetrics & Gynaecology and Psychiatry must be suitably well developed to give the residents in training some experience in these disciplines.
- (xi) There must be a suitable number of Anaesthetic and Monitoring equipment in all areas of Anaesthetic service. In addition to service equipment, there should also be equipment and simulation devices for teaching and research including teaching aids, models, audio-tapes, computers, CD Rom, etc.

a) Additional Specific Accreditation Requirements for Regional Anaesthesia

The number of beds in the hospital as well as the total volume of work and the number of consultants will determine the maximum number of postgraduate trainees which can be handled by the department at any one time. The object of the training is to ensure that each resident does a minimum of 520 regional anaesthesia cases as specified in this curriculum. Other requirements are as follows:

- i. At least two consultants in the specialty of Regional Anaesthesia, one of whom must be a Fellow of the College are required for accreditation.
- ii. The institution must have full accreditation for training in anaesthesia
- iii. Peripheral nerve stimulators. Needles. Catheters.
- iv. Blue Phantom ultrasound training blocks.
- v. Ultrasound machines for nerve localization.
- vi. Wet lab for training.
- vii. Preparation and sterilization kits.
- viii. Local anaesthetics.
- ix. Resuscitation equipment (oxygen supply. Nasal airways. Face masks. Laryngoscopes. Tracheal tubes. Bag-mask ventilation device. Suction. IV cannulas. Defibrillator.

- x. Resuscitation drugs. Atropine. Epinephrine. Ephedrine. Suxamethonium. Phenylephrine. Glycopyrrolate. Intralipid.
- xi. Sedatives (midazolam, propofol, ketamine)
- xii. Adjuvants to local anaesthetics (fentanyl, clonidine etc.)
- xiii. Anticonvulsants- diazepam
- xiv. Antiarrhythmic agents

Structured Programme

The programme must be structured to include skills acquisitions, lectures, tutorials and journal club which should be supervised by a regional Anaesthetist.

Regular feedback should be provided to the candidate and vice versa.

There should be ample accessibility to new information by provision of appropriate regional anaesthesia journals as well as access to the internet and on-line information.

Seminar Room

Seminars, journal reviews, tutorials, case presentations, morbidity and mortality reviews

Simulation Room

All simulation equipment for regional anaesthesia- ultrasound, peripheral stimulators, needles, blue phantom,

Library

Regional anaesthesia textbooks and journals, e-library with computers and internet facility.