ANESTHESIOLOGY

TRAINING PROGRAM - FCPS

College of Physicians and Surgeons Pakistan

2017

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About the COLLEGE

The College was established in 1962 through an ordinance of the Federal Government. The objectives/functions of the College include promoting specialist practice of Medicine, Obstetrics & Gynaecology, Surgery and other specialties by securing improvement of teaching and training, arranging postgraduate medical, surgical and other specialists training, providing opportunities for research, holding and conducting examinations for awarding College diplomas and admission to the Fellowship of the College.

Since its inception, the College has taken great strides in improving postgraduate medical and dental education in Pakistan. Competency based structured Residency Programs have now been developed, along with criteria for accreditation of training institutions, and for the appointment of supervisors and examiners. The format of examinations has evolved over the years to achieve greater objectivity and reliability in methods of assessment. The recognition of the standards of College qualifications nationally and internationally, particularly of its Fellowship, has enormously increased the number of trainees and consequently the number of training institutions and the supervisors. The rapid increase in knowledge base of medical sciences and consequent emergence of new subspecialties have gradually increased the number of CPSP fellowship disciplines to seventy three.

After completing two years of core training during IMM, the trainees are allowed to proceed to the advanced phase of FCPS training in the specific specialty of choice for 2-3 years. However, it is mandatory to qualify IMM examinations before taking the FCPS-II exit examinations. The prospectii of IMM in each discipline have been extensively revised and structured so as to delineate well defined competencies to be achieved along with their level of participation. These prospectuses have been complemented by color coded Structured Visual Curriculum Display (SVCD) charts to be placed at a prominent place in each training Unit. They help remind at a glance, the trainees and the supervisors, about the competencies and their levels to be achieved at a given time period along with the minimum number of cases.

They also describe the rotations to be performed along with their duration and objectives, mandatory workshops to be attended, and the requirements and deadlines for submitting research synopsis and dissertation (or two research articles in lieu of the dissertation as per CPSP rules). The work performed by the trainee is to be recorded in the e-logbook on daily basis. The purpose of the e-log is to ensure that the entries are made on a regular basis and to avoid belated and fabricated entries. It will hence promote accuracy, authenticity and vigilance on the part of trainees and the supervisors.

The average number of candidates taking CPSP examinations each year is over 32,000. The College conducts examinations for FCPS-I (11 groups of disciplines), IMM, FCPS II (73 disciplines), MCPS 22 disciplines, including MCPS in Health Professions Education and Health Care System Management. A large number of Fellows and senior medical teachers from within the country and overseas are involved at various levels of examinations of the College. Since IMM examination is used merely as a midway assessment, it now includes TOACS (Task Oriented Assessment of Clinical Skills), which is more objective and standardized method to assess clinical skills. It is important to note that in the overall scenario of health delivery over 85% of the total functioning and registered health care specialists of the country have been provided by the CPSP. To coordinate training and examination, and provide assistance to the candidates stationed in cities other than Karachi, the College has established 14 Regional Centers (including five Provincial Headquarter Centers) in the country. The five Provincial Headquarter Centers, in addition to organizing the capacity building workshops/short courses also have facilities of libraries, I.T, and evaluation of synopses and dissertations along with providing guidance to the candidates in conducting their research work. The training towards Fellowship can be undertaken in more than 198 accredited medical institutions throughout the country and 48 accredited institutions abroad. The total number of trainees in these institutions is over 18300 who are completing residency programs with around 3172 supervisors. These continuous efforts of the College have even more importantly developed a credible system of postgraduate medical education for the country.

The College strives to make its courses and training programs 'evidence' and need 'based' so as to meet international standards as well as to cater to the specialist healthcare needs not only for this country but also for the entire region.

Prof. Zafar Ullah Chaudhry
President
College of Physicians
and Surgeons Pakistan

TRAINING AND EXAMINATIONS SUMMARY

The College lays down the training programs and holds examination for the award of Fellowship in the following disciplines:

Disciplines for 1st Fellowship

1. Anatomy
2. Anesthesiology
3. Biochemistry
4. Cardiac Surgery
5. Cardiology
6. Chemical pathology
7. Clinical Haematology
8. Community Medicine
9. Dermatology
10. Diagnostic Radiology
11. Emergency Medicine
12. Family Medicine
13. Forensic Medicine
14. Gastroenterology
15. General Medicine
16. General Surgery
17. Haematology
18. Histopathology
19. Immunology
20. Medical Oncology
21. Microbiology
22. Nephrology
23. Neurology
24. Neurosurgery
25. Nuclear Medicine
26. Obstetrics and Gynaecology
27. Operative Dentistry
28. Ophthalmology
29. Oral & Maxillofacial Surgery
30. Orthodontics
31. Orthopedic Surgery
32. Otorhinolaryngology (ENT)
33. Paediatric Surgery
34. Paediatrics
35. Periodontology
36. Pharmacology
37. Physical Medicine & Rehabilitation
38. Physiology
39. Plastic Surgery
40. Prosthodontics
41. Psychiatry
42. Pulmonology
43. Radiotherapy
44. Thoracic Surgery
45. Urology
46. Virology

Disciplines for 2nd Fellowship

1. Child and Adolescent Psychiatry
2. Cardio-Thoracic Anesthesiology
3. Clinical Cardiac Electrophysiology
4. Community and Preventive Paediatrics
5. Critical Care Medicine
6. Developmental and Behavioural Paedaitrics
7. Endocrinology
8. Gynecological Oncology
9. Infectious Diseases
10. Interventional Cardiology
11. Maternal and Fetal Medicine (MFM)
12. Neonatal Paediatrics
13. Orbit & Oculoplastics
14. Paediatric Cardiology
15. Paediatric Gastroenterology Hepatology & Nutrition
16. Paediatric Haematology Oncology
17. Paediatrics Infectious Diseases
18. Paediatric Nephrology
19. Paediatric Neurology
20. Paediatric Ophthalmology
21. Pain Medicine
22. Reproductive Endocrinology and Infertility
23. Rheumatology
24. Surgical Oncology
25. Urogynaecology
26. Vitreo Retinal Ophthalmology
27. Vascular Surgery

Fellowship of the College of Physicians and Surgeons Pakistan is awarded to those applicants who have:

- a recognized medical degree;
- completed one year house job in a recognized institution
- passed the FCPS Part I Anesthesiology Examination;
- registered with the Registration & Research Cell (R&RC);
- undergone specified years of supervised accredited training on whole time basis.
- passed IMM examination in Anesthesiology.
- obtained approval of dissertation/ two research articles (related to the specialty) published/ accepted for publication in CPSP approved journal(s):
- completion of entries in e-logbook along with validation by the supervisor;
- been declared successful in examinations carried out by the Examination Department of the CPSP; and
- been elected by the College Council.

It is important to note that all applicants must undergo a formal examination before being offered Fellowship of the relevant specialty, except in case of Fellowship without examination.

TRAINING ENQUIRIES AND REGISTRATION

All trainees should notify the college in writing of any change of address and proposed changes in training (such as change of supervisor, change of department, break in training etc) as soon as possible.

GENERAL INFORMATION

REGISTRATION AND TRAINING

GENERAL REGULATIONS

The following regulations apply to all the candidates entering in the training program taking the Examination. Candidate will be admitted to the examination in the name (surname and other names) as given in the MBBS degree. CPSP will not entertain any application for change of name on the basis of marriage/divorce/deed.

ELIGIBILITY REQUIREMENTS FOR ENTERING THE TRAINING PROGRAM IN ANESTHESIOLOGY

- Passed FCPS I in Anesthesiology
- Completed one year house job in a recognized institution.

EXEMPTION FROM FCPS PART-I

An application for exemption from FCPS Part-I must be submitted to the Examination Department of College with all the relevant documents and a bank draft for the prescribed fee.

After due verification, the College may grant exemption from FCPS Part-I to those applicants who have acquired any of the following qualifications in Anesthesiology:

- Diplomat American Board of Specialties
- FCPS Part-I Bangladesh • FFARCS- Ireland • FRCA- UK

In all other cases, after proper scrutiny and processing, the College shall decide acceptance or rejection of the request for exemption from FCPS-I on case to case basis. Candidates with FCPS II / equivalent qualification (Recognized by CPSP Council) may be given exemption of two years IMM training in Anesthesiology on application. All applicants who are allowed exemption will be issued an EXEMPTION CERTIFICATE on payment of exemption fee. A copy of this certificate will have to be attached with the application to the Registration & Research Cell (R&RC) of the CPSP, for registration as FCPS trainee and later with the application for appearing in IMM and FCPS Part-II examination.

DURATION OF TRAINING IN ANESTHESIOLOGY

Total duration of the training is four years divided into following two phases:

- Intermediate Module in Anesthesiology consists of first two years of training, after which the resident becomes eligible to appear in the Intermediate Module Examination. Details about the Intermediate Module are given on pages to follow.
- Last two years consist of advanced training in Anesthesiology with prescribed rotations known as FCPS II.

All phases of training inclusive of rotations are to be completed one month before the date of theory examination for IMM or FCPS-II.

EXEMPTION IN TRAINING

Candidates who have already acquired MCPS in anesthesiology and have passed FCPS part I after acquiring MCPS qualification, will be eligible for exemption of 1 year training during intermediate module. Such candidates will have to apply to the examination department for exemption.

APPROVED TRAINING CENTRES

Training must be undertaken in units/ departments/institutions approved by the College.

- Hospitals / Departments fully accredited with College of Physicians & Surgeons Pakistan (CPSP) for training in for four years.
- All recognized departments to be re-assessed after every 5 years for having maintained following minimum standards:
    - Presence of minimum number of supervisors, at least two
    - Organizing minimum required CPD / CME activities per year
    - Journal Club Meetings - fortnightly
    - Case Presentations - weekly
    - Hands-on Workshops
    - Regular In-Training Assessment (ITA) submission by the supervisor via E-log (quarterly)
- Since Anesthesiology is a skill based specialty, all departments recognized for training should display the following guidelines/ protocols
    - Minimum mandatory monitoring guidelines
    - BLS /ACLS guidelines
    - Anesthesia Machine check list
    - Failed Intubation and Ventilation Drills
    - Anaphylaxis protocol
    - Local Anesthetic Toxicity protocol
    - Malignant hyperthermia protocol

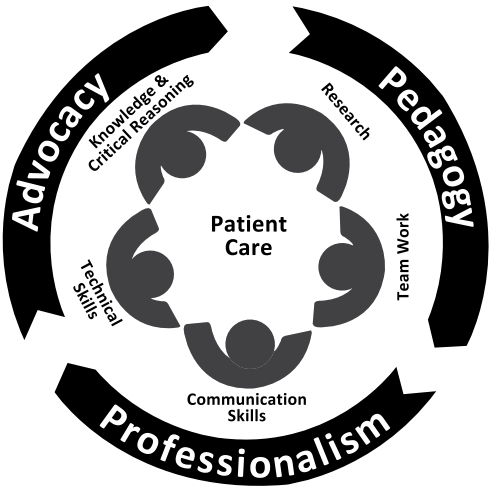
A current list of approved locations is available from the College and its regional offices, as well as on the College website: www.cpsp.edu.pk.

GENERAL REQUIREMENTS

Training should incorporate the principle of gradually increasing responsibility, and provide each trainee with a sufficient scope, volume and variety of experience in a range of settings that include inpatients, outpatients, emergency, operation theatres, intensive care and pain management, etc.

INSTRUCTIONAL METHODOLOGY

Teaching occurs using several methods that range from formal didactic lectures to planned clinical experiences. Aspects covered will include knowledge, skills and practices relevant to the discipline in order to achieve specific learning outcomes and competencies. College of Physicians & Surgeons Pakistan has developed its own competency model as under:



In order to achieve the competencies of CPSP model, all curriculum components including instructional methods should be appropriately aligned.

The theoretical part of the curriculum presents the current body of knowledge necessary for practice. This can be imparted through lectures, grand teaching rounds, clinico- pathological meetings, morbidity/ mortality review meetings, literature reviews and presentations, journal clubs, self directed learning, conferences and seminars.

Clinical learning is organized to provide appropriate expertise and competence necessary to evaluate and manage common clinical problems. Demonstration in pre-operative clinics and inpatient wards, operation theatres, Post Anesthesia care unit & procedural skill trainings on simulators, manikins and patients are all practical training modalities. The instructional methodology to be followed by the trainee during fellowship training includes:

1. On-Job Supervised Clinical Training
2. Tutorials/ Lectures/ Group Discussions
3. Workshops
4. Internet for recent advances

Each methodology should be used to its maximum to achieve the general objectives and also the specific competencies delineated.

E-LOGBOOK

The CPSP Council has made e-logbook mandatory for all residency programs trainees inducted in July 2011 and onwards. Upon registration with R&RC each trainee is allotted a registration number and a password to log on and make entries of all work performed and the academic activities undertaken in e-logbook on daily basis. The concerned supervisor is required to verify the entries made by the trainee. This system ensures timely entries by the trainee and prompt verification by the supervisor. It also helps in monitoring the progress of trainees and vigilance of supervisors.

SUPERVISOR'S

ROLE AND RESPONSIBILITIES

Training held under the aegis of CPSP is compulsorily supervised. A supervisor is a CPSP fellow or a specialist with relevant postgraduate qualifications recognized by CPSP.

Supervision of a trainee is a multifaceted job. Arbitrarily the task is divided into the following components for the sake of convenience. This division is by no means exhaustive or rigid. It is merely meant to give semblance to this abstract and versatile role.

EXPERT TRAINER

- This is the most fundamental role of the supervisors. They have to not only ensure and monitor adequate training but also provide continuous helpful feedback (formative) regarding the progress of the training.
- This would entail observing the trainee's performance and rapport with all the people within his work environment.
- They should teach the trainees and help them overcome the hurdles during the learning process.
- It is the job of the supervisor to make the trainee develop the ability to interpret findings in his/her patients and act suitably in response.
- The supervisor can assign other consultants in the Unit (Fellows waiting to become Supervisor) of supervision of specific procedures or for Workplace Based Assessment of trainees through Mini CEX, DOPS, etc.
- The supervisor must be adept at providing guidance in writing dissertation / research articles (which are essential components of training).
- Every supervisor is expected to participate actively in supervisors' workshops, conducted regularly by CPSP, and do the best to implement the newly acquired information/ skills in the training. It is a basic duty of the supervisors to keep abreast of the innovations in their field of expertise and ensure that this information percolates to trainees of all years under them.

RELIABLE LIAISON

- The supervisor must maintain regular contact with the College regarding training and the conduct of various mandatory workshops and courses.
- It is expected that the supervisor will establish direct contact with relevant quarters of CPSP if any problem arises during the training process, including the suitability of trainee.
- They must be able to coordinate with the administration of their institutions/ organizations in order to ensure that their trainees do not have administrative problems hampering their training.

PROFICIENT ADMINISTRATOR

- They must ensure that each trainee makes regular entries in e-logbook.
- Provide quarterly feedback regarding each trainee through e-log system.
- Provide record of "In Training Assessment" through e-log.
- The supervisors might be required to submit confidential reports on trainee's progress to the College.
- The supervisor should notify the College of any change in the proposed approved training program.
- In case the supervisor plans to be away for more than two months, he/she must arrange satisfactory alternate supervision during the period.

ROLE AND RESPONSIBILITIES

Given the provision of adequate resources by the institution, Trainees should:

- accept responsibility for their own learning and ensure that it is in accord with the relevant requirements;
- investigate sources of information about the program and potential supervisor, and play an informed role in the selection and appointment of the supervisor;
- seek reasonable infrastructure support from their institution and supervisor, and use this support effectively;
- ensure that they undertake training diligently;
- work with their supervisors in writing the synopsis / research proposal and submit the synopsis/ research proposal within six months of registration with the R&RC;
- accept responsibility for the dissertation, and plan and execute the research within the time limits defined;
- be responsible for arranging regular meetings with the supervisor to discuss any hindrances to progress and document progress etc. If the supervisor is not able/ willing to meet with the student on a regular basis, the student must notify the College;
- provide the supervisor with word-processed updated synopsis and dissertation drafts that have been checked for spelling, grammar and typographical errors, prior to submission;
- prior to submission of dissertation, the student should ensure that the supervisor has all the raw data relevant to the thesis;
- submit completed Dissertation to R&RC or evidence of publication / acceptance for publication of two research papers in CPSP approved journal (s) or JCPSP six months before the completion of (last year of) training. The trainee should be the first or second author of both papers and the synopsis of both papers must have a prior approval of R&RC;
- follow the College complaint procedures if serious problems arise;
- complete all requirements for sitting an examination;
- provide feedback regarding the training post to the College on the prescribed confidential form;

TRAINING PROGRAM

INTRODUCTION

Welcome to the residency program in the specialty of Anesthesiology. The College of Physicians & Surgeons Pakistan and the Faculty of Anesthesiology congratulate you on choosing the specialty of Anesthesiology.

Advancement in surgery is only possible with advancement in Anesthesiology. A very sought for specialty in the developed countries, it is an upcoming specialty in Pakistan.

Scope of this specialty is widening with the anesthesiologist playing a pivotal role not only in the operating room but also as a peri-operative Physician in critical care units, pain management clinics and trauma & emergency departments. An Anesthesiologist as a physician has to be aware of diseases and interventions in all clinical specialties in general and surgical specialties in particular. Moreover, they have to be well versed with the physiology of human body, pharmaco-dynamics and kinetics of the drugs.

The aim of the FCPS Anesthesiology training program is to make a specialist who can administer quality anesthesia for all types of surgical interventions including routine as well as complex and complicated cases with co-morbidities, and also someone who can manage critical care & pain management clinics. Besides, they can undertake academic responsibilities as a teacher, trainer and a researcher.

The aim of FCPS Anesthesiology program is to develop competencies such as application of knowledge, patient management, professionalism, teaching, conducting research and team work.

You can look forward to a bright future both as a clinician and academician in this field.

CURRICULUM

GOALS

The goals of fellowship program in Anesthesiology are to produce specialists who:

- Practice quality anesthesia of all types and forms and deal with complicated cases and complications.
- Resuscitate peri-operatively and in trauma care.
- Manage pain clinics and units.
- Manage critical care cases and units.
- Work as a planner, teacher, trainer and team leader.
- Plan and conduct Research & Audit.
- Develop Protocols/Guidelines.
- Follow principles of Medical Ethics and Quality Assurance in practice.
- Participate in Continuing Professional Development activities and keep updated with Recent Advances.

The aim of the Fellowship Programme in Anesthesiology is to produce specialists in the field who have attained the required competencies. By the end of the residency programme, the graduate will be able to

- Take appropriate histories
- Demonstrate proficiency in the requisite physical examinations
- Justify the ordering and interpretation of tests and investigations
- Appropriately diagnose and rule in and rule out contending conditions
- Manage the problem in a cost effective manner
- Apply the requisite knowledge and skills to think critically and solve problems
- Be an effective team player, leading the team if necessary
- Communicate effectively with:
    - o patients and their attendants with empathy and compassion, in interviewing, counseling, breaking bad news, behavioural modification and shared decision-making, recognizing the impact of the condition on the patients and their families
    - o seniors, peers, juniors, learners and other health professionals;
- Demonstrate risk analysis and emphasis on prevention
- Ensure patient safety
- Manage emergencies related to the specialty
- Present well in clinics, rounds and conferences

- Document concise and accurate histories, prescriptions, progress notes, discharge summaries and referrals
- Keep up to date and practice evidence based medicine
- Demonstrate putting patients first
- Demonstrate honesty, integrity and timeliness (punctuality and task completion)
- Maintain confidentiality, patient autonomy, take appropriate consent and do no harm
- Consults with colleagues and refer as necessary
- Demonstrates effective teaching skills

- Exhibit advocacy for their patients, practice (service/ department), profession (discipline/specialty) and population-based problems related to their specialty
- Participate in clinical governance and clinical audit
- Demonstrate research, and use of research in improving clinical practice
- Maintain highest standards of practice
- Demonstrate conflict resolution, management skills and leadership

CPSP is inclined to follow an outcome based curricular format, which is a blend of behavioral and cognitive philosophies of curriculum development. Following is a global and extensive, yet not the total, list of learning outcomes
recommended by the College.

LEARNING OUTCOMES RELATING TO:
I. COGNITION
The learning outcomes will all be at the application level which is the gold standard. The candidate will be able to:
- Relate how body function gets altered in diseased states.
- Request and justify investigations and plan anesthetic management.
- Assess new medical knowledge and apply it to their setting.
- Apply quality assurance procedures in their daily work.

II. SKILLS
Written Communication Skills
The candidates will be able to:
- Correctly write updated medical records, which are clear, concise and accurate.
- Correctly fill pre-operative and intra-operative forms & flowcharts
- Write clear post-operative management plans, discharge summaries.
- Demonstrate competence in academic writing.

Verbal Communication Skills

The candidates will be able to:

- Establish professional relationships with patients and their relatives or caregivers in order to obtain a history, conduct a physical examination and provide appropriate management.
- Demonstrate usage of appropriate language in seminars, bedside sessions, outpatients and other work situations
- Communicate clearly, considerately and sensitively with patients, relatives, other health professionals and the public.
- Demonstrate competence in presentation skills

Examination Skills

The candidates will be able to:

- Perform accurate physical examination in medical and other complex health problems.
- Interpret physical signs after physical examination so as to formulate further management.

Patient Management Skills

The candidates will be able to:

- Interpret and integrate history and examination findings and arrive at appropriate differential diagnosis and diagnosis.
- Demonstrate competence in problem identification, analysis and management of problem at hand by use of appropriate resources and interpretation of lab results.
- Apply knowledge of therapeutic interventions used in the field of Anesthesia for patient management.
- Prioritize different problems within a time frame.

Skills in Research

The candidates will be able to:

- Use evidence based medicine and evidence based guidelines
- Conduct research individually by using appropriate research methodology and statistical methods.
- Guide others in conducting research by advising about study designs, research methodology and statistical methods that are applicable.
- Interpret and use results of various research articles.

III. ATTITUDES

Demonstrate adherence to the tenets of medical professionalism

Towards Patients

The candidates will be able to:

- Establish a positive relationship with patients in order to ease illness and suffering.
- Facilitate the transfer of information required for management and prevention of disease.
- Demonstrate awareness of bio-psycho-social factors in assessment and management of a patient.
- Consistently show consideration of interests of the patient and the community as paramount.

Towards Self Development

The candidate will be able to:

- Demonstrate consistently, respect for every human being irrespective of ethnic background, culture, socioeconomic status and religion
- Deal with patients in a non-discriminatory and prejudice-free manner
- Deal with patients with honesty and compassion
- Demonstrate flexibility and willingness to adjust appropriately to changing circumstances
- Foster the habit and principle of self-education and reflection in order to constantly update and refresh knowledge and skills and as a commitment to continuing education.
- Recognize stress in self and others
- Deal with stress and support medical colleagues and allied health workers.
- Handle complaints including self-criticism or criticism by colleagues or patients
- Understand the importance of obtaining and valuing a second opinion.

Towards Society

The candidate will be able to:

- Understand the social and governmental aspects of health care provision.
- Offer professional services while keeping the cost effectiveness of individual forms of care.
- Apply an understanding of hospital & community-based resources available for patients and care givers in underserved areas.

OVERVIEW OF BASIC & ADVANCED MODULE

The curriculum is designed to guide the supervisor & facilitate the trainee to achieve the goals of fellowship in the following areas of cognition and to acquire laid down skills & attitudes. Since advanced module or FCPS II is a continuum of the first two years, the candidate will revisit the identified areas covered in the IMM as well as study the topics given in Advanced Module.

Section A: Applied Basic Sciences

1. Clinical Pharmacology
2. Clinical Anatomy, Physiology
3. Applied Physics, Anesthesia Machine & Monitoring Equipment
4. Clinical measurement

Section B: Co-existing Diseases

1. Patho-physiology & management
2. Decision making and referral

Section C: Clinical Anesthesia for different Surgical Disciplines, General/Regional/Local

1. Pre-operative assessment, Preparation & Risk assessment
2. Intra operative management
3. Post operative care
4. Critical Incidents & Crises management

Section D: Resuscitation & Trauma Medicine

1. Cardio pulmonary resuscitation BLS/ACLS
2. Advanced Trauma Life Support
3. Trauma Medicine

Section E: Critical care management

1. Clinical
2. Administrative

Section F: Pain management

1. Clinical
2. Administrative

INTERMEDIATE MODULE REQUIREMENTS

INTRODUCTION

To ensure better training, the CPSP introduced an Intermediate Module examination in several disciplines in 2001. This mid-training assessment strengthens the monitoring and in-training assessment systems by providing trainees with an estimate of mid-training competence. It also serves as a diagnostic tool for trainees & supervisors, provides a curricular link between basic and advanced training, and an opportunity for sampling a wider domain of knowledge & skills.

Vide Notification No. 6-1/Exam-04/CPS/1438S dated July 21, 2004 all FCPS II trainees in Anesthesiology must have passed the Intermediate Module examination as one of the mandatory eligibility requirements for sitting in FCPS II examination in September 2007 onwards. Candidates are required to complete two years training in Anesthesiology, attend all mandatory workshops and sit the Intermediate Module examination. In case of failure in the Intermediate Module examination, the trainees are permitted to continue their training in the chosen discipline but must pass the Intermediate Module examination prior to sitting the final FCPS-II examination.

REGISTRATION AND SUPERVISION

All trainings must be supervised, and trainees are required to register with the Registration & Research Cell (R&RC) within 30 days of starting their training for the Intermediate Module. In case of delay in registration, the start of training will be considered from the date of receipt of application by the R&RC. Registration forms are sent to successful candidates with the result of the FCPS I examination. They must submit the name of their supervisor by the date indicated on the registration form. Training is compulsorily monitored by an approved supervisor who is a CPSP fellow or a specialist with relevant postgraduate qualifications registered with the R&RC. The trainees are not allowed to work simultaneously in any other department/institutions for financial benefit and/or for other academic qualifications.

Candidates with FCPS II / equivalent qualification (Recognized by CPSP Council) may be given exemption of two years IMM training in Anesthesiology on application.

MANDATORY WORKSHOPS

It is mandatory for all trainees to attend the following CPSP certified workshop in the 2 years before attempting the Intermediate Module exam.

1. Introduction to Computer & Internet.
2. Research Methodology & Dissertation writing
3. Communication Skills
4. Advance Cardiac Life Support (ACLS) course

NOTE: 1) The workshops are conducted by the Department of Medical Education and the candidates are advised to get registered online. The BLS course is conducted by the Advanced Skills Department (ASD) and the registration form is to be submitted with the ASD separately.

2) No candidate will be allowed to appear in IMM examination without attending the above mentioned workshops including ACLS.

RESEARCH (DISSERTATION / TWO PAPERS)

One of the requirements for fellowship training is writing of a dissertation or two research papers on a topic related to the field of specialization. Synopsis of the dissertation or research papers must be approved from the Registration & Research Cell (R&RC) of CPSP by the end of first year of the Intermediate Module before starting the research work.

OBJECTIVES INTERMEDIATE MODULE

Upon completion of the first 2 years of training a candidate will be able to:

1. Apply the knowledge of basic sciences for assessing and resolving clinical problems
2. Demonstrate knowledge, skills and attitudes required to practice quality anesthesia (General/ Regional) in a variety of settings and in sufficient volume.
3. Understand Critical care and Pain management
4. Understand various Research Methodologies and be able to analyze data, carry out literature review and conduct research.
5. Conduct clinical audits
6. Demonstrate Basic and Advanced Resuscitative Skills.
7. Keep updated about Recent Advances.
8. Demonstrate skills of teaching and leadership.

SPECIFIC COMPETENCIES

Emphasis is laid on the acquisition of following specific competencies:

1. Application of evidence based guidelines / protocols for patient's safety
    - Minimum mandatory monitoring BLS /ACLS guidelines
    - Anesthesia Machine check list
    - Failed Intubation and Ventilation Drills
    - Anaphylaxis management
    - Local Anesthetic Toxicity protocol
    - Malignant hyperthermia protocol
2. History Taking
3. Comprehensive Physical Examination
4. Interpretation of Investigations
5. Risk Assessment & making plans of Anesthesia for ASA I -V, elective & emergency patients
6. Clinical diagnosis of co-morbids
7. Documentation of medical records
8. Communication and counseling of patients, relatives and fellow professionals
9. Safe use of relevant equipment & safety pertaining to Operation Theatre environment
10. Procedural skills
11. Manage critical care patients under supervision
12. Pain management under supervision
13. Teach and Train junior residents and paramedics

SYLLABUS

Section A: Applied Basic Sciences

1. Applied Clinical Pharmacology

A) General pharmacology with in depth knowledge of pharmacokinetics & pharmacodynamics of drugs used to provide General Anesthesia

- Medical gases
- Intravenous anesthetics
- Inhalational anesthetics
- Local Anesthetics
- Neuro muscular blockers-Depolarizers / Non Depolarizers
- Reversal agents of neuro muscular blockers
- Analgesics - Opioids /Opioid Antagonists/ Non Opioids
- Sedatives - e.g. Benzodiazepines
- Anticholinergics
- Premedicants - Anxiolytics, Antisialagouges, Prokinetics, Antiemetics, Regurgitation Prophylaxis
- Adrenergics / Antagonists / Hypotensive agents

B) Pharmacological management of

- Adverse drug reactions
- Anaphylaxis
- Cardio pulmonary resuscitation
- Systemic toxicity
- Substance abuse
- Pharmacology & provision of regional anesthesia
- Pharmacology related to Acute and Chronic Pain
    - Opioids and opioid antagonists
    - Non-opioids
    - Local anesthetics
    - Adjuvants - Antidepressants,Anti-arrhythmics, Antihistamines

2. Anatomy, Physiology &Patho-physiology of Systems

A) Respiratory System

- Detailed anatomy & physiology

B) Cardio Vascular System

- Detailed anatomy & physiology

C) Central Nervous System

- Anatomy
    - Gross anatomy of Brain
    - Detailed anatomy of spinal cord, its coverings and function
    - Formation of Cerebral spinal fluid
    - Cerebral circulation
    - Vertebral column
    - Dermatomal distribution
    - Pain pathways
- Physiology
    - Neurotransmitters
    - CSF, Intracranial Pressure
    - Cerebral circulation and determinants of Cerebral blood flow
    - Synapse and synaptic transmission
    - Effects of anesthetics on the CNS
    - Gateway theory

D) Autonomic Nervous System

- Anatomy
- Physiology
    - Sympathetic receptors and transmitters
    - Parasympathetic receptors and transmitters
    - Anesthetic effects on the Autonomic Nervous System

E) Neuromuscular Junction

- Neuromuscular anatomy and transmission
- Tests of Neuromuscular function
- Interpretation of Peripheral Nerve Stimulator

F) Liver

- Hepatic circulation
- Liver Functions and Tests
- Effects of anesthesia and surgery on liver function

G) Kidney

- Basic anatomy of kidneys, Nephron as a unit
- Body compartments and Body fluids
- Renal functions and Renal blood flow
- Renal Function Tests
- Acid-Base control
- Fluid and Electrolyte Balance and Calcium & Magnesium Metabolism

- Peri-operative fluid therapy
- Effects of anesthesia & surgery on renal function
- Implication of Renal Transplantation

H) Maternal and Neonatal Anatomy & Physiology
- Anatomy of placenta
- Physiology of the Uteroplacental Unit - Placental drug transfer
- Physiology of pregnancy
- Principles of fetal assessment and monitoring (CTG)
- Neonatal and paediatric anatomical & physiological changes

3. Applied Physics, Anesthesia machine & Monitoring Equipment

A) Physical laws governing the function of all anesthesia equipment

B) Physical concepts governing delivery of anesthetics e.g. vapor pressure, B/G solubility, O/G Solubility, boiling point, critical temperature and pressure, MAC

C) Operation theater environment

D) Humidity & humidification

E) Electrical safety

F) Safety of operation theater personnel

G) Cleaning & sterilization of equipment

H) Anesthesia machine, Breathing circuits & Ventilators,

I) Oxygen Therapy Devices & Ventilator

J) Scavenging system

K) Monitoring equipment - Principles & Functioning
- Oximeter
- Capnograph
- Electrocardiograph
- NIBP monitor

4. Clinical measurement - interpretation and limitations

A) Monitoring of Respiratory function
- Airway pressure, volume, flow, compliance
- Oximetry
- Capnography
- Arterial blood gas analysis

B) Monitoring of Cardiovascular system
- B.P measurement, Non invasive
- Interpretation of Electrocardiogram
- Principles of Central Venous Pressure Monitoring.

C) Monitoring of Neuromuscular junction
- Peripheral Nerve Stimulator

D) Monitoring of Renal / Hepatic / Haematologic System. Interpretation of relevant investigations

E) Interpretation of imaging & ultrasound
- Plain X-Ray - Neck, Chest, Spine
- Ultrasound

F) Fetal monitoring - Basic Concepts

Section B: Understanding of Co-existing Diseases
Pathophysiology, Management and Anesthetic implications of common systemic medical diseases

A) Central Nervous System
- Pathophysiology of Head Trauma

B) Cardio-Vascular System
- Coronary Artery Disease
- Hypertension
- Dysrhythmias and Heart Blocks

C) Respiratory System
- Upper Respiratory Tract Infections & Pathologies
- Chronic Obstructive Airway Diseases
- Asthma
- Restrictive Airway Disease
- Obstructive Sleep Apnea
- Pneumo./Hemo./Hydrothorax

D) Endocrinopathies
- Thyroid Dysfunction
- Diabetes Mellitus

E) Renal Diseases
- Acute and Chronic Renal Failure
- Acid-Base Disturbances
- Water & Electrolyte Imbalance

F) Musculo-Skeletal & Neuromuscular Diseases
- Myasthenia Gravis & Myasthenic Syndrome
- Guillain Barre's Syndrome
- Tetanus

G) Hematologic Disorders
- Anemias
- Coagulopathies
- Platelet disorders

H) Obesity

I) Geriatrics

J) Obstetrics
- Medical diseases complicating pregnancy
- Surgical conditions concurrent with pregnancy
- Pre-eclampsia and Eclampsia
- Obstetric haemorrhage and resuscitation
- Amniotic fluid embolism
- Labour pain pathways and physiology

K) Liver Disorders
- Hepatitis and its implication
- Cirrhosis

Section C: Anesthesia for Different Surgical Disciplines

General & Regional Techniques for all surgical procedures done during mandatory rotations of IMM in both elective & emergency surgeries
Medical implications due to the surgical condition
Decision making on elective / emergency surgery
Decision making on general / regional techniques
Decision making on day care / in patient management

Surgical Disciplines
- General Surgery/Minimal Access Surgery
- Obstetrics / Gynecology
- Orthopedics
- Traumatology & Resuscitation
- ENT
- EYE
- Facio-maxillary
- Dental Surgery

Day Care Surgery

- Selection criteria
- Choice of anesthesia
- Special anesthesia techniques
- Minimum monitoring standards
- Post-op care
- Discharge criteria
- Critical incidents, crisis management

1. Pre-operative Assessment and Management with Risk Assessment

- Assessment - history taking, physical examination
- Ordering & interpretation of investigations
- ASA grading, Risk Assessment, Airway Assessment, Prediction of Peri-operative M&M
- Anesthetic implications of surgical conditions,
- Emergency & Elective - optimization & advice
- Anesthetic implications of concurrent medical therapy and advice
- Pre-medication and request for blood and blood products
- Pre-operative fasting guidelines
- Informed consent and counseling
- Plan of Anesthesia - General / Regional, Day Care / Inpatient.

2. Post-Operative Care

- PACU orders
- PACU essential monitoring
- Analgesia
- Oxygen therapy
- Discharge criteria

3. Implications of intra-operative events

- Cardiovascular System
  - Hypertension, Hypotension
  - Dysrhythmias, Heart Blocks, Cardiac Arrest
  - Myocardial Ischemia

- Respiratory System
  - Hypoxia, Hypo and Hypercapnia
  - Airway Obstruction
  - Laryngospasm, Bronchospasm
  - Pulmonary Edema
  - Pulmonary Aspiration

- Pneumothorax
- CICV
- Pulmonary Embolism
- Air Embolism

- Drug Induced Crisis
  - Overdosage
  - Delayed Recovery
  - Sux. Apnea
  - Dual Block
  - Awareness
  - Malignant Hyperthermia
  - Anaphylaxis

- Miscellaneous
  - Hypothermia
  - Injuries

Section D: Resuscitation and Trauma Medicine

- Adult Resuscitation
- BLS & ACLS
- Principles of Neonatal Resuscitation
- Principles of PALS
- Principles of Advanced Trauma Life Support
- Principles of Triage and Trauma Scoring
- Principles of damage control surgery
- Principles of fluids & resuscitation in trauma
- All Resuscitative fluids, devices & equipment
- Head & spinal trauma
- Trauma of other body parts

Section E: Critical Care Management

Clinical Management

A) Admission & discharge criteria

B) Basic understanding of common medical & surgical patients requiring high dependency or critical care management due to elective reasons or due to any critical incident.

C) Critical Care Management of commonly admitted patients to ICU (e.g.) Tetanus, G.B, Sepsis, Shock, MODS, head trauma, poly trauma, obstetric cases.

D) Knowledge of systemic support of all systems required by a critically ill patient (e.g.) cardiac, renal, hematologic, nutritional

E) Respiratory failure and respiratory support including all forms of oxygen-therapy and devices and ventilator parameters, modes of ventilation.

F) Brain death & vegetative states

G) Knowledge of managing emergencies like diabetic ketoacidosis, massive haemorrhage, status asthmatics, status epilepticus, acute renal failure, acute hepatic failure, disturbance of temperature regulation.

H) Poisoning & envenomation

I) General nursing care & infection control.

J) Analgesia & sedation

K) Comprehensive anatomical, physiological & pharmacological knowledge to carry out the invasive procedures safely under supervision. Be familiar with correct pharmacological assistance & safe use of devices and equipment used for invasive procedures.

Section F: Pain Management

Clinical Management

- Pharmacological management of pain with analgesics, anesthetics and adjuvants
- Basic knowledge of alternative techniques.

CLINICAL COMPETENCIES

The clinical competencies, a specialist must have, are varied and complex. A list of the core procedural competencies to be aquired during training in the Department of Anesthesiology is given below. The level of competencies to be achieved each year is specified according to the key, as follows:

1. Observer status
2. Assistant status
3. Performed under supervision
4. Performed independently.

COMPETENCIES	FIRST YEAR								
	3 Months		6 Months		9 Months		12 Months		Total Cases First Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
A. CLINICAL SKILLS History taking, Physical examination, Interpretation of Investigations, including Radiology; CXR & X-ray Cervical Spine	3	25	4	25	4	25	4	25	100
Management of concurrent illness and pre-operative assessment with relevance to anesthesia. Advice on pre-operative medications & preparation	3	20	3	30	3	25	4	25	100
Decision making on referral / consult	1	25	2	25	3	25	4	25	100
Risk assessment, anesthesia plan & administration of anesthesia	1	20	1	30	2	25	3	25	100
Crisis Management	1	2	1	2	2	3	2	3	10
Recovery and post-operative care	2	10	2	10	3	15	3	15	50
Documentation / Record keeping	3	25	3	25	4	25	4	25	100
B. COMMUNICATION & COUNSELING SKILLS									
Counsel patients and their relatives about the anesthetic interventions in minor & moderate surgeries	2	20	2	20	3	30	3	30	100
Obtain informed consent	3	20	3	20	4	30	4	30	100
Counsel on crisis situation and management of complications	2	20	2	20	3	30	3	30	100
Presentation skills	-	-	3	1	-	-	3	1	2

COMPETENCIES	FIRST YEAR								
	3 Months		6 Months		9 Months		12 Months		Total Cases First Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
C. PROCEDURAL SKILLS									
Intra - Vascular Access and Interpretation of Invasive Monitoring									
Peripheral I/V cannulation	4	25	4	25	4	25	4	25	100
Central I/V cannulation	2	1	2	1	3	2	3	3	7
Arterial cannulation	2	1	2	1	2	1	2	2	5
Airway Management									
Mask, Guedel's Airway, Nasal airways	4	15	4	15	4	20	4	25	75
Supra glottic devices	2	15	3	15	3	20	3	25	75
Endotracheal Intubation	2	15	3	15	3	20	3	25	75
Mallampati I & II	2	15	3	15	3	20	4	25	75
Mallampati III & IV	1	1	1	1	2	1	2	2	5
Cricothyroidotomy Percutaneous Dilatational Tracheostomy Video Assisted Intubation Fiber optic Bronchoscopy	These competencies are expected to be acquired by the candidate preferably during IMM through Difficult Airway Management Workshops being conducted at multiple places								
Thoracostomy / Chest Intubation	1	1	1	1	1	1	1	2	5
Anesthesia Equipment									
Use of Anesthesia equipment & sundries	2	20	3	20	4	30	4	30	100
Use of monitors & interpretation of information: Oximetry, Capnography, NIBP, ECG, Temperature Peripheral Nerve Stimulator	2	20	3	20	4	30	4	30	100

COMPETENCIES	FIRST YEAR								
	3 Months		6 Months		9 Months		12 Months		Total Cases First Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
Regional Techniques									
Sub-arachnoid Block	2	10	3	3	10	3	3	15	50
Epidural / Caudal	1	2	2	2	2	2	2	3	10
Combined Spinal Epidural	1	2	2	2	2	2	2	3	10
Local Blocks (Miscellaneous)									
Brachial Plexus Blocks	1	1	1	1	1	2	2	2	5
Wrist Block	1	1	1	1	1	2	2	2	5
Intercostal Block	1	1	1	1	1	2	2	2	5
TAP Block	1	1	1	1	1	2	2	2	5
Sciatic Block	1	1	1	1	1	2	2	2	5
Three in One Block	1	1	1	1	1	2	2	2	5
Popliteal Block	1	1	1	1	1	2	2	2	5
Biers Block	1	1	1	1	1	2	2	2	5
Ankle Block	1	1	1	1	1	2	2	2	5
D. ACUTE PAIN MANAGEMENT									
a. Post-operative Pain									
Systemic	3	10	3	10	3	10	3	20	50
Epidural / Caudal	1	2	1	2	2	3	2	3	10
Patient Controlled Analgesia	1	1	1	1	2	1	2	2	5
Nerve Blocks / Ultrasound guided	1	2	1	2	2	2	2	2	5
b. Epidural Analgesia for Labour									
Epidural for Labor Analgesia	-	-	-	-	1	2	1	2	4

COMPETENCIES	WORKPLACE BASED ASSESSMENT								
	3 Months		6 Months		9 Months		12 Months		Total No. of WPBAs
	Level	No.	Level	No.	Level	No.	Level	No.	
Direct Observation of Skills (DOPS)									
Mask Ventilation	4	1	-	-	-	-	-	-	
Guedel's Airway	4	1	-	-	-	-	-	-	
Nasal airways	4	1	-	-	-	-	-	-	
Intravenous Cannulation	4	1	-	-	-	-	-	-	5
Endotracheal Intubation (Mallampati I / II)	-	-	-	-	-	-	4	1	
Mini Clinical Exercise (Mini-CEX)									
Pre-anesthesia Assessment	-	-	4	1	-	-	-	-	
Airway Assessment	-	-	4	1	-	-	-	-	
Anesthesia Machine (and breathing circuits) (Check List (ASA / AAGBI)	-	-	-	-	4	1	-	-	4
Application and Interpretation of Basic Monitors (Oximetry / NIBP / Capnography / ECG)	-	-	-	-	4	1	-	-	
Case Based Discussions (CBDs)									
	-	-	-	-	-	-	-	-	0

COMPETENCIES	SECOND YEAR								
	15 Months		18 Months		21 Months		24 Months		Total Cases Second Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
A. CLINICAL SKILLS									
History taking, Physical examination, Interpretation of Investigations, including Radiology for CXR & X-ray Cervical Spine	4	10	4	10	4	15	4	15	50
Management of concurrent illness and pre-operative assessment with relevance to anesthesia. Advice on pre-operative medications & preparation	4	10	4	10	4	15	4	15	50
Decision making on referral / consult	4	10	4	10	4	15	4	15	50
Risk assessment, Anesthesia Plan & Administration of	3	10	3	10	4	15	4	15	50
Anesthesia	2	2	3	2	3	3	4	3	10
Crisis Management	3	10	4	10	4	15	4	15	50
Recovery and Post-operative care	4	10	4	10	4	15	4	15	50
Documentation / Record Keeping									
B. COMMUNICATION & COUNSELING SKILLS									
Counsel all patients and their relatives about the anesthetic interventions in minor & moderate surgeries	3	10	3	10	4	15	4	15	50
Obtain Informed consent	4	10	4	10	4	15	4	15	50
Counsel on crisis and management of complications	3	10	4	10	4	15	4	15	50
Presentation Skills	3	1	3	1	4	1	4	1	4

COMPETENCIES	SECOND YEAR								
	15 Months		18 Months		21 Months		24 Months		Total Cases Second Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
C. PROCEDURAL SKILLS									
Intra - Vascular Access and Interpretation of Invasive Monitoring									
Peripheral I/V cannulation	4	10	4	10	4	15	4	15	50
Central I/V cannulation	3	1	3	1	3	2	3	3	7
Arterial cannulation	2	1	2	1	3	1	3	2	5
Airway Management									
Mask, Guedel's Airway, Nasal airways	4	10	4	10	4	15	4	15	50
Supra glottic devices	3	10	3	10	4	15	4	15	50
Endotracheal Intubation	3	10	3	10	4	15	4	15	50
Mallampati I & II	3	15	3	15	4	20	4	25	30
Mallampati III & IV	2	2	2	2	3	3	3	3	10
Cricothyroidotomy Percutaneous Dilatational Tracheostomy Video Assisted Intubation Fiber optic Bronchoscopy	These competencies are expected to be acquired by the candidate preferably during IMM through Difficult Airway Management Workshops being conducted at multiple places								
Thoracostomy / Chest Intubation	2	1	2	1	2	1	2	1	4
Anesthesia Equipment									
Use of Anesthesia equipment & sundries	4	10	4	10	4	15	4	15	50
Use of monitors & interpretation of information Oximetry, Capnography, NIBP, ECG, Temperature Peripheral Nerve Stimulator	4	10	4	10	4	15	4	15	50

COMPETENCIES	SECOND YEAR								
	15 Months		18 Months		21 Months		24 Months		Total Cases Second Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
Regional Techniques									
Sub-arachnoid Block	3	10	3	10	4	15	4	15	50
Epidural / Caudal	2	2	2	2	3	3	3	3	10
Combined Spinal Epidural	2	2	2	2	3	3	3	3	10
Local Blocks (Miscellaneous)									
Brachial Plexus Blocks	2	1	2	1	3	1	3	2	5
Wrist Block	2	1	2	1	3	1	3	2	5
Intercostal Block	2	1	2	1	3	1	3	2	5
TAP Block	2	1	2	1	3	1	3	2	5
Sciatic Block	2	1	2	1	3	1	3	2	5
Three in One Block	2	1	2	1	3	1	3	2	5
Popliteal Block	2	1	2	1	3	1	3	2	5
Biers Block	2	1	2	1	3	1	3	2	5
Ankle Block	2	1	2	1	3	1	3	2	5
D. ACUTE PAIN MANAGEMENT									
a. Post-operative Pain									
Systemic	3	10	3	10	4	10	4	20	50
Epidural / Caudal	2	2	2	2	3	3	3	3	5
Patient Controlled Analgesia	2	1	2	1	3	1	3	2	4
Nerve Blocks / Ultrasound guided	2	2	2	2	3	2	3	2	4
b. Epidural Analgesia for Labor									
Epidural for Labor Analgesia	2	1	2	1	2	1	2	1	4

COMPETENCIES	WORKPLACE BASED ASSESSMENT								
	15 Months		18 Months		21 Months		24 Months		Total No. of WPBAs
	Level	No.	Level	No.	Level	No.	Level	No.	
Direct Observation of Skills (DOPS)									
Sub-arachnoid Block	3	1	-	-	4	1	-	-	2
Mini Clinical Exercise (Mini-CEX)									
Conduct of Anesthesia (LSCS)	3	1	-	-	-	-	-	-	
Rapid Sequence Induction	3	1	-	-	-	-	4	1	
Management of post-operative pain (Systemic Approach)	-	-	4	1	-	-	-	-	
CPR (Manikin-based Advanced Cardiac Life Support)	-	-	-	-	-	-	4	1	5
Case Based Discussions (CBDs)									
Anaphylaxis in anesthesia	-	-	3	1	-	-	-	-	
Massive Blood Transfusion	-	-	3	1	-	-	-	-	
Anesthesia for patients with Hypertension	-	-	-	-	3	1	-	-	5
Anesthesia for patients with IHD	-	-	-	-	-	-	3	1	
Post Dural Puncture Headache	-	-	-	-	-	-	3	1	

ROTATIONS	YEAR-1		YEAR-2		Total Cases
	Level	Cases	Level	Cases	
PRE-OPERATIVE CLINIC					
Pre-operative Clinic	4	100	-	-	100
ANESTHESIA FOR GENERAL SURGERY					
Minor to intermediate surgery: ASA I - III patients	3	100	4	50	150
Major Surgery: ASA I - III patients	2	23	3	47	70
Major Surgery: ASA IV & V patients/Extensive Surgery	1	2	2	3	5
ANESTHESIA FOR GYNAECOLOGY AND OBSTETRICS					
Minor to intermediate surgery: ASA I - III patients	3	60	4	50	110
Major Surgery: ASA I - III patients	2	38	3	47	85
Major Surgery: ASA IV & V patients/Extensive Surgery	1	2	2	3	5
ANESTHESIA FOR ORTHOPAEDICS & TRAUMA					
Minor to intermediate surgery: ASA I - III patients	3	60	4	25	85
Major Surgery: ASA I - III patients	2	38	3	23	61
Major Surgery: ASA IV & V patients/Extensive Surgery	1	2	2	2	4
ANESTHESIA FOR UROLOGY					
Minor to intermediate surgery: ASA I - III patients	4	45	-	-	45
Major Surgery: ASA I - III patients	3	25	-	-	25
Major Surgery: ASA IV & V patients/Extensive Surgery	2	5	-	-	5

ROTATIONS	YEAR-1		YEAR-2		Total Cases
	Level	Cases	Level	Cases	
ANESTHESIA FOR ENT SURGERY					
Minor to intermediate surgery: ASA I - III patients	-	-	4	30	60
Major Surgery: ASA I - III patients	-	-	4	15	35
Major Surgery: ASA IV & V patients/Extensive	-	-	3	5	5
ANESTHESIA FOR DENTAL SURGERY					
Minor to intermediate surgery: ASA I - III patients	-	-	4	25	25
Major Surgery: ASA I - III patients	-	-	4	13	13
Major Surgery: ASA IV & V patients/Extensive Surgery	-	-	3	2	2
ANESTHESIA FOR OPHTHALMOLOGY					
Minor to intermediate surgery: ASA I - III patients	-	-	4	25	25
Major Surgery: ASA I - III patients	-	-	4	13	13
Major Surgery: ASA IV & V patients/Extensive Surgery	-	-	3	2	2

ROTATIONS	YEAR-1		YEAR-2		Total Cases
	Level	Cases	Level	Cases	
PACU / ACUTE PAIN MANAGEMENT					
Post-op Pain Management (Systemic)	4	30	-	-	30
Regional / Blocks	3	20	-	-	20
ICU					
Intensive Care Unit Patient Management	-	-	3	30	30
EMERGENCY & DAY CARE SURGERY					
Emergency Cases	2	100	3	100	200
Day Care Cases	2	100	3	100	200

ASSESSMENT

ELIGIBILITY REQUIREMENTS

For appearing in Intermediate Module examination a candidate should have:

- Passed FCPS I in Anesthesiology or granted exemption
- Registered with the Registration & Research Cell (R&RC).
- Completed two years of training under an approved supervisor in an institution recognized by the CPSP. Submitted Certificate of completion of training
- Completion of entries in e-logbook along with validation by the supervisor
- Submission of "In training assessment" forms through e-log by the supervisor.
- Submitted certificates of attendance of mandatory workshops
- Submitted synopsis of dissertation or abstract of research articles

EXAMINATION SCHEDULE

- The IMM theory examination will be held twice a year.
- Theory examinations are held in various cities of the country usually at Abbottabad, Bahawalpur, Faisalabad, Hyderabad, Islamabad, Karachi, Lahore, Multan, Peshawar, Quetta and Rawalpindi, centers. The College shall decide where to hold oral/practical examination depending on the number of candidates in a city and shall inform the candidates accordingly
- English shall be the medium of examination for the theory/practical/ clinical and viva examinations.
- The College will notify of any change in the centers, the dates and format of the examination.
- A competent authority appointed by the College has the power to debar any candidate from any examination if it is satisfied that such a candidate is not a fit person to take the College examination because of using unfair means in the examination, misconduct or other disciplinary reasons.
- Each successful candidate in the Fellowship examination shall be entitled to the award of a College Diploma after being elected by the College Council and payment of registration fees and other dues.

EXAMINATION FEES

- Applications along with the prescribed examination fees and required documents must be submitted by the last date notified for this purpose before each examination.

- The details of examination fee and fees for change of center, subject, etc. shall be notified before each examination.
- Fees deposited for a particular examination shall not be carried over to the next examination in case of withdrawal/ absence/exclusion.

REFUND OF FEES

- If, after submitting an application for examination, a candidate decides not to appear, a written request for a refund must be submitted before the last date for withdrawal with the receipt of applications. In such cases a refund is admissible to the extent of 75% of fees only. No request for refund will be accepted after the closing date for withdrawal of applications.
- If an application is rejected by the CPSP, 75% of the examination fee will be refunded, the remaining 25% being retained as a processing charge. No refund will be made for fees paid for any other reason, e.g. late fee, change of center/subject fee, etc.

IN TRAINING ASSESSMENT (ITA)

In training assessment has to be conducted by the supervisors and the institutions for Continuous Objective Assessment of training and the trainee. The faculty has proposed two components of In-Training Assessment:

1. Yearly Assessment of trainees through written assessment and TOACS. The scores attained by each trainee are to be sent to CPSP through e-log with each quarterly feedback.

2. Workplace based assessment
   - Directly observed Procedural Skills - DOPS: 4 DOPS / year
   - Case Based Discussions - CBD: 3 CBD / year
   - Anesthesia Mini Clinical Evaluation Exercises - A-CEX: 3 A-CEX / year

FORMAT OF IMM EXAMINATIONS

Intermediate Module examination consists of theory and TOACS examination.

1. Theory Examination:

- **Paper- I** 100 Single Best MCQs (MCQs)
- **Paper- II** 100 Single Best MCQs (MCQs)

2. Clinical Examination:

To test basic clinical skills, the clinical examination consists of: TOACS (Task Oriented Assessment of Clinical Skills) will comprise of 12-15 stations of 6 minutes each and one minute for the candidate to move from one station to other. The stations may have an examiner, a patient or both. Structured clinical tasks will be set at each station. The examiners will assess the performance of each candidate on a rating scale.

There are two types of stations: static and interactive on static stations the candidate will be presented with patient data, a clinical problem or a research study and will be asked to give written responses to questions asked. At the interactive stations the candidate will have to perform a procedure, for example, taking history, performing a clinical examination, counseling, assembling an instrument, etc. It will also include one station on research synopsis and other on e-log. One examiner will be present at each interactive station and will either rate the performance of the candidate or ask questions testing reasoning and problem-solving skills.

College is encouraging to have all stations to be interactive and expects that the static station will be soon phased out.

TRAINING PROGRAM

POST INTERMEDIATE MODULE

YEAR III & IV

POST INTERMEDIATE MODULE FCPS II REQUIREMENTS

INTRODUCTION

After having acquired in the basic knowledge and skills of the specialty of Anesthesiology the candidates are now required to undergo more rigorous training to administer safe Anesthesia. It is therefore, expected of the trainee's to devote their full energies and time towards this advance phase of training.

RESEARCH (DISSERTATION)

One of the training requirements for fellowship trainees is a dissertation or two research papers on a topic related to the field of specialization after obtaining the approval of synopsis. The dissertation or research paper must be submitted six months prior to the examination for which the trainees intend to sit in for.

OBJECTIVES FCPS ANESTHESIOLOGY

To have advanced knowledge of relevant basic & clinical sciences & appropriate skills and attitude needed by a specialist (consultant) anesthetist to:

1. Practice safe anesthesia of all types and forms and have the ability to deal with complicated cases and complications
2. Deal with cases of critical care and pain management and to set up and manage such units or adopt these as main clinical field/ option
3. Work as a planner, teacher, trainer, team leader to lead a unit of anesthesia.
4. Conduct research, audit & develop protocols/guidelines.
5. Practice medical ethics
6. Ensure quality control.
7. Participate in Continuing Professional Development activities and keep updated with Recent Advances.

SYLLABUS

Trainees are required to revisit the basic concepts given in the syllabus of IMM, to have a better understanding of the advanced concepts

Section A: Applied Basic Sciences
1. Applied Clinical Pharmacology

A) Anesthetic interaction and pharmacological management of
- Cardio vascular diseases
- Respiratory diseases
- Hepatic & Renal diseases
- G.I. Problems
- Pituitary, Thyroid, Adrenals
- Diabetes Mellitus
- Epilepsy
- Psychiatric disorders
- Bacterial, Fungal and Viral infections

B) Pharmacological techniques
- Total intravenous anesthesia
- Achieving steady states by boluses & infusions
- Choice of agents, additives
- Sedation techniques

C) Pharmacology related to Acute and Chronic Pain
- Opioids, Non-Opioids and Adjuvants
- TENS, Acupuncture, Cryotherapy, Radiofrequency
- Techniques
  - Patient Controlled Systemic and Epidural Analgesia
  - Regional & Peripheral Nerve Blocks
  - Inhalational analgesia

D) Special Pharmacology related to:

- CNS	- CVS
Cerebral blood flow	Systemic & Pulmonary Vascular
Cerebral perfusion	Resistance
Intra cranial pressure	Heart Rate and Blood Pressure Anticoagulants
Convulsions	and Thrombolytic therapy
	Cardio pulmonary bypass,
	Cardioplegia

- Organ Transplant & Harvesting

2. Applied Clinical Anatomy, Physiology & Patho-physiology of Systems

A) Endocrine and Metabolism

- Diabetes Mellitus
- Hyper and hypo function of Pituitary gland and hypothalamus
- Hyper and hypo function of Adrenal gland
- Hyper and hypo function of Thyroid and Parathyroid glands
- Diabetes Insipidus, Syndrome of Inappropriate Secretion of Anti-Diuretic Hormone
- Malignant hyperthermia
- Porphyria
- Surgery, Anesthesia and Stress response
- Thermoregulation

B) Hematology / Transfusion / Immunology

- Anemias, Hemoglobinopathies, Coagulopathies
- Coagulation cascade & new concept of cell based model
- Anticoagulation & management of abnormal coagulation
- Transfusion therapy - Indications / Risks /Complications of blood transfusion
- Blood components, Artificial colloids, Crystalloids
- Risks / Complications of Blood substitutes
- Autologous Transfusion and Blood conservation techniques - basic principles only
- Anaphylaxis

3. Applied Physics related to Anesthesia machine & Monitoring Equipment

A) Monitoring Equipment

- IBP monitoring devices
- Transducers
- CFAM
- Evoked potentials
- BIS monitor
- Temperature monitor
- PA Catheters / Central Venous Catheters
- Storage of medical gases & principles of F1O2 Analyzer
- Principles of gas and inhalation agent analysis
- Neuromuscular Monitoring Devices-Nerve Stimulator, Nerve Locator
- Cardiac Rhythm Devices-Pacemakers, ICD
- Defibrillator

4. Clinical measurement - interpretation and limitations

A) Monitoring of Respiratory function

- Airway pressure, volume, flow, compliance
- Oximetry
- Capnography
- Pulmonary function tests
- Arterial blood gas analysis
- V/Q scanning (Basic Principles of interpretation)

B) Monitoring of Cardiovascular system

- B.P measurement, Invasive and Non invasive
- Interpretation of Electrocardiogram
- Echocardiography - TEE
- Cardiac output and Derived Indices, Invasive and Non invasive
- All forms, NICO, PICCO, LIDCO
- Principles of Central Venous Pressure & Pulmonary Artery Pressure Monitoring.

C) Monitoring of Central Nervous & Neuromuscular System

- Evoked potentials - Interpretation
- Interpretation of CFAM
- Interpretation of BIS
- Electromyography - Basic understanding
- Peripheral Nerve Stimulator

D) Monitoring of Renal / Hepatic / Hematologic System Interpretation of relevant investigations

E) Interpretation of imaging & ultrasound

- Plain X-Ray-Neck, Chest, Spine
- Ultrasound
- Doppler
- CT, MRI (Basic Concepts)

F) Fetal monitoring (Basic Concepts)

Section B: Understanding of Co-existing Diseases

In depth knowledge of patho-physiology, management and anesthetic implications of common systemic medical diseases to make decisions on conducting, postponing or referring for consultation.

A) Central Nervous System

- Seizure Disorders
- Psychiatric Disorders
- Head Trauma

B) Cardio-Vascular System

- Coronary Artery Disease
- Hypertension
- Dysrhythmias & Heart Blocks
- Valvular Heart Disease
- Congestive Cardiac Failure
- Cardiomyopathies
- Corpulmonale
- Pacemaker / ICD/Stents

C) Respiratory System

- Upper Respiratory Tract Infections & Pathologies
- Chronic Obstructive Airway Diseases
- Asthma
- Restrictive Airway Diseases
- Obstructive Sleep Apnea
- Pneumo./Hemo./Hydrothorax
- Evaluation for One Lung Anesthesia

Endocrinopathies

- Pituitary dysfunction (Anterior and Posterior)
- Thyroid dysfunction
- Parathyroid dysfunction
- Diabetes Mellitus / Insulinoma
- Adrenal Cortical & Medullary conditions esp. Phaeochromocytoma.

D) Renal Diseases

- Acute and Chronic Renal Failure
- Nephrotic Syndrome
- Acid-Base Disturbances
- Water & Electrolyte Imbalance

E) Musculo-Skeletal & Neuromuscular Diseases

- Myasthenia Gravis & Myasthenic Syndrome
- Guillain Barre's Syndrome
- Tetanus
- Rheumatoid Arthritis
- Sarcoidosis
- Parkinsons Disease
- SLE
- Ankylosing Spondilitis
- Muscular Dystrophy

F) Cancer and its anesthetic implications

G) Immunological disorders & Immunosuppression

H) Hematologic disorders
- Anemias
- Coagulopathies
- Platelet disorders

I) Obesity

J) Geriatrics

K) Obstetrics
- Physiological changes of pregnancy
- Physiology of Utero-Placental flow, Transfer of drugs & effects of anesthesia on uterine blood flow & activity
- CPR in a pregnant patient
- Medical diseases complicating pregnancy
- Surgical conditions concurrent with pregnancy
- Pre-eclampsia, eclampsia & HELLP
- Obstetric haemorrhage & resuscitation
- Amniotic fluid embolism
- Labor pain pathways and physiology

L) Liver Disorders
- Hepatitis and its implications
- Cirrhosis
- Hepatic encephalopathy

M) Common Neonatal & Pediatric conditions
- Anatomical, physiological & pharmacological differences from adults and their anesthetic implications including premature baby
- Pre-operative assessment
- Peri-op fluid management
- Common congenital anomalies and their anesthetic implications
- Pediatric airway emergencies
- Pain management
- Trauma & Burns

N) Thermoregulation & Disorders
- Malignant Hyperthermia
- Hypothermia

O) Genetic disorders
- Turner's syndrome
- Trisomy

Should have sufficient knowledge of medicine to be able to take decisions about uncommon conditions; referral to literature or consultation with a medical specialist.

Section C: Anesthesia for Surgical Disciplines

- General and regional techniques for all surgical procedures of mandatory rotations in different elective and emergency surgeries
- Medical implications due to the surgical condition
- Decision making on elective / emergency surgery
- Decision making on general / regional techniques
- Decision making on day care / in patient management
- Decision making on employing special anesthesia techniques
- Theroetical & practical knowledge about procedures like, Bronchoscopy, Thoracostomy, Percutaneous Dilatational Tracheostomy, Central Venous Line, Arterial Line.
- Assessment - History taking, physical examination
- Ordering & interpretation of investigations
- ASA grading, Risk Assessment, Airway Assessment,Prediction of Peri-operative M&M
- Anesthetic implications of co-existing diseases, optimization and referral
- Anesthetic implications of surgical conditions,
- Emergency & elective;optimization & advice
- Anesthetic implications of concurrent medical therapy and advice
- Pre-medication and request for blood and blood products
- Pre-operative fasting guidelines
- Informed consent and counseling
- Plan of anesthesia - general / regional, day care / inpatient

2. Post-Operative Care

- Decision making on inter-hospital / intra-hospital transfer
- PACU setup & staffng
- PACU orders
- PACU essential monitoring
- Analgesia
- Oxygen therapy
- Discharge criteria

Surgical Disciplines

- General Surgery
- Obstetrics / Gynecology
- Pediatrics / Neonatal
- Orthopedics
- Traumatology & Resuscitation
- Neurosurgery
- Cardiac Surgery
- Thoracic Surgery
- Vascular
- Bariatric
- Minimal Access Surgery
- Laser Surgery
- Robotic Surgery
- Transplant Surgery (Renal, Hepatic)
- Burns
- Plastic
- Anesthesia outside OR

Details of Surgical Disciplines

1. General Surgery

Cholecystectomy, Appendectomy, Bowel Obstruction, Perforation and Bowel Resection, Acute Gastrointestinal Bleeding, Splenectomy, Pancreatic Resection, Hepatic Resection, Portal Shunting Procedures, Adrenal Surgery, Laparoscopic Surgery, Effects of abdominal surgery on pulmonary function and Postoperative pulmonary complications, Postoperative intestinal dysfunction

2. Obstetrics / Gynecology

Preterm Labour, D&C & D&E, Operative vaginal delivery, C-Section for all obstetric conditions, Non-obstetric surgery in obstetric patients, Total abdominal hysterectomy, Bilateral salpingo- oopherectomy, Obstetric hemorrhage

3. Pediatrics / Neonatal

Monitoring and specialized equipment for pediatric anesthesia, Common pediatric syndromes and emergencies, TE fistula, Diaphragmatic hernia, Exomphalos, Hirshprungs disease, Intestinal atresia, Pyloric stenosis, Infra Umbilical surgeries like Inguinal hernia, Undescended testis, Imperforate anus, Pediatric urology. FB in airway, epiglottitis, Anesthesia outside OR.

4. Orthopedics
DVT prophylaxis, Fat embolism, Pulmonary embolism, Compartment syndrome, Cement implantation syndrome, Surgery under tourniquet, Upper limb surgeries, Lower limb surgeries, Spine surgery

5. Neurosurgery
Air embolism, Intracranial hypertension, Induced hypotension, Subarachnoid hemorrhage seizures, Methods of brain protection, Declaration of brain death, Head trauma, Evacuation of haematoma, Cerebral aneurysms, Occlusive cerebrovascular disease, AVM, Cerebral aneurysm, Posterior fossa surgery, Spinal cord surgery, Pituitary tumors, Interventional neuro radiology, Epilepsy surgery, Pediatric neurosurgery

6. Cardiac Surgery
Valvular disease, CABG & Management of CPB

7. Thoracic Surgery
Pathophysiology of lateral position and open thorax, one lung anesthesia, Tracheal resection, Lung resection, Airway laser surgery, Esophageal surgery, Thoracoscopic surgery, Bronchopleural fistula, Pulmonary hemorrhage, Bullae and Pneumothorax, Post-thoracotomy analgesia

8. Vascular Surgery
Thoracic aneurysm surgery, Abdominal aneurysm surgery, Peripheral vascular surgery, Carotid endarterectomy, Emergency vascular surgery

9. Laser Surgery
Types of lasers and their use, Hazards of laser surgery and appropriate precautions, Management of airway fire

10. Transplant Surgery (Renal, Hepatic)
Preoperative assessment, Preparation and management of recipient for kidney / liver, Management of transplant patient for non-transplant surgery, Transplantation immunology, Management of live and cadaver organ donor

11. Anesthesia outside OR
Personnel, Patient selection, Monitoring, Transport, Recovery, Considerations in anesthesia for ; radiologic procedures like MRI, CT, Angiography Cardio version, emergency room procedures, ECT

Day Care Surgery
- Selection Criteria
- Choice of Anesthesia
- Special Anesthesia Techniques
- Post-operative Care
- Discharge Criteria
- Critical incidents, Crisis management
- Minimal monitoring standards, utilization of resources

Special Anesthesia Techniques
- Hypotensive anesthesia
- Use of hypothermia

Critical Incidents, Crisis Management, Minimum Monitoring Standards
- Cardiovascular System
    - Hypertension, Hypotension
    - Dysrhythmias, Heart Blocks, Cardiac Arrest
    - Myocardial Ischaemia
- Respiratory System
    - Hypoxia, Hypo and Hypercapnia
    - Airway Obstruction
    - Laryngospasm, Bronchospasm
    - Pulmonary Odema
    - Pulmonary Aspiration
    - Pneumothorax
    - CICV
    - Pulmonary Embolism
    - Air Embolism
- Drug Induced Crisis
    - Over dosage
    - Delayed Recovery
    - Sux. Apnea
    - Dual Block
    - Awareness
    - Malignant Hyperthermia
    - Anaphylaxis
- Miscellaneous
    - Hypothermia
    - Injuries

Section D: Resuscitation & Trauma Medicine
- Adult Resuscitation - BLS & ACLS
- Neonatal Resuscitation BLS

- PALS - Basics only
- Advanced Trauma Life Support
- Principles of Triage & Trauma Scoring
- Principles of Damage Control Surgery
- Principles of Fluid Resuscitation in Trauma
- All Resuscitative Fluids, Devices & Equipment
- Blunt and Penetrating Trauma
- Airway Trauma
- Head and Spinal Trauma
- Thoracic Trauma
- Abdominal Trauma
- Trauma of other Body Parts

Section E: Critical Care Management

1. Clinical Management

- Admission & discharge criteria
- Basic understanding of common medical and surgical patients requiring high dependency or critical care management due to elective reasons or due to any critical incident.
- Critical care management of commonly admitted patients to ICU e.g. Tetanus, G.B, Sepsis, Shock, MODS, Head trauma, Poly trauma, Obstetric cases.
- Knowledge of systemic support of all systems required by a critically ill patient e.g. cardiac, renal, hematologic, nutritional
- In depth knowledge of respiratory failure and respiratory support including all forms of oxygen-therapy and devices and ventilator parameters, modes of ventilations.
- Brain death & vegetative states; diagnosis, decisions and orders e.g. DNR code status.
- Knowledge of managing emergencies like diabetic ketoacidosis, massive hemorrhage, status asthmatics, status epilepticus, acute renal failure, acute hepatic failure, disturbance of temperature regulation.
- Poisoning and envenomation
- General nursing care & Infection control antibiotic policy
- Analgesia and sedation
- Scoring system APACHE, SOFA etc
- Concept and implementation of Bundle Therapy
- Comprehensive anatomical, physiological & pharmacological knowledge to carry out the invasive procedures safely. Be familiar with procedures and deliver correct pharmacological assistance with the safe use of devices. Should have the knowhow of the equipment used for invasive procedures.

2. Administrative

- Organization and commencement of an ICU
- Staffing, equipment and environment
- Admission and discharge policies
- Development of protocols and guidelines e.g. DNR, Organ Donation etc.
- Documentation and record keeping
- Communication and counseling
- Ethical approval of research protocols
- Funding, Data collection and Statistical analysis
- Medico-legal aspects

Section F: Pain Management

1. Clinical Management

- Pharmacological and non pharmacological management of pain with analgesics, anesthetics and adjuvants
- All techniques and procedures required to provide pain relief in acute and chronic conditions
- Basic understanding of palliative care

2. Administrative

- Setting up of a Pain Management Clinic
- Developing Protocols / Guidelines for managing acute and chronic pain
- Documentation and record keeping
- Communication and counseling
- Ethical approval of research protocols
- Funding, Data collection and Statistical analysis
- Medico-legal aspects

Section G: Professional Skills

1. Statistics and Research Methods

- Statistics
    - Definitions: mean, mode, median, standard deviation
    - Tests: one and two sample tests, multiple sample tests, contingency tables and Chi-square analysis, linear regression and correlation
    - Concepts: sensitivity, specificity, incidence, prevalence, positive predictive value, negative predictive value, odds ratio, sample size analysis
    - Experimental designs: Prospective, Retrospective, Randomization, Protocol development

- Writing a paper
- Critical Appraisal of literature
- Studying a study: how to determine if a study is valid, peer reviewed, relevance of topic, study design, statistical analysis, types of statistical error
- Appropriate application of literature to clinical practice
- Use of Medline and other information sources
- Research Ethics

2. Ethics

- Basic principles of Ethics - Autonomy, Beneficence, Non-maleficence, Justice
- Ethical systems- teleological, deontological, different value systems cultural, religious
- Discussing/framing an ethical argument, common areas of ethical conflict in anesthesia, duty to report colleagues informed consent, patient refusal, limited consent (models of autonomy vs. beneficence) age (children) mental competence, substitute decision making, coercion vs. persuasion
- Duty of Care - physician- patient contract, patient dangerous to the physician (AIDS, Hep B, Violence) confidentiality, allocation of resources, end of life decision, brain death, with-holding/withdrawing treatment
- Advance directives/living wills, no blood, DNR, informed consent

3. Legal Issues

- Consent, informed consent, disclosure of risk substitute decision makers
- Malpractice: duty of care, definition of negligence, law suits: how to handle the threat of a law suit, avoiding law suits, confidentiality

4. Continuous Quality Improvement

- Determinants of quality, role of individual department members, quality improvement tools, conducting a QI project: structure, process, outcome evaluation of QI results.

5. Teaching and Communication Skills

- Presentation skills: preparing slides and overheads, oral exams. Teaching students, juniors, house staff, small group teaching, how to give feedback, principles of evaluation
- Learning skills: Concept of CME & CPD, organizing study & reading in residency, what to read, Use of literature searchers and Net.
- Communication with patients and families; effective interviewing and information-giving skills, determining how information is received, breaking bad news, managing disagreements.
- Time management to leave quality time for personal and family life
- Peer group leadership, strategic planning, advocacy role for the department within the hospital, Interface between external professional bodies, government and public organizations and the department.

CLINICAL COMPETENCIES

The clinical competencies, a specialist must have, are varied and complex. A list of the core procedural competencies required during training in the Department of Anesthesia is given below. The level of competencies to be achieved each year is specified according to the key, as follows:

1. Observer status
2. Assistant status
3. Performed under supervision
4. Performed independently.

COMPETENCIES	THIRD YEAR								
	27 Months		30 Months		33 Months		36 Months		Total Cases Third Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
A. CLINICAL SKILLS History taking, Physical examination, Interpretation of Investigations, including Radiology for CXR & X-ray Cervical Spine	4	4	4	10	4	15	4	15	50
Management of concurrent illness and pre-operative assessment with relevance to anesthesia. Advice on pre-operative medications & preparation	4	4	4	10	4	15	4	15	50
Decision making on referral / consult	4	4	4	10	4	15	4	15	50
Risk assessment, Anesthesia plan & Administration of anesthesia	4	4		10	4	15	4	15	50
Crisis management	4	4	4	2	4	3	4	3	10
Recovery and Post-operative care	4	4	4	10	4	15	4	15	50
Documentation / Record Keeping	4	4	4	10	4	15	4	15	50
B. COMMUNICATION & COUNSELING SKILLS			4						
Counsel patients and their relatives about the anesthetic interventions in minor & moderate surgeries	4	4	4	10	4	15	4	15	50
Obtain informed consent	4	4	4	10	4	15	4	15	50
Counsel on crisis situation and management of complications	4	10	4	10	4	15	4	15	50
Presentation skills	4	1	4	1	4	1	4	1	4

COMPETENCIES	THIRD YEAR								
	27 Months		30 Months		33 Months		36 Months		Total Cases Third Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
C. PROCEDURAL SKILLS									
Intra - Vascular Access and Interpretation of Invasive Monitoring									
Peripheral I/V cannulation	4	10	4	10	4	15	4	15	50
Central I/V cannulation	3	1	3	1	4	2	4	3	7
Arterial cannulation	3	1	3	1	4	1	4	2	5
Airway Management									
Mask, Guedel's Airway, Nasal airways	4	10	4	10	4	15	4	15	50
Supra glottic devices	4	10	4	10	4	15	4	15	50
Endotracheal Intubation	4	10	4	10	4	15	4	15	50
Mallampati I & II	4	15	4	15	4	20	4	25	30
Mallampati III & IV	3	2	3	2	4	3	4	3	10
Cricothyroidotomy Percutaneous Dilatational Tracheostomy Video Assisted Intubation Fiber optic Bronchoscopy	These competencies are expected to be acquired by the candidate preferably during IMM through Difficult Airway Management Workshops being conducted at multiple places								
Thoracostomy / Chest Intubation	3	1	3	1	3	1	3	1	4
Anesthesia Equipment									
Use of Anesthesia equipment & sundries	4	10	4	10	4	15	4	15	50
CNS monitoring: BIS	2	5	2	5	3	5	3	10	25
PNS monitoring: Nerve Stimulator / Locator	3	5	3	5	4	5	4	10	25
Respiratory Monitoring: Oximetry - All forms Capnography, Flow-Volume loops, Compliance graphs, Airway Pressure, Arterial Blood Gases, Pulmonary Function Tests	3	10	3	10	4	15	4	15	50

COMPETENCIES	THIRD YEAR								
	27 Months		30 Months		33 Months		36 Months		Total Cases Third Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
Cardio-Vascular Monitoring: Blood Pressure, -Non Invasive / Invasive, ECG	3	10	3	10	4	15	4	15	50
Haematologic, Hepatic Renal Systems and Acid Base Balance: Order correct battery of investigations and interpretation of the obtained information	3	10	3	10	4	15	4	15	50
Regional Techniques									
Sub-arachnoid Block	4	10	4	10	4	15	4	15	50
Epidural / Caudal	3	2	3	2	4	3	4	3	10
Combined Spinal Epidural	3	2	3	2	4	3	4	3	10
Local Blocks (Miscellaneous)									
Brachial Plexus Blocks	3	1	3	1	4	1	4	2	5
Wrist Block	3	1	3	1	4	1	4	2	5
Intercostal Block	3	1	3	1	4	1	4	2	5
TAP Block	3	1	3	1	4	1	4	2	5
Sciatic Block	3	1	3	1	4	1	4	2	5
Three in One Block	3	1	3	1	4	1	4	2	5
Popliteal Block	3	1	3	1	4	1	4	2	5
Biers Block	3	1	3	1	4	1	4	2	5
Ankle Block	3	1	3	1	4	1	4	2	5

COMPETENCIES	THIRD YEAR								
	27 Months		30 Months		33 Months		36 Months		Total Cases Third Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
D. PAIN MANAGEMENT									
a. Acute Pain									
Systemic	4	10	4	10	4	10	4	20	50
Epidural / Caudal	3	2	3	2	4	3	4	3	5
Patient Controlled Analgesia	3	1	3	1	4	1	4	2	4
Nerve Blocks / Ultrasound guided	3	2	3	2	4	2	4	2	4
Epidural for Labour Analgesia	3	1	3	1	3	1	3	1	4
b. Chronic Pain									
Blocks under Imaging	2	1	2	1	3	1	3	2	5
TENS	2	1	2	1	3	1	3	2	5
Radiofrequency	1	1	1	1	2	1	2	2	5
c. Fluoroscopy									
Fluoroscopy	1	1	1	1	2	1	2	2	5
E. ICU SKILLS									
Ventilatory Support									
Assembly of Ventilator	-	-	-	-	-	-	4	20	20
Select correct respiratory support by choosing correct variables and modes	-	-	-	-	-	-	4	20	20
Selection of Sedation & Analgesia	-	-	-	-	-	-	4	20	20
Cardiovascular Support Provide cardio vascular support with correct selection of drugs and infusion devices	-	-	-	-	-	-	4	20	20

COMPETENCIES	THIRD YEAR								
	27 Months		30 Months		33 Months		36 Months		Total Cases Third Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
Renal Support									
Drugs	-	-	-	-	-	-	2	10	10
Dialysis	-	-	-	-	-	-	2	10	10
Hematologic Support									
Fluids, Blood and Blood Products	-	-	-	-	-	-	4	20	20
Nutritional Support									
Delivery Devices	-	-	-	-	-	-	4	20	20
Choice of Enteral / Parenteral Nutrition	-	-	-	-	-	-	4	20	20
Calculation of Nutritional requirements	-	-	-	-	-	-	4	20	20
General Patient Care, Physiotherapy									
Advice the paramedics	-	-	-	-	-	-	4	20	20
Infection Control and Barrier Nursing									
Selection of Antibiotics	-	-	-	-	-	-	3	20	20
Developing Protocols	-	-	-	-	-	-	3	20	20
Monitoring of Infection Control	-	-	-	-	-	-	3	20	20
Implementation of "Bundle Therapy"									
Central line Bundle	-	-	-	-	-	-	4	20	20
Ventilator Bundle	-	-	-	-	-	-	4	20	20
Sepsis Resuscitation Bundle	-	-	-	-	-	-	4	20	20
Sepsis Management Bundle	-	-	-	-	-	-	4	20	20

COMPETENCIES	WORKPLACE BASED ASSESSMENT								
	27 Months		30 Months		33 Months		36 Months		Total No. of WPBAs
	Level	No.	Level	No.	Level	No.	Level	No.	
Direct Observation of Skills (DOPS)						-			
Endotracheal Intubation (Pediatric)*	4	1	-	-	-		-	-	
Supra Glottic Device	4	1	-	-	-	-	-	-	
*Intubation with Double Lumen Endotracheal Tube	-	-	4	1	-	-	-	-	
Intercostal Block	-	-	4	1	-	-	-	-	8
Arterial Cannulation	-	-	-	-	4	1	-	-	
Central Venous Cannulation	-	-	-	-	4	1	-	-	
(Endotracheal Intubation (Mallampati III / IV	-	-	-	-	-	-	4	1	
TAP Block	-	-	-	-	-	-	4	1	
Mini Clinical Exercise (Mini-CEX)									
Pediatric Inhalational Induction*	4	1	-	-	-	-	-	-	
Setting up of drug Infusions (Syringe Pumps)	-	-	4	1	-	-	-	-	4
Setting up Patient Controlled Analgesia	-	-	-	-	4	-	-	-	
Epidural for post-operative pain	-	-	-	-	-	-	4	1	
Case Based Discussions (CBDs)									
Management of Pylroic Stenosis*	3	1	-	-	-	-	-	-	
Management of Tracheo-esophageal Fistula*	3	1	-	-	-	-	-	-	
One Lung Ventilation*	-	-	3	1	-	-	-	-	
Anesthesia for Pnuemonectomy*	-	-	3	1	-	-	-	-	8
Anesthesia for Burn Patients	-	-	-	-	3	1	-	-	
Nutrition in ICU	-	-	-	-	3	1	-	-	
Anesthesia for MRI	-	-	-	-	-	-	3	1	
Management of Toxemia of Pregnancy	-	-	-	-	-	-	3	1	

*WPBAs to be conducted at the end of respective rotations

COMPETENCIES	FOURTH YEAR								
	39 Months		42 Months		45 Months		48 Months		Total Cases Fourth Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
A. CLINICAL SKILLS									
History taking, Physical examination, Interpretation of Investigations, including Radiology for CXR & X-ray Cervical Spine	4	10	4	10	4	15	4	15	50
Management of concurrent illness and pre-operative assessment with relevance to anesthesia. Advice on pre-operative medications & preparation	4	10	4	10	4	15	4	15	50
Decision making on referral / consult	4	10	4	10	4	15	4	15	50
Risk assessment, Anesthesia plan & Administration of	3	10	3	10	4	15	4	15	50
anesthesia	2	2	3	2	3	3	4	3	10
Crisis management	3	10	4	10	4	15	4	15	50
Recovery and post-operative care	4	10	4	10	4	15	4	15	50
Documentation / Record Keeping									
B. COMMUNICATION & COUNSELING SKILLS									
Counsel all patients and their relatives about the anesthetic interventions in minor & moderate surgeries	3	10	3	10	4	15	4	15	50
Obtain informed consent	4	10	4	10	4	15	4	15	50
Counsel on crisis and management of complications	3	10	4	10	4	15	4	15	50
Presentation skills	3	1	3	1	4	1	4	1	4

COMPETENCIES	FOURTH YEAR								
	39 Months		42 Months		45 Months		48 Months		Total Cases Fourth Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
C. PROCEDURAL SKILLS									
Intra - Vascular Access and Interpretation of graphs									
Peripheral I/V cannulation	4	10	4	10	4	15	4	15	50
Central I/V cannulation	4	1	4	1	4	2	4	3	7
Arterial cannulation	4	1	4	1	4	1	4	2	5
Airway Management									
Mask, Guedel's Airway, Nasal airways	4	10	4	10	4	15	4	15	50
Supra glottic Devices	4	10	4	10	4	15	4	15	50
Endotracheal Intubation	4	10	4	10	4	15	4	15	50
Mallampati I & II	4	15	4	15	4	20	4	25	30
Mallampati III & IV	4	2	4	2	4	3	4	3	10
Cricothyroidotomy	These competencies are expected to be acquired by the candidate preferably during IMM through Difficult Airway Management Workshops being conducted at multiple places								
Percutaneous Dilatational Tracheostomy									
Video Assisted Intubation									
Fiberoptic Bronchoscopy									
Thoracostomy / Chest Intubation	4	1	4	1	4	1	4	1	4

COMPETENCIES	FOURTH YEAR								
	39 Months		42 Months		45 Months		48 Months		Total Cases Fourth Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
Anesthesia Equipment / Monitors									
Use of anesthesia equipment & sundries	4	10	4	10	4	15	4	15	50
CNS monitoring: BIS	3	5	3	5	3	5	3	10	25
PNS monitoring: Nerve Stimulator / Locator	4	5	4	5	4	5	4	10	25
Respiratory Monitoring: Oximetry - All forms of Capnography, Flow-Volume loops, Compliance graphs, Airway Pressure, Arterial Blood Gases, Pulmonary Function Tests	4	10	4	10	4	15	4	15	50
Cardio-Vascular Monitoring: Blood Pressure - Non Invasive / Invasive, ECG	4	10	4	10	4	15	4	15	50
Hematologic, Hepatic, Renal Systems and Acid Base Balance: Order correct battery of investigations and interpretation of the obtained information	4	10	4	10	4	15	4	15	50
Regional Techniques									
Sub-arachnoid Block	4	10	4	10	4	15	4	15	50
Epidural / Caudal	4	2	4	2	4	3	4	3	10
Combined Spinal Epidural	4	2	4	2	4	3	4	3	10

COMPETENCIES	FOURTH YEAR								
	39 Months		42 Months		45 Months		48 Months		Total Cases Fourth Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
Local Blocks (Miscellaneous)									
Brachial Plexus Blocks	4	1	4	1	4	1	4	2	5
Wrist Block	4	1	4	1	4	1	4	2	5
Intercostal Block	4	1	4	1	4	1	4	2	5
TAP Block	4	1	4	1	4	1	4	2	5
Sciatic Block	4	1	4	1	4	1	4	2	5
Three in One Block	4	1	4	1	4	1	4	2	5
Popliteal Block	4	1	4	1	4	1	4	2	5
Biers Block	4	1	4	1	4	1	4	2	5
Ankle Block	4	1	4	1	4	1	4	2	5
D. PAIN MANAGEMENT									
a. Acute Pain									
Systemic	4	10	4	10	4	10	4	20	50
Epidural / Caudal	4	2	4	2	4	3	4	3	5
Patient Controlled Analgesia	4	1	4	1	4	1	4	2	4
Nerve Blocks / Ultrasound guided	4	2	4	2	4	2	4	2	4
Epidural for Labor Analgesia	4	1	4	1	4	1	4	1	4
b. Chronic Pain									
Blocks under Imaging	3	1	3	1	3	1	3	2	5
TENS	3	1	3	1	3	1	3	2	5
Radiofrequency	2	1	2	1	3	1	3	2	5
c. Fluoroscopy									
Fluoroscopy	2	1	2	1	2	1	2	2	5

COMPETENCIES	FOURTH YEAR								
	39 Months		42 Months		45 Months		48 Months		Total Cases Fourth Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
E. ICU SKILLS									
Ventilatory Support									
Assembly of Ventilator	-	-	-	-	-	-	4	20	20
Select correct respiratory support by choosing correct variables and modes	-	-	-	-	-	-	4	20	20
Selection of sedation & analgesia	-	-	-	-	-	-	4	20	20
Cardiovascular Support									
Provide cardio vascular support with correct selection of drugs and infusion devices	-	-	-	-	-	-	4	20	20
Renal Support									
Drugs	-	-	-	-	-	-	2	10	10
Dialysis	-	-	-	-	-	-	2	10	10
Hematologic Support									
Fluids, Blood and Blood Products	-	-	-	-	-	-	4	20	20
Nutritional Support									
Delivery devices	-	-	-	-	-	-	4	20	20
Choice of Enteral / Parenteral nutrition	-	-	-	-	-	-	4	20	20
Calculation of nutritional requirements	-	-	-	-	-	-	4	20	20

COMPETENCIES	FOURTH YEAR								
	39 Months		42 Months		45 Months		48 Months		Total Cases Fourth Year
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
General Patient Care, Physiotherapy									
Advice the paramedics	-	-	-	-	-	-	4	20	20
Infection Control and Barrier Nursing									
Selection of antibiotics	-	-	-	-	-	-	3	20	20
Developing protocols	-	-	-	-	-	-	3	20	20
Monitoring of infection control	-	-	-	-	-	-	3	20	20
Implementation of "Bundle Therapy"									
Central line Bundle	-	-	-	-	-	-	4	20	20
Ventilator Bundle	-	-	-	-	-	-	4	20	20
Sepsis Resuscitation Bundle	-	-	-	-	-	-	4	20	20
Sepsis Management Bundle	-	-	-	-	-	-	4	20	20

COMPETENCIES	WORKPLACE BASED ASSESSMENT								Total No. of WPBAs
	39 Months		42 Months		45 Months		48 Months		
	Level	No.	Level	No.	Level	No.	Level	No.	
Direct Observation of Procedural Skills (DOPS)									
Combined Spinal Epidural	4	1	-	-	-	-	-	-	
Biers Block	4	1	-	-	-	-	-	-	
Ankle Block	-	-	4	1	-	-	-	-	6
Caudal Block	-	-	4	1	-	-	-	-	
Brachial Plexus Blocks	-	-	-	-	4	1	-	-	
Epidural Block	-	-	-	-	-	-	4	1	
Mini Clinical Exercise (Mini-CEX)									
Epidural for Labor analgesia	-	-	-	-	4	1	-	-	
CPR (Manikin-based Advanced Cardiac Life Support)	-	-	4	1	-	-	-	-	
Calculation & prescription of nutritional requirement*	-	-	-	-	-	-	4	1	4
Managing Cardiovascular Support in ICU*	-	-	-	-	-	-	4	1	
Case Based Discussions (CBDs)									
Anesthesia for patients with DM	3	1	-	-	-	-	-	-	
Anesthesia for patients with Thyroid disease	-	-	3	1	-	-	-	-	
Management of Peri-operative arrhythmia*	-	-	-	-	3	1	-	-	
Assessment of Cardiac patient for non-cardiac surgeries*	-	-	-	-	3	1	-	-	6
Management of shock in ICU*	-	-	-	-	-	-	3	1	
Management of sepsis in ICU*	-	-	-	-	-	-	3	1	

ROTATIONS	YEAR-3		YEAR-4		Total Cases
	Level	Cases	Level	Cases	
ANESTHESIA FOR GENERAL SURGERY					
Minor to intermediate surgery: ASA I - III patients	4	15	4	15	30
Major Surgery: ASA I - III patients	3	30	4	30	60
Major Surgery: ASA IV & V patients/Extensive Surgery	3	5	4	5	10
ANESTHESIA FOR GYNAECOLOGY AND OBSTETRICS					
Minor to intermediate surgery: ASA I - III patients	4	15	4	15	30
Major Surgery: ASA I - III patients	3	30	4	30	60
Major Surgery: ASA IV & V patients/Extensive Surgery	3	5	4	5	10
ANESTHESIA FOR ORTHOPAEDICS & TRAUMA					
Minor to intermediate surgery: ASA I - III patients	-	-	4	15	15
Major Surgery: ASA I - III patients	-	-	4	30	30
Major Surgery: ASA IV & V patients/Extensive Surgery	-	-	4	5	5
PAEDIATRIC / NEONATAL ANESTHESIA					
Minor to intermediate surgery: ASA I - III patients	3	40	4	25	65
Major Surgery: ASA I - III patients	3	23	4	13	36
Major Surgery: ASA IV & V patients/Extensive Surgery	3	2	4	2	4
ANESTHESIA OUTSIDE OR					
Minor to intermediate surgery: ASA I - III patients	3	25	4	20	45
Major Surgery: ASA I - III patients	3	13	4	13	26
Major Surgery: ASA IV & V patients/Extensive Surgery	3	2	4	2	4

ROTATIONS	YEAR-3		YEAR-4		Total Cases
	Level	Cases	Level	Cases	
ANESTHESIA FOR NEUROSURGERY					
Minor to intermediate surgery: ASA I - III patients	3	15	4	30	45
Major Surgery: ASA I - III patients	2	8	4	18	26
Major Surgery: ASA IV & V patients/Extensive Surgery	3	2	4	2	4
ANESTHESIA FOR CARDIAC SURGERY / CARDIAC ICU					
ASA I – III patients	-	-	2	18	18
ASA IV & V patients/Extensive Surgery	-	-	2	2	2
ICU cases	-	-	2	5	5
ANESTHESIA FOR THORACIC SURGERY					
ASA I - III patients	4	10	-	-	10
ASA IV & V patients/Extensive Surgery	4	2	-	-	2
ANESTHESIA FOR UROLOGY / RENAL TRANSPLANT					
Minor to intermediate surgery: ASA I - III patients	4	25	-	-	25
Major Surgery: ASA I - III patients	4	20	-	-	20
Major Surgery: ASA IV & V patients/Extensive Surgery	4	5	-	-	5
ANESTHESIA FOR BURNS / PLASTIC / VASCULAR SURGERY					
Minor to intermediate surgery: ASA I - III patients	3	13	4	12	25
Major Surgery: ASA I - III patients	3	10	4	10	20
Major Surgery: ASA IV & V patients/Extensive Surgery	3	2	4	3	5

ROTATIONS	YEAR-3		YEAR-4		Total Cases
	Level	Cases	Level	Cases	
ICU					
Intensive Care Unit patient management	3	15	4	25	40
PACU / ACUTE PAIN MANAGEMENT					
Post-operative Pain Management (Systemic)	4	20	4	20	40
Regional / Blocks	3	5	4	5	10
EMERGENCY & DAY CARE SURGERY					
Emergency Cases	3	100	4	100	200
Day Care Cases	3	100	4	100	200

ASSESSMENT

ELIGIBILITY REQUIREMENTS FOR FCPS PART-II EXAMINATION

The eligibility requirements for candidates appearing in FCPS Part II are:

- To have passed FCPS Part-I in Anesthesia, or has been granted official exemption.
- To have undertaken two years training in Intermediate Module in Anesthesia.
- To have undertaken four years minimum of the specified training in Anesthesia.
- Submission of "In training assessment" forms through e-log by the supervisor.
- To provide certificate of having passed the Intermediate Module Examination in Anesthesia.
- Completion of entries in e-logbook along with validation by the supervisor.
- To provide a certificate of approval of dissertation or acceptance of two research papers which must accompany the application form.
- To provide a certificate of attendance of mandatory workshops.

EXAMINATION SCHEDULE

- The FCPS Part-II theory examination will be held twice a year.
- Theory examinations are held in various cities of the country usually at Abbottabad, Bahawalpur, Faisalabad, Hyderabad, Islamabad, Karachi, Lahore, Larkana Multan, Peshawar, Quetta and Rawalpindi, centers. The College shall decide where to hold oral/ practical examination depending on the number of candidates in a city and shall inform the candidates accordingly.
- English shall be the medium of examination for the theory/practical/ clinical and viva examinations.
- The College will notify of any change in the centers, the dates and format of the examination.
- A competent authority appointed by the College has the power to debar any candidate from any examination if it is satisfied that such a candidate is not a fit person to take the College examination because of using unfair means in the examination, misconduct or other disciplinary reasons.
- Each successful candidate in the Fellowship examination shall be entitled to the award of a College Diploma after being elected by the College Council and payment registration fees and other dues.

EXAMINATION FEES

- Applications along with the prescribed examination fees and required documents must be submitted by the last date notified for this purpose before each examination.
- The details of examination fee and fees for change of center, subject, etc. shall be notified before each examination.
- Fees deposited for a particular examination shall not be carried over to the next examination in case of withdrawal/ absence/exclusion.

REFUND OF FEES

- If, after submitting an application for examination, a candidate decides not to appear, a written request for a refund must be submitted before the last date for withdrawal with the receipt of applications. In such cases a refund is admissible to the extent of 75% of fees only. No request for refund will be accepted after the closing date for withdrawal of applications.
- If an application is rejected by the CPSP, 75% of the examination fee will be refunded, the remaining 25% being retained as a processing charge. No refund will be made for fees paid for any other reason, e.g. late fee, change of centre/subject fee, etc.

Every candidate vying for the Fellowship of the College of Physicians and Surgeons Pakistan must pass both parts of the Fellowship examination unless exemption is approved.

IN TRAINING ASSESSMENT (ITA)

In training assessment has to be undertaken by the trainees for continuous objective assessment of training. The faculty has proposed two components of In-Training Assessment:

1. Yearly Assessment of trainees shall comprise of written assessment and TOACS. The scores attained by each trainee are to be sent to CPSP through e-log with quarterly feedback.

2. Workplace based assessment shall comprise of:
    - Directly observed Procedural Skills - DOPS.
    - Case Based Discussions - CBD.
    - Anesthesia Clinical Evaluation Exercises-A-CEX/Mini-CEX

FORMAT OF FINAL FCPS EXAMINATIONS
Theory examination will comprise of:

1. Theory Examination:

- **Paper- I** 10 Short Answer Questions (SAQs)
- **Paper- II** 100 Single Best MCQs (MCQs)

2. Clinical Examination:
The clinical section comprises of three components; TOACS, long case and viva voce.

- TOACS - Task Oriented Assessment of Clinical Skills
• 12-15 - Total Stations of TOACS

- Long Case - 2 examiners, one hour

- Viva Voce
- Viva Voce-I - 2 examiners, 25 mins each
- Viva Voce-II - 2 examiners, 25 mins each

TOACS will comprise of 12 to 15 stations of 6 minutes each with a change over time of one minute for the candidate to move from one station to the other. The stations may have an examiner, a patient or both. Structured clinical tasks will be set at each station. There will be two types of stations: static and interactive. On static stations the candidate will be presented with patient data, a clinical problem or a research study and will be asked to give written responses about the questions asked. At the interactive stations the candidate will have to demonstrate a competency, for example, taking history, performing a clinical examination, counseling. It will also include one station on dissertation/research paper and other on e-log. One examiner will be present at each interactive station and will either rate the performance of the candidate or ask questions testing reasoning and problem solving skills. College is encouraging to have all stations to be interactive and expects that the static stations will soon be phased out.

Candidates have to pass the theory examination to be eligible to take the TOACS examination.

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