ENDOCRINOLOGY

SECOND FELLOWSHIP

2021

COLLEGE OF
PHYSICIANS AND
SURGEONS
PAKISTAN

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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 residents 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 eighty including specialties in dentistry.

After completing two years of core training during IMM, the residents are allowed to proceed to the advance phase of FCPS training in the specific specialty of choice for 2-3 years. However, it is mandatory to qualify IMM examination before taking the FCPS-II exit examination. The work performed by the resident 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 residents and the supervisors.

The average number of residents taking CPSP examinations each year is to a minimum of 32,000. The College conducts examinations for FCPS-I (11 groups of disciplines), IMM, FCPS-II (80 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.

The College, in its endeavor to decrease inter-rater variability and increase fairness and transparency, is using TOACS (Task Oriented Assessment of Clinical Skills) in IMM and FCPS-II Clinical examinations. Inclusion of foreign examiners adds to the credibility of its qualifications at an international level.

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 residents 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 residents in conducting their research work.

The training towards Fellowship can be undertaken in more than 308 accredited medical institutions throughout the country and 86 accredited institutions abroad. The total number of residents in these institutions is over 34,180 who are completing residency programs with around 5,335 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 'needs 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. Mohammad Shoaib Shafi
President
College of Physicians and Surgeons Pakistan

FELLOWSHIP DISCIPLINES

The list of fellowship programmes, first & second fellowship, are given below:

DISCIPLINES FOR 1st FELLOWSHIP

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

DISCIPLINES FOR 2nd FELLOWSHIP

1. Breast Surgery
2. Child and Adolescent Psychiatry
3. Clinical Cardiac Electrophysiology
4. Community and Preventive Paediatrics
5. Critical Care Medicine
6. Developmental and Behavioural Paediatrics
7. Endocrinology
8. Gastroenterology
9. Gynecological Oncology
10. Hepato-Pancreato-Biliary & Liver Transplant Surgery
11. Infectious Diseases
12. Interventional Cardiology
13. Maternal and Fetal Medicine (MFM)
14. Neonatal Paediatrics
15. Orbit and Oculoplastics
16. Paediatric Cardiology
17. Paediatric Critical Care Medicine
18. Paediatric Endocrinology and Diabetes
19. Paediatric Dermatology
20. Paediatric Gastroenterology and Hepatology
21. Paediatric Haematology Oncology
22. Paediatrics Infectious Diseases
23. Paediatric Nephrology
24. Paediatric Neurology
25. Paediatric Ophthalmology & Strabismus
26. Pain Medicine
27. Palliative Medicine
28. Reproductive Endocrinology and Infertility
29. Rheumatology
30. Spine Surgery
31. Surgical Oncology
32. Urogynaecology
33. Vitreo Retinal Ophthalmology
34. Vascular Surgery

INTRODUCTION

The practice of Endocrinology crosses the boundaries of many medical disciplines and involves understanding of both basic sciences and clinical medicine. Currently in majority of institutions the training lacks structure with no formal evaluation system. In order to meet this national need, the faculty of Endocrinology at the CPSP has developed a second fellowship program leading to FCPS in Endocrinology.

CPSP COMPETENCY MODEL

The CPSP has moved to competency-based medical education and has developed its own competency model shown below:

With patient or population care as the pivotal center, the inner leaves of the model represent the five major competencies directly related to patient care, while the three competencies in the outer circle are mega-competencies related to patient care and also incorporate education, professionalism, leadership, advocacy and population health.

By the end of the Residency Programme, residents are expected to acquire these competencies and their constituent learning outcomes, and provide promotive, preventive, curative and rehabilitative patient-centered (or population-centered) care.

Inner Leaves:

1. Knowledge and Critical Thinking
2. Technical Skills
3. Communication Skills
4. Teamwork
5. Research

Outer Leaves:

6. Professionalism
7. Pedagogy
8. Advocacy

1. Knowledge and Critical Thinking

- Demonstrate application of wide and current readings to critical thinking and problem solving
- Relate the alteration of body function to the presenting condition
- Interpret and integrate history and examination findings to arrive at an appropriate provisional and credible differential diagnoses
- Sequentially order, justify and interpret appropriate investigations
- Apply knowledge and reasoning skills to
    - Analyze data for problem identification and to rule in and rule out contending conditions
    - Synthesize and evaluate solutions for decision-making in solving familiar and less familiar problems based on best current evidence
    - Prioritize different problems within a time frame.
    - Select, outline and provide, with evidence-based justifications, appropriate pharmacological and non-pharmacological management strategies
    - Assess new medical knowledge and apply it to resolve patient problems (Evidence-based practice)
    - Apply quality assurance procedures in daily work. (Pro fessionalism)
    - Demonstrate shared-decision-making with the patient or family
    - Provide cost-effective care while ordering investigations and in management
    - Use resources appropriately
    - Demonstrate awareness of bio-psycho-social factors in assessment and management of a patient.

2. Technical Skills

- Obtain an accurate history with sensitivity
- Perform an accurate physical and mental state examination, even in patients with complex health problems involving multiple systems
- Demonstrate International Patient Safety Goals (IPSG)
- Demonstrate competent performance of all required technical skills and procedures in their specialty, including:

- Obtaining informed consent
- Preoperative planning
- Pre-interventional care and preparation
- Intra-Intervention technique including exposure and closure, global and task specific items, and communication and team skills
- Post-interventional care
- Follow-up Care.

3. Communication Skills

- Written Communication Skills
  - Maintain clear, concise, accurate and updated medical records
  - Write clear, focused, evidence-based and logical management plans and discharge summaries
  - Write respectful, clear and focused letters and referrals to other colleagues.
- Verbal Communication Skills: Demonstrate
  - Effective interpersonal communication skills: clear, considerate and sensitive towards patients, their relatives, other health professionals and the public, and towards students
  - Non-verbal communication skills:
  - Empathy and respect towards patients and their relatives
  - Effective counseling of the patient and the family with cultural sensitivity: explain options, educate them and promote joint decision-making.
  - Appropriate verbal and body language on the campus and all work situations including seminars, bedside sessions, outpatient sessions and others
  - Respect and tolerance for all health care professionals, including peers, juniors and seniors
  - Clear, focused and logical presentation of cases.

4. Teamwork

- Demonstrate constructive team-communication skills.
- Facilitate collaborative group interaction as a team member to build strong teams demonstrating respect, tolerance and interdependence.
- Support other team members to grow
- Demonstrate willingness to assume responsibility and leadership as needed.

5. Research

- Interpret and use results of various research studies (critical appraisal)
- Conduct a research study individually or in a group by using appropriate
- Selection of research question(s) and objectives
- Research design and statistical methods to answer the research question
- Ethical and R&RC approval of the synopsis
- Demonstrate competence in academic writing by writing an appropriate dissertation and/or publishing research article(s) as a step towards resolving issues or concerns in their specialty
- Guide others in conducting research by advising about research methodology including study designs and statistical methods
- Demonstrate clear, focused and logical presentations of their research.

6. Professionalism

- Demonstrate the highest level of personal integrity: honesty, punctuality, regularity, timely task completion
- Deal with all patients in a non-discriminatory, prejudice- free manner, demonstrating the same level of care for every human being irrespective of gender, age, ethnic background, culture, socioeconomic status and religion
- Establish a trusting relationship with patients, their relatives and care-givers
- Deal with all patients with honesty, empathy and compassion, putting patients' needs first (altruism)

- Facilitate transfer of information important for promotion of health, prevention and management of disease
- Encourage questioning by the patient and be receptive to feedback
- Pursue self-directed and life-long learning. Keep abreast of medical literature and assess new knowledge and apply it to resolve patient problems
- Know one's limitations and ask for help as needed from colleagues, consultations or referrals
- Apply quality assurance procedures for improvement in daily work
- Be a role model for others.

Ethics
- Maintain patient autonomy by demonstrating shared-decision-making with the patient and/or family
- Obtain informed consent, maintain patient confidentiality and do no harm
- Provide cost-effective care while ordering investigations and in management and use resources appropriately.

Leadership
- Demonstrate accountability for their decisions and actions, and that of their team
- Demonstrate willingness to assume leadership role(s) when needed in given situations or events (rush call/code).
- Change and bring about change as necessary, as a leader or supportive leader.

7. Pedagogy

Should be able to demonstrate competence in teaching skills:
- Effective clinical/community-based teaching
- Some evidence of acquisition of theory regarding learning and education
- Practice some of the best teaching methods.

8. Advocacy

Advocacy is needed at multiple levels

- Advocacy for the Patient:
  - Doctors and nurses are the advocates of the patients, otherwise patients are likely to be lost in the system. All care should be timely, putting patients first.
- Advocacy for the Practice
  - Working in a service or practice, doctors must highlight limitations and issues
  - They must identify solutions for the problems, and recommend and implement improvements for the practice(s) and institutional system(s).
- Advocacy for the Health System and Society
  - Know one's role in the Health System(s) and build strong referral systems
  - Keep patient and community interests paramount, above one's own personal or professional interest
  - Demonstrate advocacy for elimination of the social determinants of health
  - Demonstrate advocacy for prevention of serious illnesses of their specialty/sub-specialty.
- For the Profession
  - Strive for building trust in the public for your profession
  - Demonstrate improvement and enhancement of profession, specialty and sub-specialty
  - Be conscientious gate-keepers of their profession, specialty and subspecialty.

GENERAL REGULATIONS

Candidates will be admitted to the programme and 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 FCPS TRAINING PROGRAM IN ENDOCRINOLOGY

- Passed FCPS in Medicine or equivalent qualification as recognized by CPSP

DURATION OF TRAINING IN ENDOCRINOLOGY

- Training in Endocrinology is a second fellowship which is to be undertaken after passing FCPS Medicine or equivalent qualification as recognized by CPSP.
- The duration of the training is two years after R&RC registration and consists of:
  - Outpatient endocrine and diabetes clinics.
  - Inpatient endocrine consult service and inpatient endocrine service.
- All training must be completed one month before the theory examination the candidate wishes to appear in.

ROTATIONS

It will be the responsibility of the concerned supervisor to determine the need and duration of rotations in the following disciplines, liaise with the appropriate centres and send the residents to those centers for acquiring competencies as mentioned in the curriculum. The supervisor will also determine with the institution identified for rotation, the duration and mode of rotation (en-block or staggered).

Allied Clinical Specialities:

- Psychiatry
- Gynaecology
- Urology
- Neurosurgery
- Subfertility & Assisted Reproduction Center

Diagnostic Specialities:

- Chemical pathology
- Histopathology
- Radiology
- Ultrasonography
- Nuclear Medicine

Centre of Excellence:

- Endocrinology rotation at a national or international centre of excellence preferbly for a month.

APPROVED TRAINING CENTERS

Training must be undertaken in units, departments and institutions approved by the College. A current list of approved institutions is available from the College and its Regional Centres as well as on the College **website: www.cpsp.edu.pk**

REGISTRATION AND SUPERVISION

All training must be supervised and residents are required to register online with the R&RC during the month of January/July. The supervisor will normally be a Fellow of the College. The residents are not allowed to work simultaneously in any other department/institutions for financial benefit and/or for another academic qualification.

MANDATORY WORKSHOPS AND COURSES

Following CPSP certified workshops/courses are mandatory during first fellowship training. However, if not ADD already the fellow residents will complete these workshops/courses.

1. Introduction to Computer and Internet
2. Research Methodology, Biostatistics & Dissertation Writing
3. Communication Skills

Any other workshop/s as may be Introduced (e.g. ACLS and ATLS) by CPSP.

RESEARCH

The candidate must submit one research paper as first author, published/accepted for publication in CPSP approved Journal. Synopsis of the article must have prior approval of the Research and Evaluation Unit (REU). The research study for this article must be undertaken during R&RC registered training period and must be on a topic related to Endocrinology.

E-LOGBOOK

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

CURRICULUM: AIM AND OBJECTIVES

The aim of Second Fellowship Program in Endocrinology is to produce fully trained Endocrinologists who at the end of their training are able to diagnose and treat common endocrine disorders in a cost-effective manner. The fellows would receive exposure to a wide variety of patients suffering from diverse endocrine problems in order to give them experience in diagnosing and treating such conditions.
Additionally, they need to be actively involved in the teaching of both undergraduate and postgraduate students.

OBJECTIVES:

- To learn basic and advanced endocrine biochemistry, physiology and pathophysiology, which provide the basis for understanding of endocrine diseases.
- To accumulate a critical mass of fundamental information and practical approaches for the diagnosis, management and prevention of endocrine disorders.
- To acquire the technical and practical skills that is required by a consultant in endocrinology, diabetes and metabolism.
- To acquire clinical skills in a progressive fashion and with increasing responsibility appropriate for a consultant in endocrinology, diabetes and metabolism.
- To acquire knowledge and skills necessary for providing cost- effective, ethical and humanistic care of patients with disorders of endocrinology, diabetes and metabolism.
- To acquire knowledge and skills necessary for critical analysis of the laboratory testing and the endocrine literature.
- To acquire skills in design and performance of hypothesis -driven endocrine research, and to participate in such research or equivalent scholarly activity. This may include gaining extensive experience in grant writing and scientific presentation.

SYLLABUS

GENERAL

- Endocrine biochemistry and physiology
- Hormone action and interaction
- Perform and interpret endocrine biochemical tests including dynamic testing
- Ordering and interpretation of CT and MRI of pituitary, orbits, adrenals, ovaries and other endocrine organs.
- Ordering and interpretation of ultrasound of thyroid and ovaries.
- Ordering and interpretation of radioisotope scans of thyroid, parathyroid and adrenals.

SPECIFIC

Diabetes

- Diagnosis and general management of diabetes mellitus
- Diabetic emergencies
- Management of diabetes patients during intercurrent illness or surgery
- Conception and pregnancy in diabetes
- Diabetes in young people and elderly.
- Complication of diabetes (screening and management)
  - Macrovascular disease
  - Eye disease in diabetes
  - Renal disease in diabetes.
  - Neuropathies in diabetes.
  - Erectile dysfunction in diabetes
- Knowledge of the details of current technological devices for the management of Diabetes Mellitus.

LIPID DISORDERS

- Screening
- Assessment of cardiovascular risk in relation to lipid profile
- Diagnose and manage patients with primary and secondary lipid disorders

DISORDERS OF THE HYPOTHALAMUS AND PITUITARY

- Diagnose and manage pituitary dysfunction
- Diagnose and manage pituitary adenomas both functional, non functional and craniopharyngiomas.

DISORDERS OF THYROID GLAND

- Diagnose and manage simple goitre, multi-nodular goitre and solitary / dominant thyroid nodules
- Perform and interpret FNAC of thyroid nodules
- Diagnose and manage disorders of thyroid dysfunction
- Diagnose and manage thyroid eye disease
- Diagnose and manage thyroid disease during pregnancy and also those associated with pregnancy
- Diagnose, manage and follow up of thyroid carcinomas

DISORDERS OF ADRENAL GLAND

- Know causes, investigation and treatment of disorders of adrenal gland
- Perform and interpret tests of adrenal function
- Investigate and manage Cushing's syndrome
- Investigate suspected endocrine hypertension and manage phaechromocytoma and adrenocortical hypertension
- Investigate and manage primary and secondary adrenal failure
- Investigate adrenal tumours
- Provide peri-operative care of patients with proven adrenal insufficiency and in acute intercurrent illnesses and emergencies

DISORDERS OF GONADS

- Diagnose and manage patients with gonadal disorders both primary and secondary gonadal failure
- Investigate and manage hirsutism, virilism, polycystic ovarian syndrome and infertility
- Prescribe appropriate sex hormone replacement therapy to men and women with deficiencies
- Investigation and manage men with gynaecomastia
- Investigation and manage delayed and precocious puberty
- Investigate, diagnose and manage gender ambiguity disorders
- Learn the indications, physiology and complications of assisted fertilization.

DISORDERS OF PARATHYROID GLANDS, CALCIUM METABOLISDM AND BONES

- Identify causes, investigate and manage cases of hypercalcemia and hypocalcaemia and their treatments.
- Provide peri-operative care for patients undergoing parathyroid surgery
- Diagnose and manage Vitamin D deficient states
- Know risk factors of osteoporosis, its screening and treatment strategies.

DISORDERS OF APPETITE AND WEIGHT

- Diagnose, manage and provided care of patients with obesity including endocrine and secondary causes of obesity
- Medical and surgical treatment options for obesity
- Diagnose and manage the endocrine consequences of anorexia nervosa and bulimia

MISCELLANEOUS ENDOCRINE AND METABOLIC DISEASES

Diagnose workup and manage patients with rarer endocrine conditions like:

- Spontaneous Hypoglycaemia
- Neuroendocrine and peptide secreting tumours
- Acute and chronic hypo and hypernatraemia
- MEN syndrome including understanding of genetic testing and strategies for long term monitoring
- Late endocrine effects of cancer treatment
- Rare disorders of insulin resistance

CORE COMPETENCIES

The Clinical Competencies a specialist must possess are varied and complex. A complete list of the same necessary for trainees and trainers is given below. The level of competence 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 under indirect supervision
5. Performed independently

Note: Levels 4 and 5 for practical purposes are almost synonymous

COMPETENCIES	YEAR-1		YEAR-2	
	LEVEL	CASES	LEVEL	CASES
PATIENT MANAGEMENT (OUT & IN-PATIENTS)		200		200
FORMULATING A WORKING DIAGNOSIS	4		5	
DECIDING ABOUT AMBULATORY CARE / HOSPITALIZATION / REFERRAL	3		4	
ORDERING INVESTIGATIONS AND INTERPRETING THEM	4		5	
DECIDING AND IMPLEMENTING TREATMENT	4		5	
BROAD SPECTRUM OF CASES				
GENERAL DIABETIC PROBLEMS AND COMPLICATIONS	3	75	4,5	75
GENERAL ENDOCRINE PROBLEMS	3	95	4,5	95
PAEDS ENDOCRINOLOGY PROBLEMS	2	10	3	10
REPRODUCTIVE ENDOCRINOLOGY PROBLEMS	3	10	4	10
OBESITY AND RELATED PROBLEMS	3	5	4,5	5
GENDER CONFUSION/GENDER DYSPHORIA	3	5	4,5	5

OUT-PATIENT MANAGEMENT (150 CASES/YEAR)

COMPETENCIES	YEAR-1		YEAR-2	
	LEVEL	CASES	LEVEL	CASES
MANAGEMENT OF DIABETES		50		50
DIAGNOSES & GENERAL MANAGEMENT OF DIABETES	4	20	5	20
DIABETES IN RELATION TO CONCEPTION AND PREGNANCY	3	5	4,5	5
GESTATIONAL DIABETES	3	5	4,5	5
MANAGE DIABETES IN ELDERLY	3	5	4,5	5
MACROVASCULAR COMPLICATIONS	4	3	5	3
DIABETIC EYE DISEASE	3	2	4,5	2
DIABETIC NEPHROPATHY	3	2	4,5	2
DIABETIC NEUROPATHY	4	2	5	2
DIABETIC FOOT DISEASE	3	2	4,5	2
DIABETES AND ERECTILE DYSFUNCTION	3	1	4,5	1
LIPID DISORDERS IN DIABETES	4	3	5	3

COMPETENCIES	YEAR-1		YEAR-2	
	LEVEL	CASES	LEVEL	CASES
MANAGEMENT OF THYROID DISORDERS		34		34
HYPO AND HYPERTHYROIDISM, INTERPRETATION OF THYROID FUNCTION TESTS AND APPROPRIATE USE OF ANTI-THYROID MEDICATIONS	4	15	5	15
SIMPLE NON-TOXIC GOITER, MULTINODULAR GOITER AND SOLITARY THYROID NODULES	4	5	5	5
USE OF RADIOISOTOPES AND ULTRASONOGRAPHY IN THE DIAGNOSIS AND MANAGEMENT OF THYROID DISORDERS	3	2	4,5	2
THYROID EYE DISEASE	3	4	4	4
THYROID MALIGNANCIES	3	2	4,5	2
THYROID DYSFUNCTION DURING AND AFTER PREGNANCY	3	4	4,5	4
PERFORM AND INTERPRET THYROID FNAC	2	2	3	2

COMPETENCIES	YEAR-1		YEAR-2	
	LEVEL	CASES	LEVEL	CASES
MANAGEMENT OF HYPOTHALAMUS & PITUITARY DISORDERS		16		16
GROWTH HORMONE DEFICIENCY	3	2	4,5	2
ABILITY TO PRESCRIBE AND MONITOR GROWTH HORMONE ADMINISTRATION	3	1	4	1
DIAGNOSE AND MANAGE SECONDARY HYPOADRENALISM INCLUDING GLUCOCORTICOIDS ADMINISTRATION & ITS ADJUSTMENTS IN DIFFERENT SITUATIONS	3,4	2	5	2
DIAGNOSE AND MANAGE HYPOGONADISM IN FEMALES INCLUDING PRESCRIPTION AND MONITORING OF HORMONE REPLACEMENT THERAPY	3,4	2	5	2
DIAGNOSE AND MANAGE HYPOGONADISM IN MALES INCLUDING PRESCRIPTION AND MONITORING OF TESTOSTERONE OR GONADOTROPHIN ADMINISTRATION	3,4	2	5	2
MANAGEMENT OF COMMON CHROMOSOMAL DISORDERS LIKE TURNER'S AND KLINEFELTER'S SYNDROMES	3	1	4	1
ASSESSMENT AND MANAGEMENT OF INFERTILE COUPLE	3	4	4	4
ASSESSMENT AND MANAGEMENT OF DIABETES INSIPIDUS	3	2	4	2
MANAGEMENT OF ADRENAL DISORDERS		8		8
DIAGNOSE AND MANAGE DISORDERS OF ADRENAL CORTEX AND MEDULLA	3,4	8	5	8

COMPETENCIES	YEAR-1		YEAR-2	
	LEVEL	CASES	LEVEL	CASES
MANAGEMENT OF PARATHYROID AND BONE METABOLISM DISORDERS		12		12
PARATHYROID DISORDERS	3,4	4	5	4
DIAGNOSE AND MANAGE OSTEOPOROSIS	3,4	3	5	3
DIAGNOSE AND MANAGE RICKETS AND OSTEOMALACIA	3,4	1	5	1
DIAGNOSE AND MANAGE HYPO/HYPER CALCEMIC DISORDERS	3,4	3	5	3
DIAGNOSE AND MANAGE RENAL OSTEODYSTROPHY	3	1	4	1
MANAGEMENT OF OBESITY		5		5
DIAGNOSE AND MANAGE OBESITY	3,4	5	5	5
MANAGEMENT OF PAEDIATRIC ENDOCRINOLOGY DISORDERS		12		12
DIAGNOSIS AND MANAGEMENT OF SHORT STATURE	3	3	4	3
DIAGNOSIS AND MANAGEMENT OF COMMON CHROMOSOMAL ABNORMALITIES	3	2	4	2
DISORDERS OF SEX DIFFERENTIATION	3	2	4	2
DIABETES	3	5	4	5
MANAGEMENT OF DISORDERS OF SEX DIFFERENTIATION/ GENDER DYSPHORIA IN ADULTS	3	3	4	3
MANAGEMENT OF DISORDERS OF GONADS		10		10
INVESTIGATE AND MANAGE PRIMARY AND SECONDARY GONADAL FAILURE	3,4	5	5	5
PERFORM AND INTERPRET TESTS OF THE HYPOTHALMO - PITUITARY GONADAL AXIS	3,4	3	5	3
EVALUATION AND INTERPRETATION OF SEMEN ANALYSIS	3,4	2	5	2

MANAGEMENT OF EMERGENCIES & IN-PATIENT CARE (50 CASES/YEAR)

COMPETENCIES	YEAR-1		YEAR-2	
	LEVEL	CASES	LEVEL	CASES
IN-PATIENT MANAGEMENT		50		50
DIABETES		25		25
DIABETIC EMERGENCIES (DKA, HHS, HYPOGLYCEMIA)	4	6	5	6
MANAGE DIABETES DURING ACUTE ILLNESS AND PERI-OPERTIVE PERIOD	4	8	5	8
GENERAL MANAGEMENT OF DIABETES AND COMPLICATIONS	4	11	5	11
THYROID DISORDERS		10		10
DIAGNOSE AND MANAGE THYROID STORM AND MYXEDEMA STATE	3	3	4,5	3
PERI-OPERATIVE ENDOCRINE CARE DURING THYROID SURGERY	4	4	5	4
DIAGNOSE MECHANICAL COMPRESSION FROM GOITRE AND REFER APPROPRIATELY TO SURGEONS	4	3	5	3
PITUITARY DISORDERS		5		5
PERI-OPERATIVE ENDOCRINE MANAGEMENT OF PITUITARY SURGERY	3	5	4	5
ADRENAL DISORDERS		5		5
PERI-OPERATIVE CARE OF ADRENAL DISORDERS	3,4	3	5	3
MANAGEMENT OF ADRENAL ISUFFICIENCY	3,4	2	5	2
ELECTROLYTE DISORDERS		5		5
DIAGNOSE AND MANAGE ELECTROLYTE IMBALANCE IN RELATION TO ENDOCRINOLOGICAL DISORDERS	3,4	5	5	5

SPECIFIC ENDOCRINE TESTS

PERFORM AND INTERPRET SHORT SYNACTHEN TEST CORTISOL
17-OH PROGESTERONE
PERFORM AND INTERPRET CORTICOTROPHIN RELEASING HORMONE (CRH)
STIMULATION TEST
PERFORM AND INTERPRET DEXAMETHASONE SUPPRESSION TESTS. (DST)
PERFORM AND INTERPRET INSULIN TOLERANCE TEST
PERFORM AND INTERPRET WATER DEPRIVATION TEST
PERFORM & INTERPRET GLUCOSE TOLERANCE TEST FOR GROWTH HORMONE EXCESS
PERFORM AND INTERPRET GNRH STIMULATION TEST FOR PRECIOUS PUBERTY
INTERPRET DATA COMING AFTER INFERIOR PETROSAL SINUS SAMPLING

IMAGING TECHNIQUES IN ENDOCRINOLOGY

ADRENALS, ORBITS AND OTHER ENDOCRINE ORGANS
INTERPRETATION OF ULTRASOUND OF OVARIES AND THYROID
INTERPRETATION OF RADIOISOTOPE SCANS OF THYROID AND ADRENALS
APPROPRIATE ORDERING AND INTERPRETATION OF CT & MRI OF PITUITARY

ASSESSMENT

FORMATIVE ASSESSMENT ***(Mandatory from July 2023 & onwards)***
College of Physicians and Surgeons Pakistan, in order to implement competency based education in letter and spirit, is introducing Work Placed Based Assessment (WPBA) in addition to institutional/ departmental assessments. To begin with college is introducing Mini-CEX and DOPS to ensure that the graduates are fully equipped with the clinical competencies.

Mini Clinical Evaluation Exercise (Mini-CEX)
During training in Endocrinology, at least one Mini-CEX in each quarter is to be conducted as per the earmarked topics given below:

- Mini-CEX is entirely a formative tool of assessment and is to be accompanied with constructive feedback
- Each Mini-CEX encounter extends for about 20 minutes with 05 minutes for feedback and further action plan
- In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame
- Non-compliance by the resident has to be reported in quarterly feedback
- The performace is reported online on the prescribed form (sample given below):

TOPICS FOR MINI-CEX
YEAR-1:
1st Quarter:
- Type 1 Diabetes
- Type 2 Diabetes

2nd Quarter:
- Thyroid Disorders

3rd Quarter:
- Pituitary Disorders

4th Quarter:
- Adrenal Disorders

YEAR-2:

1st Quarter:

- Female Sexual Disorders

2nd Quarter:

- Male Sexual Disorders

3rd Quarter:

- Metabolic Bone Diseases and Calcium Metabolism Disorders

4th Quarter:

- Lipid Disorders, Obesity and Appetite Disorders

Miscellaneous*:

- MEN & Neuroendocrine Tumour
- Disorders of Sexual Differentiation and Development
- Disorders of Appetite & Weight Regulation
- Child Growth & Development

Note*:

In Case of non-availability of patients in a quarter, any case from miscellaneous group can be used for Mini-CEX.

COLLEGE OF PHYSICIANS AND SURGEONS PAKISTAN

MINI CLINICAL EVALUATION EXERCISE (CEX)

SPECIALTY: ENDOCRINOLOGY

Time Duration = 20 mins (15 mins assessment and 5 mins feedback)

PLEASE COMPLETE THE QUESTIONNAIRE BY FILLING/CHECKING APPROPRIATE BOXES

Assessor: _____ **Assessment Date:** _____

Resident`s Name: _____

Hospital Name: _____ **R&RC Number:** _____

Year of Residency: ☐ R1 ☐ R2

Quarter: ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

Setting: ☐ Ward ☐ Outdoor (Hospital/Community) Other: _____

Diagnosis of Patient: _____ **Patient Age:** _____ **Sex:** _____

Clinical Area: _____

Complexity of Case/ Procedure: ☐ Low/Easy ☐ Moderate/Average ☐ High/Difficult ☐ N/A

Focus of Clinical Encounters: ☐ History taking ☐ Physical Examination ☐ Management ☐ Communication Skills ☐ Other: _____

Please grade the following areas on the given scale:	Not Observed / Applicable	Below Expectations		Satisfactory	Above Expectation	Excellent
		1	2	3	4	5
Informed Consent of patient						
Interviewing Skills						
Systematic Progression						
Presentation of positive & significant negative findings						
Justification of actions						
Professionalism						
Organization/Efficiency						
Overall clinical competence						

Assessor's Satisfaction with Mini-CEX:

(Low) 1 2 3 4 5 (High)

Resident's Satisfaction with Mini-CEX:

(Low) 1 2 3 4 5 (High)

Strengths	**Suggestions for Improvement**

Encounter to be repeated ☐ **YES** ☐ **NO**

_____

Signature

SUMMATIVE ASSESSMENT

The eligibility requirements for candidates appearing in FCPS Endocrinology are:

- Passed FCPS in Medicine or equivalent qualification as recognized by CPSP.
- Undertaken two years of the specified training in Endocrinology, all of which should be after passing first fellowship in specified discipline(s) or has been granted exemption by CPSP.
- Completed CPSP mandated Mini-CEX in e-logbook.
- Completion of entries in e-logbook along with validation by the supervisor.
- Provided evidence of publication/acceptance for publication of one research paper.
- Submited certificates of attendance of mandatory workshops, if not attended during first fellowship training.

EXAMINATION SCHEDULE

- CPSP theory examinations may be held once or twice a year depending upon the number of candidates.
- Theory examinations are held in various cities of the country usually at Abbottabad, Bahawalpur, Faisalabad, Hyderabad, Rawalpindi, Islamabad, Karachi, Lahore, Multan, Peshawar and Quetta centres. 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 is the medium of examination for the theory/ practical / clinical and viva examinations.
- The College will notify of any change in the centres, 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 reason
- 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 on payment of registration fees and other dues.

EXAMINATION FEE

- 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 centre, etc. Shall be notified before each examination

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 fee only. No request for refund will be accepted after the closing date for receipt of applications.

Fee deposited for a particular examination shall not be carried over to the next examination in case of withdrawal / absence / exclusion.

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 fee paid for any other reason, e.g. late fee, change of centre/subject fee, etc.

Note: The candidate is required to fill a self-explanatory 'feedback proforma' at the end of the clinical examination. This will help the College in making future examination more candidates friendly.

FORMAT OF EXAMINATIONS

Every candidate applying for the Fellowship of the College of Physicians and Surgeons Pakistan must pass both theory and the clinical components of the Fellowship examination. Since the College is continually seeking to improve its examinations, changes are likely to be made from time to time and candidates will be notified well in advance of such changes.

THEORY EXAMINATION

Paper-I: 100 Multiple Choice Question MCQs

Paper-II: 100 Multiple Choice Question MCQs

Only those candidates who pass through the written examination will be allowed to appear in clinical examination.

CLINICAL EXAMINATION

The Clinical section comprises following two components:

- Clinical examination:
  - Long Case
  - Short Cases

Only those candidates who pass through TOACS examination will be allowed to appear in the remaining components of clinical examination.

FORMAT OF TOACS

Tasks-Oriented Assessment of Clinical Skills (TOACS) has been introduced since November, 2001 in FCPS examinations.

TOACS will comprise of 10-15 stations. There will be only interactive stations in which the candidate will have to perform a procedure, for example, taking history, performing clinical examination, counseling, assembling an instrument etc. 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.

Note: The candidate is required to fill a self-explanatory "feedback form" at the end of the examination.

THE COLLEGE RESERVES THE RIGHT TO ALTER/AMEND ANY RULES/ REGULATIONS

Any decision taken by the College on the interpretation of these regulations will be binding on the candidate.

Published: 20 January 2021
Updated: March 2023

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