

**Statutes**

**M.D. ENDOCRINOLOGY**



**Khyber Medical University  
Peshawar  
2011**

## **GENERAL STATUTES AND REGULATIONS**

### **General regulations (Eligibility)**

- 1.1 Candidates must be a medical graduates with MBBS or equivalent basic medical qualification recognized and registered by PMDC.
- 1.2 Enrollment for the five-year full time course shall be open every year.
- 1.3 The entry test for this course shall be conducted by Khyber Medical University and will be part 1 exam of MD Endocrinology which will be basic and applied medicine and endocrinology.
- 1.4 Candidates who have passed FCPS/MRCP part 1 in Medicine and allied will be exempted from entry test (part 1) of the Endocrinology programme.
- 1.5 This five year programme will include 2 years of general medicine followed by intermediate module exam at the end of 2<sup>nd</sup> year. Candidate has to pass intermediate module before appearing in the Final MD examination.
- 1.6 Candidates who have completed FCPS/MRCP will be exempted from the entry test and mandatory rotation in general medicine and will be taken directly into year three of Endocrinology MD programme.
- 1.7 Selection criteria for the candidates will be as prescribed by PGMI.
- 1.8 Names of at least two referees to be provided with references if any.
- 1.9 Registration and deposit of the required fee (as determined by PGMI or KMU) is must before course can be started

## **Curriculum for M.D. ENDOCRINOLOGY**

### **REQUIREMENTS AND COURSE OF STUDIES**

#### **Faculty members**

The clinical endocrinology program faculty shall include a minimum of one full-time qualified teaching faculty member (supervisor). Supervisor must be at least Assistant professor and have 5 years teaching experience in Endocrinology after post graduation. Research experience shall be essential for the faculty member/supervisor. Each of the faculty members must devote substantial time (at least 10 hours per week) to teaching, research and evaluation of the performance, progress, and competence of the trainees. The unit concerned should have a minimum of twenty beds and should take both acute as well as chronic patients.

#### **Duties of a trainee, training record, personal development and professional conduct**

Training is on full time basis and the trainee shall perform on call duties while in Endocrinology ward or on rotation, as allocated to him by his supervisor. The trainee shall maintain a record of training in the form of a logbook. The supervisor shall check this record regularly for evidence of training and to confirm the progress made by the trainee and also countersign it. Being a full time course, trainees shall not be allowed private practice. Duties of candidate shall be all those applied to trainees of PGMI.

### **COURSE OF STUDIES FOR THE DEGREE OF M.D. IN ENDOCRINOLOGY FROM KHYBER MEDICAL UNIVERSITY, PESHAWAR:**

#### **(A) Clinical research work**

This will be an essential component of M.D (Endocrinology). Trainees should be able to search for endocrine specific information on the Internet and digital libraries and should be computer literate. Participation of trainees in group meetings, symposia, lectures and conferences shall be encouraged. They shall be encouraged to present their studies in conferences. Trainees have to write a dissertation regarding their research (basic or clinical) during the course of studies, which should be of sufficient merit so as to be able to be published in an impact factor medical journal. This synopsis should be submitted within the **first year** of the training. Dissertation has to be approved by one internal and one external examination **before** the trainee can sit in the written examination.

Dissertation will remain property of the department and any further publication has to be authorized by the department. Candidate alternately may publish two original articles in an impact factor journal.

## **(B) Basic sciences**

### **Molecular biology of endocrine glands and other basics of endocrinology including pharmacology and radio-diagnostics:**

Didactic lectures will be given in the department of Diabetes, Endocrinology and Metabolic diseases and faculty from basic science may be invited to deliver lectures.

## **C) Clinical endocrinology**

### **(a) Principles of management of endocrine disorders including diagnostic skills, treatment plans etc:**

### **(b) Principles of multidisciplinary team approach and plan for endocrine diseases**

Includes liaison with other specialties including IRNUM, neurosurgeon, radiology, obs and gynae, pediatrics etc for the treatment plan

### **(c) Management of Endocrinological disorders:**

In addition to general medical knowledge, trainees should have thorough knowledge of the aetiology and risk factors, epidemiology, genetic basis, screening, sign symptoms, interpreting diagnostic data (both laboratory based and radiology based), clinical examination skills, current literature as well as state of the art treatment plans for the following:

#### **1. Thyroid .**

- anatomy and physiology
- investigations
- thyrotoxicosis
- graves ophthalmopathy,dermopathy and acropachy
- multinodular goiter and solitary adenomas
- thyroiditis
- hypothyroidism
- amiodarone and thyroid function
- cancer.

#### **2. Pituitary .**

- anatomy and physiologyof anterior pituitary gland
- imaging
- pituitary function:dynamic tests
- hypopituitarism
- anterior pituitary hormone replacement
- growth hormone replacement therapy in adults.
- pituitary tumours.

- prolactinomas
- acromegaly
- Cushing's disease.
- non functioning pituitary tumours.
- gonadotrophinomas
- throtrophinomas
- pituitary incidentalomas
- pituitary carcinomas
- craniopharyngiomas
- parasellar tumours
- parasellar inflammatory conditions
- lymphocytic hypophysitis
- surgical treatment of pituitary tumours
- pituitary radiotherapy
- drug treatment of pituitary tumours
- posterior pituitary
- diabetes insipidus
- hyponatraemia
- syndrome of inappropriate ADH
- hypothalamus
- eating disorders
- pineal gland

### **3. Adrenals.**

- Anatomy and physiology
- imaging.
- mineralocorticoid excess
- primary aldosteronism
- excess other mineralocorticoid
- adrenal Cushing's syndrome
- adrenal surgery
- renal tubular abnormalities
- mineralocorticoid deficiency
- adrenal insufficiency
- Addison's disease
- long term corticosteroid administration
- adrenal incidentalomas
- pheochromocytomas and paragangliomas

### **4. Reproductive endocrinology.**

- hirsutism
- polycystic ovarian syndrome.

- congenital adrenal hyperplasia in adults
- androgen secreting tumours
- menstrual disorders-assessment and investigation
- primary ovarian failure.
- menopause
- combined oral contraceptive pill
- testicular physiology.-
- male hypogonadism.
- androgen replacement therapy
- gynaecomastia
- erectile dysfunction
- testicular tumours.
- infertility
- disorders of sexual differentiation.
- transsexualism.

#### **5. Endocrine disorders of pregnancy.**

- thyroid disorders
- pituitary disorders
- adrenal disorders.

#### **6. Calcium and bone metabolism.**

- physiology
- investigation of bone.
- investigation of calcium, phosphate and magnesium.
- hypercalcaemia
- hypocalcaemia.
- rickets and osteomalacia.
- hypomagnesaemia.
- osteoporosis.
- pagets disease.
- inherited disorders of bone.

#### **7. Paediatric endocrinology.**

- growth and stature.
- puberty
- sexual differentiation.

## **8. Neuroendocrine tumours of gastrointestinal tract.**

- The diffuse Neuroendocrine system.
- carcinoid syndrome.
- insulinomas.
- gastinomas.
- glucagonomas.
- VIPomas
- Somatostatinomas.

## **9. Inherited endocrine syndromes and MEN.**

- McCune-Albright syndrome.
- Neurofibromatosis.
- Von Hippel-Lindau Disease.
- Multiple endocrine neoplasia.
- Carneys Complex.

## **10. Miscellaneous endocrinology.**

- Hypoglycaemia.
- Obesity
- Endocrinology and Aging
- Endocrinology of Critical illness.
- Perioperative management of endocrine patients.
- Syndromes of hormone resistance.

## **11. Diabetes**

- Classification and diagnosis.
- General management and treatment.
- Diabetic eye disease
- Diabetic renal disease
- Diabetic neuropathy.
- Macrovascular disease.
- Diabetic foot.
- Diabetes and pregnancy.
- Intercurrent events or disease.
- Social and practical aspects.
- Emergencies.

## **12. Lipids and hyperlipidaemias.**

- Lipids and coronary heart disease.
- Primary hyperlipidaemias.

- Secondary hyperlipidaemias.
- Management of dyslipidaemias.

## **WORKSHOPS**

All candidates must attend mandatory workshops organized or recognized by KMU in the first three years of training.

These workshops include

1. Research methodology and dissertation writing including SPSS.
2. Basic computer skills.
3. Communication skills and Professionalism
4. Bio Ethics

## **EXAMINATION**

English shall be the medium of instruction and examination. Examination shall be held by Khyber Medical University, Peshawar after completion of five years training. Examination shall be held only once a year.

Dissertation has to be approved before candidate can sit in the examination.

Dissertation shall be evaluated by an independent examiner.

Examination shall be conducted in one part with written examination as well as clinical assessment and viva.

Trainees shall be trained and assessed in all fields related to endocrinology during the examination which will include written questions and answers, MCQs, short and long case presentations and discussion, table viva and research project assignment.

Pass percentage for the whole examination will be 60% aggregate, with individual components not less than 55%. If a candidate scores less than 55% in individual component, he/she will be considered failed even if the aggregate score is above 60%.

### **Intermediate Module**



A candidate will be eligible for Intermediate module examination after 18 months of training in General Medicine, arranged by the university on quarterly basis and will include one written paper of MCQs (100 marks), TOACS/Structured Short Cases (70 marks) and Structured Long case (30 marks).

Candidates who joined the MD programme after passing major diploma, MRCP/FCPS will be exempted from intermediate module.

## **Final Examination**

### **PAPER A: 100 marks, duration 3 hours**

Part I: Written paper in general medicine, epidemiology, screening treatment related to Diabetes and associated complications. Multiple Choice Questions/ Extended Matching Questions (MCQs/EMQs, one best answer) 70 questions approximately.

Part II: Written paper in cellular, physiological and molecular biology, investigation and management plan related to endocrinology. (Extended matching questions) 5 questions.

### **PAPER B: 100 marks, Duration 3 Hours**

Part I: Scenario based Short Essay Questions (SEQs) in Diabetes Mellitus and related problems (30 marks)

Part II: Scenario based SEQs in Endocrinology (endocrine disease specific paper) (70 marks)

### **VIVA VOCE: 200 marks**

A. OSVE	50
B. Structured Short cases (four)	100
C. Structured Long case (one)	50

**TOTAL MARKS IN THE EXAMINATION: 400**

Viva shall include full discussion on research project, any aspect of endocrinology as well as x-rays, scans, laboratory reports etc.

Passing marks in aggregate shall be 60%, with individual component score of not less than 55%.

Head of Department of Diabetes, Endocrinology and Metabolic diseases, Postgraduate Medical Institute, (Khyber Medical University), Hayatabad Medical Complex, Peshawar shall be the convener of the examination.

There shall be two sets of examiners; two internal examiners from KMU (or its affiliated institutions) and two external examiners selected by Controller of examinations, KMU, in consultation with Head of Endocrinology Dept, PGMI.

Head of the Department / Supervisor of the candidate may not be allowed to examine him/her.

Questions for papers and MCQs shall be shared equally (50%) by Internal and External examiners.

Board of Examiners shall arrange the result of written, clinical/practical and oral examinations in consolidated form and send it with in ten days after completion of examination to the Controller of Examination KMU for formal declaration.

All trainees shall be judged on their morals and ethics during their training and if found not up to the mark, either their training shall be terminated or the award of degree can be refused by PGMI/KMU.

For this purpose internal assessment shall include 360 degree assessment of the candidate every year.

Upon successful completion of examination the candidate shall be awarded the Degree of M.D (Endocrinology) by Khyber Medical University, Peshawar. This shall entitle him for clinical and academic posts in Endocrinology.

## **ADMISSION FEE AND EXAMINATION FEE**

Affiliation Fee, Admission Fee and Examination Fee including thesis evaluation shall be charged as fixed by KMU.

## **RECOMMENDED BOOKS**

- Oxford Handbook of Endocrinology and diabetes.
- Williams textbook of Endocrinology. 10<sup>th</sup> edition.
- Endocrinology by Degroot.
- Endocrine metabolism clinics of North America.

## **RECOMMENDED JOURNALS**

- Endocrine Practice.
- Diabetes Care
- Journal of clinical endocrinol metabolism
- Diabetic Medicine
- Thyroid
- New England Journal of Medicine

## **MANDATORY ROTATIONS**

- Institute of radiotherapy and nuclear medicine (IRNUM) 04 weeks
- Radiology 04 weeks
- Pediatrics clinics 20 clinics.
- Obs and Gynae 20 clinics

### **Rotations while working in medical department**

- Ophthalmology 04 weeks.
- Nephrology 04 weeks
- Intensive care unit/critical medicine 04weeks
- Cardiology 06 weeks.

Excluding two months of full time mandatory rotation, time spent in training in Endocrinology ward shall be 34 months full time.

## **REFERENCES:**

Higher Medical Training. Curriculum for diabetes and endocrinology: Joint Committee on higher medical training (JCHMT), London (January 2003) [www.jchmt.org.uk](http://www.jchmt.org.uk)