



MASTER OF MEDICINE (INTERNAL MEDICINE)

*Internal Medicine Department
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Universiti Sains Malaysia
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Kelantan*

TRAINING CURRICULUM FOR TRAINEES AND SUPERVISORS UNIVERSITI SAINS MALAYSIA

MASTER OF MEDICINE (INTERNAL MEDICINE)

1. Objective

The philosophy of our postgraduate programme is to provide training by apprenticeship and learning from patients with emphasis on self-directed learning for a duration of 4 years.

2. Background

The School of Medical Sciences was established in 1979 to cater for the need of undergraduate training. Since 1988, the School of Medical Sciences has embarked on postgraduate medical training and have so far produced specialist in various clinical specialties to meet the need of the country. The training programme are conducted by coursework and currently there are eighteen postgraduate specialist training programme.

3. Structure of course

The training is divided into 3 phases.

- Phase I (year 1) : Basic in General medicine
- Phase II (year 2 & 3) : Subspecialty rotation in medicine
- Phase III (year 4) : Specialist in training

Phase	Year	Curriculum and Training Place	Assessment
I	1	<ul style="list-style-type: none"> • Basic science in general medicine • Management of general medicine • Log book 	<ul style="list-style-type: none"> • Continuous supervisor assessment • Part 1 MMED examination – theory and clinical

Phase	Year	Curriculum and Training Place	Assessment
II	2 & 3	<ul style="list-style-type: none"> • Clinical responsibilities in subspecialty medical services <ul style="list-style-type: none"> - Nervous System - Endocrinology - Musculoskeletal / Rheumatology - Cardiovascular - Respiratory - Haematology - Genito-urinary System - Gastro-intestinal System - Infectious Disease - Dermatology • Case reports • Log book 	<ul style="list-style-type: none"> • Continuous supervisor assessment • Part 1 MMED examination - theory and clinical

Phase	Year	Curriculum and Training Place	Assessment
III	4	<ul style="list-style-type: none"> • Clinical responsibilities in medical services as specialist in training • Log book • Dissertation 	<ul style="list-style-type: none"> • Continuous supervisor assessment • Viva dissertation

Before completion of the programme, the candidate has to:

1. Attend a Basic Statistics and research methodology course (organized by the respective universities)

Before completion of the programme, the candidate is recommended to attend the following courses:

1. Communication/ Soft Skills
2. Bioethics
3. Scientific writing
4. Good Clinical Practice course (organized by the respective university or Clinical Research Centre [CRC] Malaysia)

4. Duration of study

1. The duration of study will be four (4) full years as a full-time student.
2. The maximum duration of study shall not exceed seven (7) years.

5. Formative assessments

Candidates must keep a logbook as an evidence of their formative assessments which need to be submitted 3 monthly.

Types of formative assessments

- Overall supervisor report

6. Examination formats

Part I Examination (Conjoint examination) consists of a theory paper and clinical examination.

Theory paper

- One Best Answer (OBA) 1 and 2

Clinical examination

- Short case

Part 2 Examination is a conjoint clinical examination consists of a theory paper and clinical examination.

Theory paper

- One Best Answer (OBA) 1 and 2
- OSPE
- MEQ

Clinical examination

- Long Case
- Short Cases
- Viva

7. RESEARCH PROJECT

- The objective of the research project is to introduce the candidate to research methodology, data analysis and journal writing.
- The project must be conducted according to guidelines approved by the respective university..
- The research report may be submitted as a journal publication or dissertation book.

SYLLABUS GUIDE IN SUBSPECIALTY MEDICINE

Cardiology

Cardiology is the diagnosis and treatment of congenital heart defects, coronary artery disease, heart failure, valvular heart disease and cardiac electrophysiology. The minimum length of the rotation in cardiology is 3 months, during which time the trainee is required to learn the fundamental principles of cardiology.

Cardiology Cases:

1. Acute Coronary Syndrome (ACS)
2. Chronic Ischemic Heart Disease (CIHD)
3. Heart Failure (HF)
4. Myocardial Diseases
5. Pericardial Diseases
6. Valvular Heart Disease
7. Infective Endocarditis

8. Atrial Fibrillation
9. Arrhythmias
10. Congenital Heart Disease in Adults
11. Heart Diseases in Pregnancy
12. Peri-operative Cardiac Assessment

Respiratory Medicine

Respiratory medicine includes the diagnosis and treatment of respiratory conditions encountered in general medicine. The minimum length or rotation in respiratory medicine is 3 months, during which time the trainee is required to learn the fundamental principles of respiratory medicine.

Respiratory Cases:

1. Asthma
2. Chronic Obstructive Pulmonary Diseases (COPD)
3. Bronchiectasis
4. Interstitial Lung Disease (ILD)
5. Pleural Effusion
6. Pneumothorax
7. Pulmonary Embolism
8. Pulmonary Vasculitis
9. Lung Carcinoma
10. Obstructive Sleep Apnoea (OSA)
11. Pulmonary and extrapulmonary TB

Neurology

Neurology deals with the diagnosis and treatment of all categories of conditions and disease involving the central and peripheral nervous system, (and its subdivisions, the autonomic nervous system and the somatic nervous system); including their coverings, blood vessels, and all effector tissues, such as muscle.

The minimum exposure length of the rotation in neurology is 3 months, during which time the trainee is required to learn the fundamental principles of neurology.

Neurology Cases:

1. Stroke and Cerebrovascular Diseases
2. Parkinson's Diseases and Movement Disorders
3. Epilepsy and Epileptiform Disorder
4. CNS infections
5. Inflammatory and Demyelinating Diseases (IIDM) of CNS Diseases
6. Autoimmune Encephalitis (AIE)
7. Neuromuscular Diseases (NMD)
8. Immune-Mediated Neuropathies
9. Headache Disorders

Endocrinology

This section of the syllabus outlines the fundamental knowledge required for endocrine diseases; includes pathophysiology, investigations and disease management. It also includes knowledge of individual hormones, the relevant hypothalamic-pituitary-target organ axes, mechanisms of actions and regulation, and treatment methods.

The minimum duration of the rotation in endocrinology is 3 months, during which time the trainee is required to learn the fundamental principles of endocrinology.

Endocrinology Cases:

1. Pancreas: Diabetes Mellitus (DM)
2. Pancreas: Insulinoma, Glucagonoma
3. Adrenal Medulla: Pheochromocytoma
4. Adrenal Cortex: Cushing's syndrome
5. Thyroid Disorders
6. Anterior Pituitary
7. Neurohypophysis
8. Parathyroid and Metabolic Diseases
9. Reproductive Endocrinology
 - Primary and Secondary Testicular Failure, Testicular Feminising Syndrome
 - Primary and Secondary Ovarian Failure, Polycystic Ovarian Syndrome
10. Growth and Sexuality: Syndrome of delay growth and sexual development, sexual precocity, intersexuality, hirsutism
11. Hypothalamus: Hypothalamic deficiencies
12. Endocrine Syndromes: Multiple Endocrine Neoplasia (MEN)
13. Polyglandular Syndrome (PGS)
14. Von Hippel-Lindau Syndrome

Gastroenterology

Gastroenterology relates to disorders of the digestive and hepatobiliary systems. It covers a range of conditions such as inflammation, infections, autoimmune causes and malignancies that might require medical and interventional therapies.

The minimum length of the rotation in gastroenterology is 3 months, during which time the trainee is required to learn the fundamental principles of gastroenterology and hepatology.

Gastroenterology Cases:

1. Upper Gastrointestinal (GI) Diseases
2. Lower GI Diseases
3. Gastrointestinal bleeding and emergencies
4. Hepatic disorders
5. Pancreatic Diseases
6. Biliary Diseases
7. Inflammatory Bowel Diseases
8. Motility and Functional GI Disorders

Infectious Diseases

This section of the syllabus is focussed on trainees' ability to recognise, diagnose and manage infectious diseases, (ID), those potentially causing multiorgan and multisystem abnormalities. Treatment of diseases with latency and persistency like HIV is an essential component of ID and is essential knowledge for an Internal Medicine physician.

The desirable length of the rotation in ID is 1 month, during which time the trainee is required to learn the fundamental principles of infectious diseases.

ID cases include:

1. Dengue
2. Leptospirosis
3. Malaria
4. Typhus
5. Melioidosis

6. Cholera
7. Sepsis
8. Pneumonia
9. CNS infections
10. Enteric fever
11. Bone and Joint infections
12. PUO
13. Infections with MDR organism
14. Prosthesis/Implant Infections
15. CLABSI/CRBSI
16. UTI
17. HAP
18. Skin and soft tissues infections

Haematology

Haematology is concerned with the study of the cause, prognosis, treatment, and prevention of diseases related to blood. It involves treating diseases that affect the production of blood and its components, such as blood cells, haemoglobin, blood proteins, bone marrow, platelets, blood vessels, spleen, and the mechanism of coagulation. The desirable length of the rotation in haematology is 1 to 3 months, during which time the trainee is required to learn the fundamental principles of haematology.

Haematology Cases:

1. Anaemia
2. Blood Transfusion
3. Bleeding Disorders
4. Thromboembolism
5. Febrile Neutropenia
6. Lymphomas
7. Chronic Lymphocytic Leukaemia (CLL)
8. Polycythaemia Rubra Vera (PRV), Essential Thrombocythemia (ET), Primary Myelofibrosis (PMF), Chronic Myeloid Leukaemia (CML)
9. Acute Leukaemias
10. Plasma Cell Disorders
11. Haematopoietic stem cell transplantation HCT

Rheumatology

Rheumatology is concerned with the evaluation and treatment of patients with autoimmune conditions and joint diseases, including arthritis. Branches of rheumatology include basic research and clinical research, as well as clinical diagnosis, treatment, and long-term management of patients with these illnesses. The desirable length of the rotation is 1 month, during which time the trainee is required to learn the fundamental principles of rheumatology.

Rheumatology Cases:

1. Connective Tissue Diseases (CTD)
2. Anti-Phospholipid Syndrome (APS)
3. Vasculitides
4. Inflammatory Arthritis
5. Rheumatoid arthritis (RA) and Spondyloarthropathy (SPA)
6. Osteoarthritis (OA)
7. Crystal Arthropathy
8. Infectious Arthritides
9. Osteoporosis

Dermatology

Dermatology deals with cutaneous organ and consists of the epidermis, dermis, subcutaneous tissue and the appendage structures, for which the manifestations may signal underlying systemic disease that warrants further investigations. Trainees should undergo four weeks of attachment in dermatology to equip them with the essentials required. The desirable length of the rotation in is 1 month, during which time the trainee is required to learn the fundamental principles of dermatology.

Dermatology Cases:

1. Inflammatory Skin Disorders
2. Dermatitis, papulosquamous disorder, Pilosebaceous unit disorder, Pigmentary disorder, Blistering skin disorder
3. Cutaneous Manifestations of Systemic Diseases
4. Primary Cutaneous Infections: Viral, bacterial, fungal infections and infestations
5. Urticaria, Angioedema, Erythroderma, Mild to Severe Adverse Cutaneous Drug Reactions
6. Pre-Malignant and Malignant Skin Tumour
7. Leprosy

Geriatric Medicine

This field of medical training focuses on health care of older persons; their medical issues, diseases of ageing and old age. It aims to promote health by preventing and treating diseases and disabilities in older people. The posting will introduce trainees to elements of the Geriatric 'Giants' as part of Geriatric Syndromes that require the care and management of older persons within a multidisciplinary team. The desirable length of the rotation in is 1 month, usually also being incorporated in other posting during which time the trainee is required to learn the fundamental principles of geriatric medicine.

Geriatric Medicine syllabus:

1. Introduction to Geriatric Medicine
2. Therapeutics and Prescribing in the Elderly
3. Acute and Chronic Presentations of the Elderly
4. Geriatrics Giants/ Syndromes
5. Nutrition-artificial Nutrition and Hydration
6. End of Life Care in the Elderly

Palliative Medicine

Palliative medicine specialises in the delivery of care that focuses on maximising quality of life, minimising suffering and enhancing wellbeing in patients (and their families) with a life-limiting illness. Trainees are expected to be able to manage basic palliative care presentations and symptoms from early diagnosis until the end of life and communicate effectively with patients and their families in addressing concerns. Prioritising care and collaborative working with other care providers and community hospices are essential. Trainees must exemplify ethical and professional conduct in care provision. The desirable length of the rotation is 1 month, but this may also be incorporated in other postings during which time the trainee is required to learn the fundamental principles of palliative medicine.

Palliative Medicine Topics:

1. Palliative Care Approach and Symptom Management
2. End of Life Care
3. Communications and Advance Care Planning
4. Professionalism and Ethics in Advanced Illness