

GENERAL INTERNAL MEDICINE

There is concrete evidence that sub-specialty care of patients have produced better medical outcomes due to the advancements in technology and specialization. Sub-specialty development in Malaysia has attained high standards of patient care.

There is now an urgent need to train Physicians whose major interest lies in the many aspects of acute medicine in a stand alone Fellowship in General Internal Medicine (GIM).

In our system of health care, there is a need for the GIM specialists who are better suited to care for patients whose problems are multiple or undifferentiated, involving multiple organ systems, where clinical issues do not fall neatly within the domains of sub-specialities and where integration of multi-disciplinary expertise will provide a holistic approach towards total patient care and cost containment.

The Fellowship in General Internal Medicine will develop Internal Medicine as a field holding the breath of skills of the generalists, complemented by the depth of skills of the sub-specialists. The GIM Specialists will allow secondary health care in Malaysia to realize its vision towards an equitable, affordable and accessible health care system.

Scope of GIM Training

Training will best begin on completion of Masters of Medicine (Int. Medicine) or MRCP upon completion of gazettement, and run over a three-year period to be at par with other sub-specialities.

Supervisors should ideally be experienced General Physicians and sub-speciality Physicians with an interest in training from secondary and tertiary care Ministry of Health Hospitals. Trainees will continue to provide specialist care at secondary and tertiary MOH hospitals so as not to disrupt the provision of specialist services, while competing their rotation in the core areas under accredited trainers.

The main objective of training is to give extra skills to equip the doctor to have broad based skillful approach in patient care to deliver a comprehensive and holistic total care concept before considering the need for tertiary referral. Therefore trainees will be required to acquire specific skills expected of a secondary physician in the following core modules:

		Duration of Exposure
1.	Abdominal ultrasound	6 months
2.	Cardiology	4 months
3.	Critical Care Medicine	4 months
4.	Dermatology	3 months
5.	Gastroenterology and Diagnostic Endoscopy	4 months
6.	HIV/TB/Bronchoscopy	3 months
7.	Nephrology	4 months
8.	Management Skills	2 weeks

Note: Some of the training modules like abdominal ultrasound can run concurrently with other modules.

The final 6 months or one year could be spent overseas to develop expertise in an area of choice like Critical Medicine, Emergency Medicine, Palliative Care, Geriatrics, Clinical Epidemiology or Health Systems Research.

The General Internal Medicine Training Committee

A Committee shall be established to organise and oversee the conduct of the programme. The Committee is also responsible for selection of trainees, accreditation of training centers and trainee assessment.

Chairman

Dato' Dr. Lim Yu Hoe

Members

Dr. Kauthaman a/l Mahendran

Dr. Yoong Kaw Yar

Dr. Chuah Siew Kee

Dr. G. R. Letchumanan

Dr. Mohaini Othman

Duration

The Fellowship in General Internal Medicine will train a doctor for the duration of 3 years, two of which will be done locally and the final year will be granted a hadiah latihan for overseas training.

Trainers

Accredited trainers shall be identified to be responsible for the day-to-day training, supervision and assessment of the trainees.

Assessment

All trainees shall be assessed on a periodic basis and emphasis placed on:

- feedback from trainers
- supervisor's report
- log book reviews and unit audit
- participation in CME activities, research and publications

At the end of 3 years, there will be an exit viva voce conducted by a panel of two examiners, and the successful candidate will seek gazettelement as a subspecialty with the designation of a General Internal Medicine(GIM) Specialist or Pakar Perubatan Dalaman.

Acknowledgement

The Ministry wishes to thank Dato' Dr. Lim Yu Hoe and his committee for their invaluable assistance in developing the training program.

Trainer's and Supervisor's Manual
Abdominal Ultrasonography

Objectives

1. **To be proficient in the physics and technique and administration of abdominal ultrasonography**
2. **To be proficient in the anatomy and pathology of the abdominal, pelvic and retroperitoneal structures.**
3. **To be proficient in ultrasound guided biopsy especially of the liver and kidney.**

Syllabus

1. **Theory of ultrasound: physics, technique and administration.**
2. **Normal anatomy and pathology of the abdominal, pelvic and retroperitoneal structures.**
3. **Hands on performance of abdominal ultrasound examination, liver and renal biopsy. To document in a log book: 50 assisted and 150 performed over a duration of 6 months which can be done concurrently with modules like diagnostic endoscopy (3 Months) and nephrology (3 months).**
4. **To observe and perform 10 cases of ultrasound guided liver biopsies. To log these in a log book.**

Exit Examination

- **To perform and interpret 5 cases.**
- **OSCE 5 cases**
- **Viva Voce**
- **Trainers report**
- **Log book**

Manual for trainers/ trainees – Critical Care

A. Specific Objectives

1. To enable fellows to gain experience and proficiency in airway management, endotracheal intubation and basic mechanical ventilation.
2. To enable fellows to gain experience in resuscitation.
3. To enable fellows to gain experience in management of shock syndromes.
4. To enable fellows to gain experience in basic haemodynamic monitoring.
5. To enable fellows to gain experience in management of patients in multi-organ failure.
6. To enable fellows to gain experience in brain death certification.
7. To recognize and deal with ethical issues in the ICU setting.

B. Syllabus

1. Airway Management
2. CPR
3. Cerebral Resuscitation / Neurologic support
4. Diagnosis & Mx. Of Acute Respiratory Failure
5. Mechanical Ventilation
6. Basic Haemodynamic Monitoring
7. Diagnosis & Management of shock
8. Nutritional support
9. Life-threatening Infections and control
10. Life-threatening electrolyte & metabolic disturbances
11. Brain death certification
12. Medical Ethics

C. Practical Procedural Skills

Essential

Endotracheal intubation and airway management (50 cases)

Mechanical ventilation (write up of at least 10 cases on ventilator)

Intra-arterial catheters (30 cases)

Central Venous Cannulation (No need to log)

Advance cardiac life support (ACLS) -----Attainment of certificate

Tube thoracostomy (10 cases)

Additional/Optional/Desirable

Percutaneous tracheostomy

Pulmonary catheters

D. Teaching Modes

Teaching will be conducted via bedside teaching and ICU grand rounds.

Candidates are expected to have self-learning capabilities including ability to search for teaching materials from electronic and print sources.

E. Reference texts

The ICU book: - Paul L Marino

ICU manual: - T.E.OH

Textbook of critical care: - Shoemaker

F. Training Institutions and Trainers

Training will be done only in accredited centers with level 3 ICUs where there are accredited specialists in intensive care. Accredited specialists are anesthetists &/or Intensivists with one year training in intensive care and who spending 50% of their clinical time in intensive care.

The current institutions are: - HKL
HSAJB
HPP
UMMC
HUKM
HUSM

G. Exit assessment

1. Log book
2. Case write-up
3. Trainer's reports
4. Attainment of ACLS certificate

Cardiology Module for General Internal Medicine Ministry of Health Malaysia

Training Components

All GIM trainees will be under direct supervision of an accredited consultant cardiologist, who will be responsible for the monitoring and evaluating the progress of the trainee including a report at the end of 4 months rotation.

All GIM trainees should rotate through the following components: -

1. Inpatient consultation and ward service
2. Emergency cardiology and cardiac care
3. Cardiology outpatients
4. Interpretation of ECG
5. Supervision and interpretation of the stress test
6. Interpretation of the Holter monitoring
7. Basic training in echocardiology
8. Tilt Table studies
9. Continue Medical Education – seminar, tutorial, clinical meetings
10. Audit, research and teaching

All GIM trainees should have exposure to

1. Left and right heart catheterization
2. Pacing and electrophysiology
3. Nuclear Cardiology (if facilities available)
4. Interventional cardiology
5. Peripheral endovascular intervention
6. Transoesophageal echocardiogram

Training Curriculum

In depth understanding of the increasingly services that the cardiology as a subspecialty offer nowadays. Trainees are expected to understand the different indications, the pit falls and limitation for procedures be it diagnostic or intervention. They are expected to understand and participate in the decision making process involving both out patient and in patient.

1. INPATIENT CARE including cardiac rehabilitation

GIM Trainee should be directly involved in the routine care of patients admitted for assessment and treatment as well as management of cardiac rehabilitation.

2. EMERGENCY CARDIOLOGY AND CARDIAC CARE

GIM Trainee should be directly involved in the assessment, investigation and management of all types of cardiological emergencies. The GIM trainee should take part in an on-call emergency roster for such patients. The GIM trainee will be expected to learn important techniques required by these patients such as Swan-Ganz catheterization, temporary pacing, cardioversion and pericardial aspiration as well as basic and advanced life support techniques. A detail understanding of the physiological aspect as well as the thought process are expected

3. CARDIOLOGY CONSULTATION

GIM Trainees should provide a cardiology consultation for the whole hospital under the supervision of the consultant(s) to whom they are attached.

4. CARDIOLOGY OUTPATIENTS

GIM trainee will have a regular commitment to cardiology outpatients. She/he should see both the new and follow up patients with consultant advice as necessary. Involvement in other types of specialized clinics such as lipid clinic, hypertension clinic, heart failure clinic, cardiac rehabilitation clinic, adult congenital heart clinic and heart disease and pregnancy clinic are strongly encouraged and desirable.

5. BASIC INVESTIGATIVE PROCEDURES – HAND ON PROFICIENCY

5.1 ECG & HOLTER

GIM Trainees are expected to have detailed knowledge of the nature, type and mechanism of arrhythmia as well as understanding the basis of electrocardiography. She/he is expected to perform a complete analysis of at least 10 holters and report on a minimum of 50 cases.

5.2 EXERCISE STRESS TESTING

GIM Trainees are expected to have the understanding of the various indications and different types of exercise testing. A minimum of 100 cases are required for proficiency.

5.3 BASIC TRAINING IN ECHOCARDIOGRAPHY

GIM Trainees must have a basic knowledge of the physical principles behind image formation and doppler techniques. It is important that the trainee has knowledge of cardiac anatomy, physiology, haemodynamics and their abnormalities. Familiarity with the echocardiography instrumentation is strongly encouraged. Trainee should work and trained under the direction of an experienced echocardiographer (consultant cardiologist or senior technicians). A minimum of 300 cases are required for proficiency. Trainees are expected to acquire some knowledge of transoesophageal echocardiography once they are regarded as fully competent in transthoracic echocardiography.

5.4 BASIC TRAINING IN PACING AND ELECTROPHYSIOLOGY

Trainees must understand the indications for pacing and the various types of pacing. She/he must understand the particular properties of the unit implanted as well as a working knowledge of the techniques needed for monitoring and programming the pacemakers. All trainees should implant at least 25 temporary wires.

Duration

A period of 4 months in an accredited cardiac centre is recommended

Trainer

Gazatted cardiologists within the Ministry of Health Malaysia Cardiac Centres. Consultants Cardiologists of Institute Jantung Negara, University Malaya Medical Centre and Hospital University Kebangsaan Malaysia should be look into.

Centre

Department of Cardiology, Hospital Pulau Pinang
Department of Cardiology, Hospital Sultanah Aminah
Department of Cardiology, Hospital Umum Sarawak

Department of Cardiology, Institute Jantung Negara
Department of Cardiology, University Malaya Medical Centre
Department of Cardiology, Hospital University Kebangsaan Malaysia
(Centre must have a minimum volume of procedures)

Training end point for procedural skills

A log book to show the **quantity** as well as the assessment by the trainer on the **proficiency** of the trainees. (The level of proficiency must not be compromised and must be comparable to the developed western countries in view of the medical legal implications)

Infrastructure

Assistance in printing log book, etc will be helpful in facilitating the “administrative” component of the training.

Miscellaneous

A pre-approved training posting and arrangement is recommended so that the manpower, workload, procedural volumes of the existing cardiac centre can be taken into consideration.

CORE MODULE: GASTROENTEROLOGY

Advanced training in General Internal Medicine- Training in Gastrointestinal Endoscopy

Introduction

The physician who embarks on General Internal Medicine (GIM) as a subspeciality will have to possess competence in a wide range of skills, which would encompass most of the known subspecialities in medicine. A good command of gastroenterology is certainly a prerequisite towards the completion of training in GIM. Training in Gastroenterology must necessarily include training in Upper GI Endoscopy. Training in other more complicated endoscopic procedures is not deemed necessary. Listed below are the recommendations for training in Upper GI Endoscopy.

Objectives

1. The trainee should acquire a working knowledge of gastroenterological disease.
2. The trainee should be able to perform an upper GI diagnostic endoscopy **safely** and interpret the results accurately. The trainee should be cognizant of the appropriate indications for such a procedure. The trainee should be able to perform this procedure unsupervised.
3. The trainee should be aware of the therapeutic options in the management of upper gastrointestinal bleeding. The trainee should be able to perform endoscopic haemostasis of upper gastrointestinal bleeding, both variceal and non-variceal, unsupervised.
4. The trainee should be able to perform sigmoidoscopy (additional option).

Training Curriculum

Procedural requirements

The minimum number of Oesophagogastroduodenoscopies (OGDS) that have to be performed is **80**. The trainee should be cognizant of the appropriate indications for the procedure. There should be 15 observed, 15 supervised and at least 50 unsupervised procedures, which should include at least 20 cases of endoscopic haemostasis for upper gastrointestinal bleeding. The latter should include at least 10 cases of non-variceal bleeding and 10 cases of variceal bleeding. Sigmoidoscopies (flexible/rigid) are optional.

Core Gastroenterology

The candidate will be expected to have a basic knowledge of the evaluation and management of the following:

1. Oesophageal Disease
2. Gastroduodenal disease
3. Upper gastrointestinal emergencies esp. upper gastrointestinal bleeding.
4. Functional bowel disorders
5. Gastrointestinal infections and AIDS
6. Hepatobiliary disorders
7. Gastrointestinal Oncology
8. Nutrition
9. Gastrointestinal manifestations of systemic diseases

Training Components

The trainee will be under the direct supervision of an accredited consultant gastroenterologist who will monitor and evaluate the candidate's progress. Training will include:

1. **Ward (inpatient) work:** The trainee will be involved in the inpatient care of gastroenterology/hepatology patients. The trainee will be expected to be actively involved in the ward rounds.
2. **Outpatient work:** This will involve running gastroenterology clinics. The management of common gastroenterology/hepatology problems will be discussed.
3. **Endoscopy Curriculum:**
 - ❖ Mechanics of the endoscope
 - ❖ Cleaning and disinfection of endoscopes
 - ❖ Common upper GI endoscopic diagnoses
 - ❖ Technique of upper GI endoscopy
 - ❖ Complications of upper GI endoscopy
 - ❖ Technique of biopsy
 - ❖ Modalities of endoscopic haemostasis in non-variceal and variceal bleeding
 - ❖ (Optional) Technique of sigmoidoscopy
 - There will be at least 2 OGD (Oesophagogastroduodenoscopy) lists per week with preferably 3-4 patients per session for the trainee. The trainee will initially be given an introduction to the mechanics of the endoscope. This will be followed by an introduction to the cleaning and disinfections of endoscopes. The trainee will familiarize himself with the indications for OGD. The trainee should also familiarize himself with the common upper gastrointestinal conditions diagnosed on OGD. The trainee will then observe 15 OGDs and perform 15 OGDs (with biopsy) supervised by the trainer/resident endoscopist. The trainee will have achieved a fair degree of competence by then and will be required to perform 30 OGDs unsupervised prior to certification. Included among these 30 OGDs will be at least 10 cases of endoscopic haemostasis for non-variceal bleeding and 10 cases of endoscopic haemostasis for variceal bleeding. The candidate should be familiar with the following modalities of endoscopic haemostasis for non-variceal bleeding: adrenaline sclerotherapy and heater probe therapy (optional). The trainee should also develop some competence in variceal banding and sclerotherapy (optional).
 - Training in flexible/rigid sigmoidoscopy is optional.
4. Clinical radiological and pathology meetings
5. Journal clubs: The trainee will be expected to participate actively in the journal clubs.
6. Research(at least 1 publication in a peer-reviewed journal and/or 1 presentation at an accredited medical conference/symposium)

The trainee will be required to collaborate with surgeons, radiologists, pathologists, and where possible oncologists and infectious disease specialists. The trainee must become familiar with the major surgical gastrointestinal operations. The trainee must be cognizant of the role of radiology in the evaluation and management of gastrointestinal disorders. A working knowledge of both gastrointestinal pathology and oncology is essential.

A logbook will be used to record:

- i) The number of diagnostic OGDs performed (observed/performed with supervision/performed without supervision)
- ii) CME activities
- iii) Scientific papers presented/published)
- iv) At the end of 3 months, the accredited trainer shall prepare an interim report of the progress of the trainee. At the end of 6 months a final report will be submitted.

Duration of training

4 months

Suggested trainer: trainee ratio- 1:2

List of (accredited) trainers

Centre	Trainer
• Hospital Kuala Lumpur	Dato' Dr. S.T.Kew Dr.Ganesanathan
• Hospital Queen Elizabeth	Dr.Jayaram Menon Dr.John Cheng
• Hospital Kota Bharu	Dr.Hj.Rossemi Hj.Salleh
• Hospital Kuala Terengganu	Dr.Ahmad Shukri Dato Hj Md Salleh
• Hospital Kuching	Dr.Simon Huang
• University of Malaya Medical Centre	Prof.Dato'(Dr.) KL Goh

An accredited trainer would have had to have completed 2 years post-subspeciality(gastroenterology)training as a gastroenterologist, recognised by the Ministry of Health.

Training endpoints

The goal of training would be that the candidate would, for an appropriate indication, be able to perform an upper GI diagnostic endoscopy safely and interpret the results accurately. The trainee should be cognizant of the appropriate indications for such a procedure. The trainee should be able to perform this procedure unsupervised. The trainee should also be able to perform endoscopic haemostasis for upper gastrointestinal bleeding.

The ability to safely perform a sigmoidoscopy is an additional option available to the trainee. The trainee must also realize that endoscopy is but one part of an integral gastroenterology service.

Necessary infrastructure

The selected centres for training will have to satisfy the following criteria:

- i) At least 1 accredited gastroenterologist (Trainer)
- ii) Accredited GI Endoscopy Unit
- iii) Adequate facilities for gastrointestinal surgery, radiology (both diagnostic and interventional) and pathology. Oncology services would be preferable.
- iv) Located in a hospital with a minimum capacity of 500 beds.

Recommended reading

1. Textbook of Gastroenterology by Schlesinger and Fordtran (Saunders)
2. Practical Endoscopy by Peter Cotton and Christopher Williams.
3. Atlas of Gastroenterology by F.Silverstein

APPENDIX - DERMATOLOGY

TRAINING MODULE - DERMATOLOGY

Objectives / Training Curriculum

Objective

1. To develop skills so that physicians can diagnose and manage common skin disorders
2. To recognize less common and more severe dermatoses that may need referral to Dermatologist
3. In so doing lessen the burden and suffering of the patients with skin problems

Training components

1. Outpatient Clinic (minimum once/week x 3mo)
2. Inpatient Care (weekly ward rounds x 3mo)
3. Daycare (refer log book procedures)
4. CME – Skin Seminars (CME credit 50 points)

Topics

1. Skin in systemic disease
2. Erythroderma
3. Skin infections / Eczemas (Endogeneous & Exogeneous) / Psoriasis & Papulosquamous disorders / Photodermatitis
4. Adverse cutaneous drug reactions
5. Bullous diseases
6. Hansen's disease
7. STD and HIV on the skin
8. SLE, DM, SS (Rheumatology)

Reference Text

1. Clinical Dermatology – Rona Mackie
2. Dermatology – JAA Hunter
3. Dermatology – Rook & Wilkinson
4. Dermatology – Fitzpatrick

Durations

3 months

Practical Procedural Skills

	Number to do	/() to be supervised
1. Patch Testing	x10	/(5)
2. Skin Biopsy & Culture	x10	/(5)
3. Skin Scraping for fungus KOH	x20	/(5)
4. Tzanck smears	x10	/(5)
5. Cryotherapy	x20	/(5)

Trainers & Training Institutions (Posts Available)

1. Accredited trainer – Senior Consultant Dermatologist with minimum 2 years experience after gazettement as a specialist. Maximum Training Ratio 1:2
2. Accredited Dermatology Departments
3. Adequate Facilities
 - Histopathology
 - Mycology / microbiology
 - Library
 - Inpatient skin beds
 - Outpatient service (min 50 patients per day)

List of accredited centers and trainers:

- HKL
Suraiya H Hussein
HB Ganggaram
Noraziah Jailani
Asmah Johar
Prof M Greaves
Mardziah Alias
- H JB
SE Choon
- H Muar
Khaw Guat Ee
- H Melaka
Roshidah Baba
- H Seremban
Najeeb
- H Klang
Sivasundram
- H Ipoh
Agnes Chan
- H P.Pinang
Kader N Mohd
- H Kota Bharu
Muthulechmi
- H K.Terengganu
T Ganesapillai
- H Kuantan
Ong Cheng Leng
- HUSM
Mokhtar Noh
Azmi
- H Kuching
P Poobalan

Exit Evaluation

- Log Book
- Trainer's assessment