



THE ACADEMY OF MEDICINE OF  
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CREDENTIALING REQUIREMENTS  
FOR THE SPECIALITY OF  
CARDIOLOGY

# **Contents**

- 1. Introduction, Aims, Objectives and Terms of Reference**
- 2. Cardiology Advisory Committee Composition (Training & Gazettement)**
- 3. Requirements for training institutions in cardiology**
- 4. Requirements for trainers within cardiology**
- 5. General aspects of training in cardiology**
- 6. Training Components**
- 7. Specific Recommendations for Training in Basic Cardiology**
- 8. Evaluation and Documentation Of Competence**
- 9. Basic Cardiology Training (Minimum Recommended Numbers)**
- 10. Credentialing and Registration**
- 11. Re-validation**

## 1. Introduction

**The original purpose of the cardiology credentialing advisory committee was to formulate recommendations for harmonizing cardiological standards in Malaysia on the appointment of the Ministry of Health of Malaysia.**

### 1.1 Aims

- 1.1.2 The objective of the advisory committee is to guarantee the highest standards of training and care. Therefore it will review criteria for recognition as a specialist in cardiology at the national level.
- 1.1.3 The committee will achieve its objectives by recommending and encouraging the health authorities, national scientific societies and professional organizations of cardiology and the training institutions to put them into practice.
- 1.1.4 The committee will work closely with the National Credentialing Committee and will inform the National Committee of its proposals and recommendations.
- 1.1.5 The committee must remain aware of and respect the national laws and regulations concerning areas covered by its objectives.
- 1.1.6 The committee will not seek any legislative neither executive power nationally.
- 1.1.7 No committee rule should contradict the statutes of the medical act.

### 1.2 Objectives

- 1.2.1 The committee will recommend the minimum requirements for training in cardiology (duration and contents of training programmes, training facilities, etc.)
- 1.2.2 The committee will review the applications for credentialing at regular intervals and recommend to the National Credential Committee to grant such credentials.
- 1.2.3 The committee will review programmes for recommendations for special training in cardiological subspecialties.

### 1.3 Terms of Reference

- 1.3.1 The National Credentialing Committee will be kept informed of the proposals of the committee. The chairman of the committee will re-examine any unresolved issues with the Chairman of the National Credentialing Committee. The final conclusions will be reported to the committee during the next meeting or during an extraordinary session, if deemed necessary by two third majority of the committee.

## **2. Composition of the advisory committee**

2.1. There should be a minimum of 6 invited members in the committee, represented by:

2.1.1 Members of the National Heart Association of Malaysia (President and Vice President)

2.1.2 Senior consultant cardiologist from Ministry of Health

2.1.3 Senior consultant cardiologist from National Heart Institutes and Universities other than the MOH

2.1.4 Senior consultant cardiologists from the private sector.

## **3. Requirements for training institutions in cardiology**

3.1. Training institutions should receive official recognition by the National Credential Committee and Ministry of Health.

3.2. The training institution should have the following facilities as a minimum.

3.2.1 A fully equipped department/unit for outpatient cardiological patients, a sufficient number of beds for in-patients and for intensive cares. The intensive care unit should have at least six beds, fully equipped with electrocardiography and hemodynamic monitoring, anti-bradycardiac pacing, cardioversion and defibrillation and preferably hemodynamic support devices and a cardiac surgical programme.

3.2.2 Equipment should be available for all types of non-invasive investigation and procedures such as X-rays, electrocardiogram, exercise testing, long-term electrocardiogram, echocardiography including Doppler echocardiography, tranoesophageal echocardiography and stress echocardiography, pacemaker check-up, and optional facilities such as nuclear medicine, cardiac CT and cardiac MRI.

3.2.4 Facilities for invasive cardiological examinations including at least coronary angiography, left and right heart catheterization, coronary Angioplasty, device implantation and pacing. Electrophysiological studies are optional.

3.3. The training department/unit should have at least 500 in-hospital admissions for cardiovascular diseases per trainee/year and a corresponding number of outpatients.

3.4. There should be enough staff of well-qualified specialists who participate in the training programme and who can guarantee that the full range of cardiology is covered.

## **4 Requirements for trainers within cardiology**

- 4.1. The trainer must have access to the previously mentioned facilities. He/she should have been practicing the specialty for at least 5 years. He/she should be a suitably qualified specialist with a commitment to training. He/she should be NSR registered

## **5 General aspects of training in cardiology**

- 5.1 Candidates must have obtained Master in internal medicine from recognized university, MRCP or its equivalent
- 5.2 Training must undergo a 'common trunk' of general medical training prior or after post graduate qualification
- 5.3 A minimum of three years of training in cardiology with satisfactory progress report from trainer/supervisor
- 5.4 One more year of Cardiology training under supervision, to demonstrate the ability to function independently as a Junior Consultant. During this one year trainees can further advance in interventional cardiology, non invasive cardiology, cardiovascular research, cardiac rehabilitation, preventive cardiology, heart failure or other allied specialties

## **6 Training Components**

- 6.2 Broadly all trainees should rotate through the following components: -

6.2.1: Ward services and ward round of cardiac patients

6.2.2: ICU/CCU care

6.2.3: Emergency cardiology care and procedures

6.2.4: Taking referrals and consultation from other units or department

6.2.5: Cardiology outpatients

6.2.6: Interpretation of ECGs, supervision and reports stress tests, reports 24 hour or longer ECG monitoring

6.2.7: Training in echocardiography including transoesophageal echo and report echocardiogram examination

6.2.8: Training in left and right heart catheterization

6.2.9: Training in coronary angiogram and coronary angioplasty

6.2.10: Training in pacemaker implant and follow up of pacemaker patients

6.2.11: Continuing Medical Education - seminar, tutorial, clinical meeting, journal presentation

6.2.12 Audit, research and teaching

6.2.13: Basic Nuclear studies ( if facilities available)

6.2.14 Basic Cardiac CT

6.2.15 Basic Cardiac MRI

6.3 Trainees can choose to do advance training in the following subspecialty (for a minimum of 12 months): -

- 6.3.1 Interventional cardiology
- 6.3.2 Electrophysiology and advanced pacing
- 6.3.3 Non invasive imaging modalities
- 6.3.4 Adult congenital heart /structural heart disease
- 6.3.5 Heart transplantation
- 6.3.6 Peripheral endovascular intervention

## **7 Specific Recommendations for Training in Basic Cardiology**

- 7.1. During the 3 years of training in cardiology, the trainee shall participate in on-call duty services provided by the hospital.
- 7.2. Procedures to be performed by the trainee herself/himself are listed in the section Basic Cardiology Training (minimum required numbers). For these procedures, the trainee will be responsible for performing the procedure, interpreting the results and giving a report under supervision of an experienced cardiologist.
- 7.3. The trainee should also gain experience and knowledge with regards to indications, contraindications, awareness of the complications and how to treat them, therapeutic implication of procedures performed.

## **8. Evaluation and Documentation Of Competence**

- 8.1. The evaluation of trainees for both clinical and specialized technical skills must be documented carefully. The trainee must keep a logbook to record the number of relevant procedures performed and assisted.
- 8.2. Cardiology program directors must establish procedures for the regular evaluation of the clinical competence of cardiology trainees. This evaluation must include intellectual abilities, manual skills, attitudes, and interpersonal relations, as well as specific tasks of patient management, clinical skills (including decision-making skills), and the critical analysis of clinical situations.
- 8.3. There must be provision for appropriate feedback of this information to the trainee at regular intervals.
- 8.4. Records must be maintained of all evaluations and of the number and type of all procedures performed by each trainee.

**9 BASIC CARDIOLOGY TRAINING** (minimum recommended numbers)

| Procedures                                 | Minimum number of procedures A-assist, P-perform, I-interpret, S-simulation |
|--|---|
| ECG  | 500 (I)   |
| 24 h ambulatory ECG*                       | 100(I)  |
| Exercise Stress testing*                   | 200 (P/I)   |
| Echo-Doppler studies*                      | 300 (P/I)   |
| Temporary Pacemaker introduction           | 40(A/P)   |
| Pacemaker implantation*                    | 20 (A/P)  |
| Coronary angiography and ventriculography* | 300(A50/P250)   |
| Nuclear Studies                            | 30(A/I)   |
| Cardiac Magnetic Resonance Imaging         | 30 (A/I)  |
| ICD implantation                           | 10 (A)  |
| Anti-arrhythmia device programming         | 50 (A/P)  |
| Percutaneous Coronary Intervention*        | 100 (A), 100(P)   |
| Cardiac Computer Tomography(CT)            | 50(A/I)   |

*\* mandatory (log book must be completed)*

|                       |          |
|-----------------------|----------|
| Transoesophageal echo | 50(A/P)  |
| Stress Echo           | 50 (P/I) |

**Cardiology Training ( 4<sup>th</sup> year)**

After obtaining competency in coronary angiogram and angioplasty for Type A and B lesion as first operator candidates should performed another 100 cases on more complex lesions and primary PCI as first operator with supervision  
Candidates should also be expose to intervention of peripheral endovascular intervention, valvular and structural heart disease ( at least aware of the indication and observe/assist in the procedures)

It is important to note the committee is well aware that the quantity of a particular trainee's experience should not be confused with quality. Thus, the performance of a specified number of procedures is not synonymous with excellence in the carrying out of these procedures. Careful supervision and critique of procedures by supervising cardiologist is far more important than merely performing the required number of procedures.

## **10 Credentialing and Registration**

10.1 Cardiology Specialty Committee will only recommend the trainee for credentialing after the following requirements are fulfilled.

10.2 To be credentialed as a cardiologist requires:

10.2.1 A minimum of **4** years with satisfactory completion of all components of the approved training **and**

10.2.2 Successfully completed the minimum numbers of procedures required for competency and proficiency **and**

10.2.3 Satisfactory trainee's supervisor yearly progress reports

10.2.4 Must be Exit certified by the Training Committee

## **11. Revalidation**

11.1. The accreditation has a validity of five (5) years. In other words, every 5 years, credentialed Cardiologists, in order to preserve their title and status, will need to apply for revalidation.

11.2. This process involves providing evidence of the following:

11.2.1. CPD (Continuous Professional Development) activity over the (5) year period.

11.2.2. Registration as a practicing physician - annual medical practicing certificate

11.2.3. A validated summary of the number of procedures performed in practice over the five (5) years.



