

Sub-speciality Training in Neonatology
prepared by
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Ministry of Health Malaysia and
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Introduction

The Ministry of Health (MOH) has set a target for perinatal mortality rate (PMR) at 6 per 1000 total births for the year 2010. The annual deliveries in the country are around 500,000. Working on a recommended norm (in order to achieve the target for PMR) of 1 full-time neonatologist for every 3000 livebirths per year, the number of neonatologists needed to be trained in the next 10 years is around 170. A formal programme of training and credentialing of neonatologists is necessary to ensure that proper care will be given to sick infants by competent personnel.

1. Entry Criteria for Training in Neonatology

- i) A postgraduate qualification in paediatrics which is recognised by the Malaysian National Specialist Registry. Ministry of Health candidates must be gazetted as a paediatric specialist and served one year of peripheral posting before application for training can be approved.
- ii) Of a suitable character and with good work attitude (references may be necessary)

2. Duration of Training Programme

This will be done over a period of 3 years and the whole duration of training can be done locally. However it will be desirable if part of the training (at least 3 months) is done overseas in a neonatal intensive care unit recognised by the Malaysian Neonatology Credentialing committee.

3. Training Programme

3.1 Methods of Training

The training will be done in the form of clinical work in neonatology (including call duties in neonatology) and continuing medical education activities in neonatology (these include bedside teaching, case discussion, tutorials, case conferences, seminars, journal sessions and mortality conferences, teaching and supervision of junior doctors, nurses and other allied staff in neonatology, involvement in neonatal research and continuing assessment and feedback by the trainers). Training is to be scheduled over the 3 year period during which a neonatal research project should be carried out and supervised by a credentialed supervisor who is experienced in research. Teaching and on-call duties will be carried out throughout the 3 years.

3.2 During the three year training, the trainee should have the opportunity to acquire the following knowledge and skills (adapted from RCPCH, United Kingdom):

3.2.1 SPECIALISED KNOWLEDGE in the following areas:

A. EPIDEMIOLOGY

- (i) Mortality and morbidity rates in the perinatal period; local, national and international
- (ii) Trends in perinatal mortality and morbidity
- (iii) Factors which influence perinatal mortality and morbidity
- (iv) Methods of data collection at national and local level: birth and death notification systems

B. PATHO-PHYSIOLOGY OF PREGNANCY AND LABOUR

- (i) Fetal growth and development: means of assessment
- (ii) Assessment of fetal well-being during pregnancy and in labour
- (iii) Impact of the major diseases of pregnancy on the fetus, e.g. hypertensive disease, maternal medical conditions, antepartum haemorrhage, chorioamnionitis.
- (iv) Preterm labour
- (v) Prolonged rupture of membranes
- (vi) Complications of twin and higher multiple pregnancies
- (vii) The consequences of intrauterine growth restriction
- (viii) Detection of fetal anomaly and collaborative prenatal counseling.

C. TRANSITIONAL FETAL/NEONATAL PHYSIOLOGY

- (i) Preparation of fetus for extra-uterine life
- (ii) Interventions to optimise fetal development
- (iii) Cardiovascular and other physiological changes at birth
- (iv) Development of organ systems and physiological changes after birth.

D. PATHO-PHYSIOLOGY OF PREMATURITY - to include:

- (i) Respiratory development and pathology
- (ii) Respiratory Distress Syndrome and its sequelae
- (iii) Cardiovascular problems including patent arterial duct and pulmonary hypertension
- (iv) Gastro-intestinal development and feeding
- (v) Renal maturation and fluid balance
- (vi) Neurological problems, including intraventricular haemorrhage and periventricular leucomalacia.

E. PATHO-PHYSIOLOGY IN MATURE INFANTS - to include:

- (i) Differential diagnosis of respiratory problems
- (ii) Congenital abnormalities and their management – including management of suspected congenital heart disease, congenital diseases of the respiratory and gastrointestinal tract
- (iii) Perinatal hypoxia and neonatal encephalopathy
- (iv) Adaptation to postnatal life, including diagnosis and management of pulmonary hypertension

F. PHARMACOLOGY IN THE PERINATAL PERIOD

- (i) Pharmacokinetics in the term and preterm newborn
- (ii) Drug toxicity and interactions
- (iii) Influence of maternal medication on neonatal condition
- (iv) Antibiotic use
- (v) Use of analgesia and sedation
- (vi) Anticonvulsant prescription
- (vii) Effects of maternal drugs of abuse on the fetus and newborn infant
- (viii) Transmission of drugs via breast milk

G. FAMILY CARE

- (i) breast feeding; physiology, support
- (ii) understanding of the factors contributing to, and the diagnosis of, post partum maternal depression and psychosis
- (iii) knowledge of the social service systems and when to refer appropriately
- (iv) adoption issues
- (v) the law protecting “children looked after”
- (vi) human rights law and ethics

H. PRINCIPLES OF NEONATAL CARE

(i) Resuscitation

- a) Theoretical background
- b) Special situations, e.g. prematurity, meconium aspiration, congenital abnormality
- c) Organisation of training in resuscitation and audit

(ii) Respiratory care and mechanical ventilation

- a) Intubation and delivery of respiratory support, including CPAP
- b) Appropriate use of different ventilator modalities for different neonatal respiratory illnesses e.g. meconium aspiration, RDS
- c) Appropriate use of analgesia, sedation and paralysis in the ventilated neonate
- d) high frequency ventilation
- e) nitric oxide, and appropriate referral for ECMO
- f) Management of complications (subglottic stenosis, pneumothorax)
- g) Role of extra-corporeal membrane oxygenation
- h) Long term sequelae of prolonged neonatal ventilation including the use of oxygen at home
- i) Management of neonatal apnoea

(iii) Cardiovascular support

- a) Normative values for blood pressure
- b) Assessment of cardiovascular system; diagnosis and treatment of neonatal heart failure
- c) Circulatory support
- d) Assessment and management of patent arterial duct
- e) Diagnosis and management of arrhythmias

(iv) Feeding and nutrition

- a) Postnatal growth
- b) Breast feeding; physiology, composition
- c) Composition and use of neonatal nutritional sources, e.g. breast milk, artificial formulae, special formulae and supplements.
- d) Parenteral nutrition, prescription, administration and indications

(v) Gastrointestinal and liver problems

- a) Jaundice
- b) Biliary atresia
- c) Diagnosis and management of gastro-oesophageal reflux
- d) Necrotising enterocolitis - assessment, diagnosis and management

(vi) Fluid balance, thermoregulation and renal function

- a) Neonatal skin and thermal care
- b) Routine fluid and electrolyte requirements
- c) Assessment of fluid balance and requirements

- d) Management of renal failure
- e) Investigation of antenatally and postnatally diagnosed renal disease

(vii) Endocrine and metabolic disorder

- a) Diagnosis and management of hypoglycaemia
- b) Investigation of a baby with suspected inborn error of metabolism
- c) Management of endocrine disorders in the neonatal period

(viii) Neurology

- a) Assessment of structural and functional integrity using clinical examination and special investigations
- b) Prognosis of major neuropathology
- c) Investigation of the baby with suspected neuromuscular disease

(ix) Congenital abnormality and dysmorphism

- a) Diagnosis and investigation of abnormality
- b) Assessment of dysmorphism
- c) Investigation of suspected inborn error of metabolism
- d) Use of genetic investigations and diagnostic aids

(x) Infectious disease of the newborn

- a) diagnosis and management of group B streptococcal disease
- b) diagnosis and management of neonatal meningitis
- c) diagnosis and management of pneumonia
- d) handling of nursery epidemics
- e) management of neonatal viral disease e.g. HIV
- f) management of congenital infection e.g. toxoplasmosis

(xi) Haematological disease of the newborn

- a) diagnosis and management of neonatal anaemia
- b) use of blood products
- c) the management of neonatal bleeding disorders, e.g. haemorrhagic disease of the newborn; DIC; thrombocytopenia
- d) rhesus haemolytic disease, and other haemolytic disease of the newborn

(xii) Routine care of the newborn

- a) Common neonatal problems, e.g. jaundice, breast feeding, infections
- b) Screening for neonatal disease by examination and investigation, e.g. developmental dysplasia of the hip; thyroid disease; hypoglycaemia

(xiii) Ethical issues

- a) Antenatal counseling and termination.
- b) the child with major abnormality
- c) the child with neurological abnormality
- d) Management of the extremely preterm infant
- e) Management of death

(xiv) Early, medium term and late sequelae of neonatal and perinatal events

- a) Chronic lung disease
- b) Screening for and management of retinopathy of prematurity
- c) Screening for hearing impairment in at risk groups

- d) Risk of neuro-disability and relation to neonatal events
- e) Support for parents after discharge from the neonatal unit

(xv) Temperature control

- a) Prevention of hypothermia in the labour room and NICU
- b) Sequelae of hypothermia
- c) Sequelae of hyperthermia
- d) Optimal functioning of infant incubators and radiant warmer

3.2.2 SKILLS - the trainee will be expected to have acquired during the training in the following domains:

A. CLINICAL SKILLS

(i) Counseling & communication

- a) Approach to distressed and bereaved parents
- b) Disclosure of diagnosis, 'breaking bad news'; handling autopsy reports
- c) Staff support and team dynamics
- d) Leadership qualities
- e) Managing poorly performing staff

(ii) Clinical examination of sick and well newborn baby

- a) Recognition of specific neonatal problems, e.g. congenital dislocation of the hip, cleft lip and palate, examination of the eyes, talipes.
- b) Assessment of gestational age

(iii) Developmental and neurological assessment of the older infant and child

(iv) Assessment of disability

B. TECHNICAL SKILLS

- (i) Resuscitation of the newborn and mask ventilation
- (ii) Tracheal intubation and ventilation
- (iii) Insertion of arterial catheters (umbilical and peripheral)
- (iv) Insertion of umbilical venous catheters
- (v) Exchange transfusion
- (vi) Establishment of intravenous infusion and intravenous "long" lines
- (v) Venesection and arterial puncture
- (vi) Pleural drainage of pneumothorax
- (vii) Suprapubic aspiration of urine
- (viii) Lumbar and ventricular puncture
- (ix) Care of the baby during transport

C. DIAGNOSTIC SKILLS

(i) Radiology

- a) Interpretation of common acute neonatal examinations, e.g. chest and abdominal X-rays.
- b) Role of specialist investigations, e.g. MRI, CT

(ii) Ultrasound

- a) Use for neuro-imaging
- b) Use for imaging of cardiovascular system and abdominal organs

(iii) Laboratory medicine

- a) Ordering and interpretation of common investigations.
- b) Liaison for special investigations of metabolic abnormality
- c) Monitoring and investigation of long term problems, such as metabolic bone disease, prolonged jaundice.

(iv) Microbiology

- a) Common bacteriological complications of perinatal period
- c) Role of neonatal investigation, interpretation of clinical and laboratory information.
- d) Investigation of suspected congenital infection

(v) Neurophysiology

- a) Use and interpretation of results of EEG, cortical evoked responses and neuromuscular electrophysiological tests

D. TECHNOLOGICAL SKILLS -

Understanding basic mechanical and electrical function of incubators, ventilators, various types of CPAP machines, and monitoring equipment e.g pulse oximeters, nitric oxide administration, ventilator humidifiers, cerebral function machine

E. MANAGEMENT SKILLS - the trainee will be expected to have received training or experience in the following areas and to have been involved as a participant in the management of a Neonatal Unit:

(i) Personnel

- a) Personnel management
- b) Organisational skills, duty rosters etc.
- c) Awareness of current medical manpower regulations and nurse staffing issues
- d) Understanding of the role of neonatal nurse practitioners

(ii) Audit

- a) Data capture and collation, including national and local statistics and preparation of annual reports
- b) Assessment of performance; benchmarking
- c) Risk management and clinical governance
- d) Assessment of equipment and resource

(iii) Financial - training in:

- a) Budgetary management
- b) Setting of contracts
- c) Assessment of performance

(iv) Wider strategic issues - awareness of:

- a) Service development strategy
- b) National representation and professional development
- c) Understanding of the concept of evidence based practice including critical appraisal of new evidence, use of pre-appraised evidence such as clinical practice guidelines and the Cochrane

library, implementing clinical practice guidelines and identification and addressing barriers to changing clinical practice

3.2.3 ACADEMIC SKILLS

A. TEACHING

- (i) Experience in postgraduate teaching, including working in different teaching media (lecture, seminar, interactive tutorial)
- (ii) Experience and willingness to undertake undergraduate medical teaching and nurse education
- (iii) Development of teaching materials and organization of teaching courses
- (iv) Involvement in the audit process, including attendance at perinatal mortality meetings

B. CONTINUED PERSONAL DEVELOPMENT

- (i) Computer literacy and familiarity with commonly used systems
- (ii) Critical approach to information gained from literature review and audit
- (iii) Preparation of manuscripts and teaching materials
- (iv) Oral presentation skills
- (v) Time management skills
- (vi) “Reflective practice” skills – learning and creating knowledge by personal reflection

C. RESEARCH

- (i) Innovative approach to clinical problems
- (ii) Willingness to assess evidence on which to base practice
- (iii) Understanding of research methodology, including the randomised controlled trial
- (iv) Attendance at research orientated national meetings.
- (v) To have undertaken a defined piece of academic research that has been presented at a national or international scientific meeting or led to publication in a peer reviewed journal

3.3. Training Outcome

Upon completion of training the candidate must be able to perform the following CORE COMPETENCY:

- 1) Risk assessment of pregnancy
- 2) Management of uncomplicated perinatal care
- 3) Stabilisation of unexpected problems
- 4) Acceptance and direction of maternal-fetal and neonatal transports
- 5) Patient and community education
- 6) Data collection and evaluation
- 7) Participation in the management of high risk pregnancies and deliveries
- 8) Diagnosis and treatment of all perinatal and neonatal problems
- 9) Education of allied health personnel
- 10) Research and outcome surveillance
- 11) Involvement in graduate and postgraduate education
- 12) Administration of a neonatal unit
- 13) Development of perinatal and neonatal health services
- 14) Quality improvement in infection control and safety in the neonatal intensive care unit

4. Quality Assurance of Standards of Neonatology Subspecialty Training in Malaysia

This will be carried out as follows:

- 4.1 Approval of entry into the training program for individual trainee by the Neonatology Training Committee based on the qualifications of the trainees and the suitability and availability of training centers and trainers in these centers.
- 4.2 Regular six monthly review by the training committee of the a) progress of the trainees (based on the formative assessment reports and competency reports from their respective trainers), b) the continual adequacy of the training process in each of the training centers (based on the documental proof of the training activities which have been carried out in the previous six months), and c) the continual availability of the trainers in the training centers where the trainees are placed. The training committee will also carry out arbitration of any dispute which may arise between trainers and trainees to ensure interruption of training is minimised
- 4.3 Documentation of training received by the trainees
A portfolio will be maintained by each trainee documenting the training and professional development he/she has received during the three years. These should include information on hospital NICU census, a log book of the procedures performed, courses attended with certificates enclosed, the number of services provided at high-risk clinics per week (as certified by the trainers), number of days of out-of-office hours call duties per month (as certified by the trainers), CME and teaching responsibilities per week (as certified by the trainers), research and publications.

4.4 **Summative assessment of trainee**

At the end of the three year training, a trainee will attend a one hour exit viva conducted by three examiners invited by the Neonatology Training Committee. The examiners chosen must not be the trainers of the respective candidates. The objectives of the exit viva are to determine whether the trainees have acquired adequate knowledge and competence in the management of the 13 areas of core competency stated in Training Outcome (Part 3.3 above). Standard setting will be carried out on the viva questions just prior to the viva session.

5. **Training Centres and Trainers/Supervisors**

- All hospitals with a level III neonatal intensive care unit (See appendix 1) can be accredited as training centres provided they have at least one accredited neonatologist trainer (see below).
- Training must be done under the supervision of an accredited neonatologist who has been appointed as a trainer by the Neonatology Training Committee.
 - All paediatric specialists who have been credentialed as neonatologists by the Malaysian Neonatology Credentialing Committee and have at least 2 years of working experience in the field of neonatology AFTER having been certified as neonatologists are eligible to be appointed as trainers
 - The maximum ratio of trainer to trainees should be 1:2, to ensure that each trainee receive adequate supervision from his or her trainer
 - The trainers have to supervise the training and ensure that the requirement in skills and knowledge acquisition is duly fulfilled as stipulated in the standard formats, and the reports returned to the Secretariat on time.
 - A training schedule should be prepared by a trainer for trainees under his/her supervision every quarterly to guide their training and ensure learning objectives are achieved.
 - **Formative assessment of trainee:**

These should include two-monthly mini-CEX (Clinical evaluation exercises) on various aspects of clinical competence (see section 3.2.2) of each trainee by their respective trainers using a standard format, direct observation of procedure (DOP) of various technical and technological skills (under section 3.2.2), a six-monthly multisource assessment of the professionalism, ethical practice and communication skills of the trainees using multisource feedback format (MSF), and a two-monthly case based discussion (CBD) of patients under their care. At six-monthly interval, the trainer should submit a progress report on each of the trainees under his/her supervision to the Training Committee, with recommendation on whether remedial actions is necessary. Trainees with unfavourable assessment on three consecutive occasions during the previous six months will be counselled and a decision should be made about their further training.

- All trainers/supervisors must attend a training course on how to supervise and assess their trainees before they can supervise any trainees. A certificate of completion of training will be issued following the attendance of such a course.
- All trainees must spend at least two years in a level IIIB hospital. Training in at least two different centres during the three year period is strongly recommended so that the trainee has an opportunity to experience a range of management strategies. However, training in one centre may be approved, provided that the centre can cover the whole range of the syllabus including neonatal surgery and foetal medicine, and that there are three or more trainers available in that training center to provide different aspects of training during the three year period.
- Training in a recognised Level IIIB overseas Neonatal Intensive Care Unit for a period of at least 3 months is also strongly encouraged.

6. Accreditation/Certification

i) Successful completion of training by a trainee is defined as having completed the three year training with satisfactory trainers' reports based on the assessments of all core competency areas (see 3.3) and a satisfactory summative assessment at the end of the training on the core competency areas (see 3.3).

ii) A doctor who has worked in a neonatal intensive care unit overseas after obtaining postgraduate qualification can have his training considered for credentialing. Based on the report from the overseas supervisors the overseas exposure can be considered as part of the 3 years training. He/she must, however, work for a minimum of an additional 6 months in a local training center before being considered for credentialing The Committee will decide on the need and duration of further local training and placement based on the assessment of the performance of this group of trainees by the local trainers/supervisors.

iii) A certificate of completion of training will be issued to trainees who have successfully completed the training, by the College of Paediatrics upon the recommendation of the training committee.

7. Neonatology Training Committee

Neonatologists who are in active practice and have more than 10 years of working experience, are eligible to be recommended to be member of this committee, after having been credentialed as neonatologists by the Neonatology Credentialing Committee. The Committee shall consist of 7 members who represent neonatologists from the following organisations:-

1. Ministry of Health Malaysia
2. Universities
3. Perinatal Society of Malaysia
4. College of Paediatrics, Academy of Medicine of Malaysia

Membership to the Committee will be jointly appointed by the President of the College of Paediatrics of the Academy of Medicine of Malaysia and the Head of the Paediatric Services of the Ministry of Health. The recommended term of office is 2 years, at the end of which committee members are eligible for re-appointment.

8. The Secretariat for the Neonatology Training Committee

A trainee will register himself/herself with the secretariat once he/she has decided to start the training in his/her respective training centre. In the case of a MOH trainee, he/she should inform the secretariat of his/her training number given by the MOH. An annual processing fees will be paid to the College at the beginning of each year of training by the trainee.

The secretariat will forward the document of the registered trainee to the Training Committee to ensure that the trainee has met the entrance criteria for training, and that the training center chosen by the trainee are suitable and the trainers under whom the trainee is to undergo training are qualified. Every six months, the Secretariat will compile the following documents of the trainees from their respective chief trainer to facilitate the Training Committee's monitoring of the trainees' progress. These documents include at least 3 trainer-signed mini CEX assessment forms, 3 DOPS forms, 5 Case based discussion forms and a completed set of TAB forms. At the end of each academic year for the respective trainee, in addition to the above four types of document for the previous six months, one set of completed core competency assessment form from the chief trainer should be included as well. From the trainee, the secretariat will obtain the training schedules which the trainee had undergone during the last six months, the logbook of the previous six months and a general report from the trainee on the adequacy and satisfactoriness of supervision of training he/she has received from his/her trainers in the respective training center.

The Secretariat will also help organise the meeting of the Training Committee and minute the recommendations made by the Training Committee on the progress of the trainees.

9.0 Criteria for credentialing as Neonatologists in Malaysia

Any doctor can request to be registered as a neonatologist if he/she fulfils ALL the following requirements:

A recognised basic medical degree

A basic medical degree recognized by the Malaysian Medical Council

A recognised postgraduate qualification

One of the following paediatric postgraduate degrees recognized by the Malaysian Paediatric Specialty Board:

M.Med (Paed) awarded by Universiti Malaya, Universiti Kebangsaan Malaysia or Universiti Sains Malaysia

MRCP (UK) up to year 2000

MRCPCH by Royal College of Child Health UK

MRCPI (Ireland)

FRACP

M.Med in Paediatrics (Singapore)

Any other equivalent paediatric postgraduate degrees recognised by the Malaysian Paediatric Specialty Board on a case by case basis

A Certificate of completion of neonatology subspecialty training issued by the College of Paediatrics, Academy of Medicine of Malaysia based on the following criteria:

Successful completion of a minimum of 3 years of postgraduate training in Neonatology in recognised training centres under the supervision of accredited trainers

This period of training does not include the time the applicant spent during his/her housemanship nor the period when undergoing training for the basic paediatric postgraduate degrees

With evidence of satisfactory neonatal postgraduate training such as:

A Portfolio with supporting document where relevant which should include . a valid certificate of completion of training in the neonatal resuscitation program, published research papers or abstracts, certificates of attendance at conferences, courses or workshops, and Log book of core procedures

Satisfactory supervisors' reports on Neonatal Clinical Core Competency and core procedures (Appendix 3) and satisfactory results of mini-CEX , DOP, multisource feedback on attitude and behaviour (MSF), CBD as stipulated in the training program

Appendix I (Adapted from Committee on Fetus and Newborn, Levels of Neonatal Care, Paediatrics, Vol. 114 no. 5, November 2004, p.1345)

Definition of neonatal facilities based on function

Level I Neonatal Care (Basic), well-newborn nursery: has the capabilities to

- Provide neonatal resuscitation at every delivery
- Evaluate and provide postnatal care to healthy newborn infants
- Stabilise and provide care for infants born at 35 to 37 weeks' gestation who remain physiologically stable
- Stabilise newborn infants who are ill and those born at <35 weeks' gestation until transfer to a hospital that can provide the appropriate level of neonatal care

Level II Neonatal Care (Specialty), Special care nursery: Level II units are subdivided into 2 categories on the basis of their ability to provide assisted ventilation including continuous positive airway pressure

Level II A: has the capability to:

Resuscitate and stabilise preterm and/or ill infants before transfer to a facility at which newborn intensive care is provided

Provide care for infants born at >32 weeks' gestation and weighing ≥ 1500 g (1) who have physiologic immaturity such as apnoea of prematurity, inability to maintain body temperature, or inability to take oral feeding or (2) who are moderately ill with problems that are anticipated to resolve rapidly and are not anticipated to need subspecialty service on an urgent basis

Provide Care for infants who are convalescing after intensive care

Level II B has the capabilities of a level IIA nursery and the additional capability to provide mechanical ventilation for brief durations (<24 hours) or continuous positive airway pressure

Level III (Subspecialty) Neonatal Intensive Care Unit (NICU): Level III are subdivided into 3 categories:

Level III A: has the capability to

- Provide comprehensive care for infants born at >28 weeks' gestation and weighting >1000g
- Provide sustained life support limited to conventional mechanical ventilation
- Perform minor surgical procedures such as placement of central venous catheters or inguinal hernia repair

Level III B NICU: has the capability to provide:

- Comprehensive care for extremely low birthweight infants (≤ 1000 g and ≤ 28 weeks' gestation)
- Advanced respiratory support such as high-frequency ventilation and inhaled nitric oxide

Prompt and on-site access to a full range of paediatric medical subspecialists
Advanced imaging, with interpretation on an urgent basis, including computed tomography, magnetic resonance imaging, and echocardiography
Paediatric surgical specialists and paediatric anaesthesiologists on site or at a closely related institution to perform major surgery such as ligation of patent ductus arteriosus and repair of abdominal wall defects, necrotising enterocolitis with bowel perforation , tracheaoesophageal fistula and/or oesophageal atresia and myelomeningocele

Level IIIC NICU: has the capabilities of a level III B NICU and also is located within an institution that has the capability to provide ECMO and surgical repair of complex congenital cardiac malformation that require cardiopulmonary bypass

Appendix 2

Checklist and criteria for accreditation of centre for neonatology training

Name of Hospital _____

A. Neonatal Intensive Care Unit (NICU) work load and services

1. Number of VLBW infants admitted a year _____ beds
(Minimum 70 per year)
2. Total number of patient- ventilated days per year _____ per yr
(Minimum 800 patient-ventilated days)
3. Provides nasal continuous positive airway pressure (nCPAP) therapy: no. of infants _____ per year
4. Provides follow-up care Yes [] No []
5. **Type of level III NICU (see Appendix 1 for criteria):**
 - 5.1 Provide comprehensive care for infants born at >28 weeks' gestation and weighting >1000g (III A) Yes [] No []
 - 5.2 Provide sustained life support limited to conventional mechanical ventilation (III A) Yes [] No []
 - 5.3 Perform minor surgical procedures such as placement of central venous catheters or inguinal hernia repair (III A) Yes [] No []
 - 5.4 Provides comprehensive care for extremely low birthweight infants (≤ 1000 g and ≤ 28 weeks' gestation) (III B) Yes [] No []
 - 5.5 Provides advanced respiratory support such as high-frequency ventilation and inhaled nitric oxide (IIIB) Yes [] No []
 - 5.6 Provides prompt and on-site access to a full range of paediatric medical subspecialists such cardiology, neurology etc (III B) Yes [] No []
 - 5.7 Provides advanced imaging, with interpretation on an urgent basis, including computed tomography, magnetic resonance imaging, and echocardiography (III B) Yes [] No []
 - 5.8 Provides paediatric surgical specialists and paediatric anaesthesiologists on site or at a closely related institution to perform major surgery such as ligation of patent ductus arteriosus and repair of abdominal wall defects, necrotising enterocolitis with bowel perforation , tracheoesophageal fistula and/or oesophageal atresia and myelomeningocele (III B)

Yes [] No []

(For Official use: Overall Level of Care: IIIA [], III B [])

Name of hospital: _____ (page 2)

B. Training Facilities for Neonatology

1. Total number of accredited neonatologists in the hospital _____
(At least one)
2. Meeting room with audio-visual aids Yes [] No []
3. A Medical Library on site Yes [] No []
4. Access to Medline and literature search Yes [] No []
5. Has on-call room Yes [] No []

C. Educational activities in neonatology

(Please furnish a copy of weekly or monthly teaching activities)

1. Number of teaching ward round with neonatologist/week _____
(Minimum 1 per week)
2. Number of hours/week of timetabled neonatal education _____
(Minimum 1 hour/week)
3. Applicant was able to attend at least 70% of the educational opportunities:
Yes [] No []
4. Number of regular sessions on training in critical appraisal of neonatal research data: _____
(Minimum 2/month)
5. Applicant has at least 6 out-of hours on-call duties/month in NICU: Yes [] No []

Areas of clinical competence to be assessed in mini-CEX and their descriptors

1. Medical interviewing skills

Facilitates patient's telling of story; effectively uses questions/directions to obtain accurate, adequate information needed; responds appropriately to affect, non-verbal cues

2. Physical examination skills

Follows efficient, logical sequence; balances screening diagnostic steps for problem; informs patient; sensitive to patient's comfort, modesty

3. Humanistic qualities/professionalism

Shows respect, compassion, empathy, establishes trust; attends to patient's needs of comfort, modesty, confidentiality, information

4. Clinical judgement

Selectively orders/performs appropriate diagnostic studies, considers risks, benefits

5. Counselling skills

Explains rationale for test/treatment, obtains patient's consent, educates/counsels regarding management

6. Organization/efficiency

Prioritizes; is timely, succinct

7. Overall clinical competence

Demonstrates judgement, synthesis, caring, effectiveness, efficiency