

# Criteria for Registration in Paediatric Neonatology

Any doctor can request to be registered in Paediatric Neonatology if he/she fulfils ALL the following requirements:

## 1. A recognised basic medical degree

1.1 A basic medical degree recognized by the Malaysian Medical Council and registered with Malaysian Medical Council.

## 2. A recognised postgraduate qualification

2.1 Master of Paediatric (M. Paed), UM

2.2 Master of Medicine Paediatric, UKM

2.3 Master of Medicine Paediatric, USM

2.4 Member of Royal College of Paediatric and Child Health (MRCPC), UK

2.5 MRCP (UK) up to 2000

2.6 MRCPI (Ire)

2.7 FRACP

2.8 Any other equivalent paediatric postgraduate degrees recognised by the Malaysian Paediatric Specialist Sub-committee on a case to case basis.

## 3. Completed Postgraduate training in recognised centres

### 3.1 Minimum duration of training

3.1.1 Completion of a minimum of 3 years of Neonatology training in centres which fulfilled the criteria stipulated by the Malaysian Neonatology Subspecialty Committee (refer to Appendix A), under the supervision of Neonatologist trainers who fulfilled the criteria stipulated by the Malaysian Neonatology Subspecialty Committee. This period of training does not include any Neonatal training prior to the fulfilment of the requirements to be credentialed as a General Paediatrician under the NSR.

## 4. Evidence of satisfactory postgraduate training as supported by:

4.1 Certificate /Letter of satisfactory completion of training.

4.2 Log of Cases of procedures on core competencies

4.3 Satisfactory supervisors' reports on the following Neonatal Clinical Core Competency and core procedures :-

- Neonatal resuscitation
- Neurology
- Communication skills and counselling

- Congenital anomalies and genetics diseases
- Cardiac respiratory intensive care
- Fluid balance, thermoregulation and renal failure
- Hematology and transfusion
- Metabolism and endocrine disorders
- Nutritional, feeding and gastrointestinal disorders
- Immunity and infection
- Family care and care of well newborn infants
- Ward organisation and management skills
- Transport of newborn infants

**5. For any doctor with training and working experiences as a Neonatologist from centres overseas, his/her application will be considered on a case-by-case basis. Generally a curriculum vitae with supporting documents and recommendation by 2 other neonatologists will be necessary.**

*Revised by the SSC of Neonatology  
16th May, 2013  
2nd November, 2016*

## Appendix A

### Checklist and criteria for accreditation of centre for neonatal training

Name of Hospital \_\_\_\_\_

#### A. Neonatal Intensive Care Unit 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 1000 patient-ventilated days)
3. Provides intensive care for extremely preterm infants Yes [ ] No [ ]
4. Provides follow-up care Yes [ ] No [ ]

#### 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. Access to on-line literature search Yes [ ] No [ ]
4. Has on-site 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 critical appraisal of medical literature and application to clinical practice: \_\_\_\_\_ (Minimum 1/month)
5. Applicant has at least 6 out-of hours on-call duties/month in NICU: Yes [ ] No [ ]

**E. A Supervisor** for training of neonatologists in Malaysia is one who has fulfilled the criteria:

- a) Appointed as neonatologist in the hospital for more than 5 year before 1 June 2006 or Registered as a Neonatologist under the Malaysian Neonatal Specialist Register
- b) Works in a accredited training centre for neonatology
- c) Accredited as a supervisor by the Malaysian Neonatology Sub-specialty committee

## Appendix B

### Report on Level of Achievement of Neonatal Key Competencies by Supervisors/Referees

(Adapted from Royal College of Paediatrics and Child Health, United Kingdom)

(Each supervisor/referee must submit a separate report)

Candidate's Name: \_\_\_\_\_

Candidate's Identification Number or Passport number: \_\_\_\_\_

Period of training: from \_\_\_\_\_ to \_\_\_\_\_

Name of supervisor/referees: \_\_\_\_\_

### Neonatal Key Competencies (please tick whichever is relevant to the applicant by the supervisor/referee)

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#### 1. Resuscitation

**Competency:** The applicant is able to institute and lead neonatal resuscitation for both of the term and preterm baby. The applicant has demonstrated a full understanding of the physiology and treatments involved.

Level 1. # Certification of an advanced life support course, which includes the care of the newborn (NLS or NRP; PALS; APLS)

# Can demonstrate ability to intubate successfully a baby of any size

Level 2. # Has advanced resuscitation skills- has knowledge and skills to undertake the technically difficult resuscitation

# Has demonstrated team leadership in resuscitation situations

Level 3. # Able to take full decisions in ethically difficult situations (prematurity, malformation, failed resuscitation) (essential)

# Reached instructor status on an NLS or NRP course as above (desirable).

#### 2. Neurology

**Competency:** The applicant has demonstrated proficiency at clinical assessment, investigations (including cerebral ultrasound scanning) and management of a range of neurological disorders, including preterm and term brain injury, congenital malformations, intracranial trauma and seizures

Level 1. # Able to carry out a structured neurological examination.

# Can diagnose and initiate first line management of encephalopathy and seizures

**Level 2.** # Can formulate ongoing management plans for common neurological conditions

(encephalopathy, seizures, IVH)

# Able to perform neurological and developmental assessment for the newborn and of babies up to 2 years of age

**Level 3.** # Can initiate investigation of rare and complex neurological and neuromuscular disorders

# Can discuss the use of MRI, CT scanning, EEG in the investigation of neurological disease

# Able to perform and interpret a cerebral ultrasound examination (essential) and has attended a structured course (desirable)

Has acquired the following skills in :

- |   |   |
|---|---|
| <input type="checkbox"/> Neurological assessment scheme | <input type="checkbox"/> Ventricular tap              |
| <input type="checkbox"/> Gestational age assessment     | <input type="checkbox"/> Measurement of CSF pressure  |
| <input type="checkbox"/> Lumbar puncture                | <input type="checkbox"/> Cerebral ultrasound scanning |

### 3. Communication skills and counselling

**Competency:** The applicant has demonstrated skills in communicating with parents and staff, both individually and as part of a team, during their training. This includes experience at breaking bad news, handling perinatal death and discussing prognosis with parents.

**Level 1.** # Can understand and have discussed principles behind counselling and communicating information to parents.

# Is supportive in team working in neonatal intensive care

**Level 2.** # Has had experience of counselling parents anticipating an extremely preterm delivery

# Has observed counselling of parents of babies who are dying or are at high risk of disability, the disclosure of antenatal diagnoses or the disclosure of diagnosis of cerebral palsy in outpatients.

**Level 3.** # Has counselled parents of a baby who is dying or at high risk of disability and requested permission for autopsy

# Has led a prenatal counselling session and undertaken bereavement counselling under supervision

# Has demonstrated the necessary communication skills to make the concepts and mechanisms of genetic diseases understandable to parents, using non-technical language.

# Applicant has attended a course in bereavement counseling

### 4. Congenital anomalies and genetic disease

**Competency:** The applicant is able to recognise common congenital anomalies, to investigate babies with such lesions and to use literature and database searches to identify rare conditions and communicate such information to parents

**Level 1.** # Recognise common syndromes (e.g. trisomy 21, trisomy 18, VACTERL) and has observed counseling of parents by a Consultant

**Level 2.** # Able to use common texts and genetic/abnormality databases to identify rare disorders

# Can obtain a genetic history and understands genetic investigations

**Level 3.** # Able to plan diagnostic and clinical management of a baby born with a congenital anomaly with a multidisciplinary team

# Has undertaken counseling of parents whose baby has a genetic condition

# Use of common genetics and dysmorphology databases

## 5. Cardio-respiratory intensive care

**3.2.4 Competency:** The applicant is able to institute and maintain full cardio-respiratory intensive care for preterm and sick term newborn babies. This includes full working knowledge of the principles and application of a range of ventilatory modalities, of circulatory support and the applicant is able to manage complications. In addition the applicant is able to plan a care for the baby with chronic respiratory diseases and be aware of the potential long-term complications.

	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<b>Mechanical ventilation</b>	<input type="checkbox"/> Able to institute ventilatory support and administer surfactant	<input type="checkbox"/> Understand and use different ventilatory modalities	<input type="checkbox"/> Supervise whole respiratory course of sick baby with RDS, including weaning from ventilator, use of sedation and muscle relaxants
<b>Circulation</b>	<input type="checkbox"/> Able to make clinical assessment of adequacy of neonatal circulation and institute support for hypotension	<input type="checkbox"/> Understand the different pharmacological effects of inotropic drugs and their use	<input type="checkbox"/> Diagnose and manage complex circulatory problems, including PPHN and cardiac tamponade
<b>Patent Ductus Arteriosus</b>	<input type="checkbox"/> Able to make clinical diagnosis	<input type="checkbox"/> Able to select and monitor appropriate medical or surgical management	<input type="checkbox"/> Able to identify patent ductus arteriosus using ultrasound (desirable)
<b>Complications</b>	<input type="checkbox"/> Able to diagnose and treat common complications of mechanical ventilation (e.g. pneumothorax, displaced or obstructed tracheal tube)	<input type="checkbox"/> Understands the principles of management of difficult airway (e.g. Pierre Robin Sequence)	<input type="checkbox"/> Able to manage complex respiratory problems including PIE, sub-glottic stenosis, pulmonary hypoplasia, chylothorax, diaphragmatic hernia
<b>Chronic lung disease</b>	<input type="checkbox"/> Understand the aetiology and progression of baby with CLD	<input type="checkbox"/> Understands and able to plan respiratory, nutritional and pharmacological support for CLD	<input type="checkbox"/> Be able to manage long term ventilatory support, home oxygen treatment and ongoing outpatient management of babies with CLD

The applicant has acquired the following skills:

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Intubation                           | <input type="checkbox"/> Use of patient triggered ventilation | <input type="checkbox"/> Umbilical arterial and venous catheterisation |
| <input type="checkbox"/> Identification of pneumothorax using | <input type="checkbox"/> Use of tidal volume ventilation      | <input type="checkbox"/> Peripheral arterial                           |

- |   |  |   |
|---|--|---|
| transillumination                             |  | cannulation   |
| <input type="checkbox"/> Chest tube placement | <input type="checkbox"/> Use of high frequency ventilation | <input type="checkbox"/> Interpretation of the chest X rays |
|   | <input type="checkbox"/> Use of nitric oxide               |   |

## 6. Fluid balance, thermoregulation and renal failure

**Competency:** The applicant is able to initiate and manage the thermal environment of preterm and term babies, and manage fluid balance in such babies, demonstrating a full understanding and knowledge of the underlying physiology, with special reference to the rapid postnatal changes in body water distribution and trans-epidermal water loss. The applicant is able to diagnose and initiate treatment of renal failure.

**Level 1.** # Interpret blood and urine test results in the context of normal values, postnatal age and gestation

- Prescribe appropriate fluid maintenance for babies who required intravenous therapy, and adjust the prescription according to the thermal environment; be able to define diagnose renal failure in babies. Understand the thermo-neutral environment

**Level 2.** # Supervise the entire fluid balance regimen in a complex case, arranging and interpreting the appropriate laboratory investigations

**Level 3.** # Able to manage complex fluid balance problems in very preterm babies; able to manage renal failure including deciding when dialysis is indicated.

- # Has acquired skills in inserting intravenous cannulation
- # Has acquired skills in percutaneous long line insertion

## 7. Haematology and transfusion

**Competency:** The applicant is **able** to diagnose and manage the range of haematological disorders found in newborn babies. To be conversant with the full range of blood products available for transfusion and the appropriate use of each

**Level 1.** # Has knowledge of the normal range of haematological values in the newborn, including coagulation values. To be able to prescribe blood transfusion appropriately and discuss the potential complications

**Level 2.** # Can describe and discuss cases of haematological disorders diagnosed and treated by the applicant

**Level 3.** # Has experience of management of the range of haematological disorders of babies

- Can use blood products appropriately and effectively, including exchange transfusion

The applicant has acquired the following skills

- # Exchange transfusion



## # Dilutional exchange transfusion for polycythaemia

### 8. Metabolism and endocrine disorders

**Competency:** The applicant demonstrates proficiency in the recognition, assessment, investigation and management of the more common and important metabolic and endocrine disorders, including: -

**Level 1.** # Is able to manage common metabolic disturbances, including hypoglycaemia, neonatal jaundice, and electrolyte abnormalities

**Level 2.** # Is able to recognise and institute emergency treatment for inborn errors of metabolism and endocrine abnormalities, including recognition, investigation and management of babies with ambiguous genitalia

**Level 3.** # Can develop a multidisciplinary management plan for babies with metabolic and endocrine disorders

### 9. Nutrition, feeding and gastro-intestinal disease

**Competency:** The applicant understands the importance of neonatal nutrition and is able to provide comprehensive nutritional support to well and sick newborn babies, including the recognition and treatment of common complications

**Level 1.** # Understands the importance of breast milk and is able to discuss feeding problems with the parents

- Can establish nutritional support, including prescription of intravenous nutrition
- Able to diagnose & initiate treatment of necrotising enterocolitis

**Level 2.** # Able to prescribe and manage intravenous nutrition, to be aware of the likely complications of intravenous nutrition and manage problems of feed intolerance

- Can manage the medical course of a child with necrotising enterocolitis

**Level 3.** # Able to formulate a management plan for nutritional support for a sick newborn baby throughout their clinical course and can discuss the role of early nutrition in determining long term outcome

- Able to management pre- and post-operative care for a child with congenital gastrointestinal anomalies and those with hepatobiliary disease

### 10. Immunity and infection

**Competency:** The applicant is **able** to understand the development of immunity and the vulnerability of the newborn to infection

**Level 1.** # Understand perinatal risk factors and signs and symptoms of early and late onset infections

- Able to manage surveillance and preventative measures in infection control
- Able to counsel parents regarding immunisation following neonatal intensive care

**Level 2.** # Has detailed understanding of the mode of action and regimens of antibiotics and of

investigation and management of common perinatal and neonatal infections.

**Level 3.** # Can recognise and manage complex infections such as fungal infections, HIV and intrauterine infection

# Understands the multidisciplinary approach and can manage a nursery epidemic

Has acquired the following skills:

- # Venepuncture
- # Lumbar puncture
- # Suprapubic aspiration
- # Ventricular tap

## **11. Family care and care of the well newborn baby**

**Competency:** The applicant has a wide knowledge of normal development, common minor problems and morphological variation and the importance of communication with other health care professionals and the parents.

**Level 1.** # Able to demonstrate examination of the normal baby, including psychosocial aspects and able to provide parental advice on feeding

- Able to manage common neonatal problems, e.g. jaundice, hip dysplasia
- Able to discuss the role of neonatal screening test (G6PD, Thyroid, hearing) with parents

**Level 2.** # Able to teach and supervise midwives, nurses, medical students and doctors providing routine postnatal family support

- Able to teach parents basic life support

**Level 3.** # Knowledge of legal procedures in child protection, social services, fostering and adoption

## **12. Ward organisation /Management Skills**

**Competency:** The applicant has demonstrated skills at leading clinical rounds, be able to carry out the administrative duties required to run a neonatal unit and has organised and attended perinatal meetings, and unit meetings.

**Level 1.** # Has experience of organising rotas for medical officers and trainees in neonatology, annual leave and study leave

**Level 2.** # Has organised perinatal and unit meetings

# Able to conduct ward rounds and delegate tasks appropriately

**Level 3.** # Has attended a recognised management course

- # Has taken part in the investigation of an clinical incident.
- # Has demonstrated ability to carry out clinical audit

## **13. Transport of the newborn baby**

**Competency:** The applicant is competent at retrieval and transport of the sick newborn baby and is able to teach others to carry out transfers

**Level 1.** # Has thorough knowledge of equipment used during neonatal transport and of the team approach to transfer and safety aspects

- Has been on a neonatal transport as an observer

**Level 2.** # Able to perform transfer of sick medical or surgical newborn baby, including ability to deal with emergencies arising during the journey (e.g. extubation, loss of primary oxygen source)

- Aware of the need to be sensitive to the needs and efforts of the referring hospital

**Level 3.** # Able to take full decisions about clinical suitability for transfer and placement of the baby, and to supervise a transfer remotely (e.g. able to provide telephone advice)

- Able to assess clinical competency of staff to perform transfer

I hereby certified that the above information is true and accurate.

Signature of supervisor: \_\_\_\_\_

Date of Report: \_\_\_\_\_