POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO, SRI LANKA

PROSPECTUS

BOARD CERTIFICATION IN NEUROLOGY

2014

Specialty Board in Neurology
The Board of Study in Medicine

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1. Introduction

The successful completion of post-MD (Medicine) training programme in Neurology will entitle the trainee to be eligible for Board Certification by the Postgraduate Institute of Medicine as a Specialist in Neurology.

The objective of the training programme is to ensure that the trainee gains adequate knowledge, clinical acumen, procedural skills, communication skills and attitudes which will enable him/her to manage patients with disorders of the nervous system with the utmost competence and care. The trainee is expected to acquire the professional skills to be an effective leader and a manager in the provision of health information and care. The trainee is expected to acquire the necessary skills to design and conduct audit and research, critically appraise published research and be committed to the practice of evidence-based medicine and continuing professional development.

2. Entry criteria, selection process and intake

2.1 Entry criteria

- Applicants should have passed the MD (Medicine) examination
- Applicants should not have already applied to be enrolled in the training programme in any other subspecialty or be already Board Certified in any medical field

2.2 Selection Process

The candidates will be selected according to the merit based rank in the results of the MD (Medicine) Examination.

2.3 Intake

The candidates will be informed the number of positions available for post-MD appointments in Neurology at the allocation meeting or before. The selected candidates would be provided with full and comprehensive details of the training programme. This would be available at the PGIM for perusal by prospective candidates prior to the allocation meeting.

3 Training outcomes at the end of the programme

The broad outcomes of the entire training programme are as follows:

a. Patient care
b. Medical knowledge
c. Interpersonal and communication skills
d. Professionalism
e. Evidence-based approach

By the end of the training period, the trainee should be able to undertake the following clinical activities as applied to patients with neurological disorders:

History taking
Take an appropriate, focused and comprehensive history, including where appropriate information from others, and communicate this verbally or in writing and in summary form.

Mental and physical examination
Undertake an appropriate, focused and comprehensive examination of mental and physical state and communicate verbally or in writing and in summary form.

Differential diagnosis
Formulate an appropriately ordered differential diagnosis based on an appreciation of the patient, their past history and current problems and their likely causes.

Investigation
Formulate a focused and relevant series of investigations.

Management plan
Plan and order appropriate observations, liaise with members of the multidisciplinary team, determine and prescribe fluids and medications, seek appropriate opinions and interventions and, with others, develop an overall plan for the individual patient.

Multidisciplinary team involvement
Liaise with, refer to and communicate with all members of the Multi-Disciplinary Team in a constructive and professional manner in the interests of the patient and their carers.

Communication issues
Communicate effectively with the patients, their family and carers and other staff in relation to the individual needs of the patient and with appropriate regard for confidentiality.
Give a prognosis, to explain the patient's condition, to break bad news, to obtain full and informed consent for investigations and treatment.

Clinical neuro-pharmacology
Plan and administer pharmacological treatments safely and effectively.
Refer to local and international guidelines and sources of evidence and information about treatments (synapse and neurotransmitter physiology. principles of neuro-pharmacokinetics and pharmacodynamics, modes of actions of drugs used to treat neurological diseases).
Understand and apply principles of treatment especially: Vascular disease, migraine, epilepsy, pain, movement disorders, autoimmune disorders, dementia, motor neurone disease.
Understand limitations: compliance, adverse effects, interactions, cost implications.
Understand information needs of patients and others.

Special patient groups

Children
Evaluate and manage common neurological disorders in children. Understand the impact of neurological disorders on normal growth and development and administer appropriate treatment to minimize effects on physical and mental development.

Women and pregnancy
Understand the effects of menarche, menstrual cycle and menopause on common neurological disorders (methods of contraception, failure rate and interaction with drugs, especially antiepileptic drugs: teratogenic risks of commonly prescribed AEDs and genetic risks of neurological diseases: presymptomatic/prenatal diagnosis of neurological conditions: psychosexual dysfunction in neurological illness).
Understand the effect of pregnancy on existing neurological disorders and neurological disorders as complications of pregnancy.

The elderly
Understand the normal clinical and radiological findings in the elderly; special presentations of neurological disease in the elderly; diagnosis, investigation and management of dementia; effects of drugs in the elderly; hospital based & community services; communication with relatives and care givers.

Terminally ill
Understand end-of-life issues in neurological disorders and the role of palliative care. Able to diagnose the dying patient, know the principles of a good death and provide appropriate care to the patient and guidance and support to the family.

4. Training content and curriculum

Topics	**Teaching-learning activity/opportunity**
Generic skills	Clinical neurology (local + overseas)
Headaches	Clinical neurology (local + overseas)
Infections	Clinical neurology (local + overseas)
Cerebrovascular disease	Clinical neurology (local + overseas)
Disorders of consciousness	Clinical neurology (local + overseas)
Epilepsy	Clinical neurology (local + overseas)
Movement disorders	Clinical neurology (local + overseas)
Demyelination and vasculitis	Clinical neurology (local + overseas)
Dementia	Clinical neurology (local + overseas)
Disorders of cranial nerves	Clinical neurology (local + overseas)
Disorders of the peripheral nervous system	Clinical neurology (local + overseas)
Disorders of the spine and spinal cord	Clinical neurology (local + overseas)
Autonomic nervous system	Clinical neurology (local + overseas)
Neuro-ophthalmology	Clinical neurology (local + overseas)
Neuroimmunology	Clinical neurology (local + overseas)
Neurogenetics	Clinical neurology (local + overseas)
Neuro-oncology	Clinical neurology (local + overseas)
Neuro-endocrinology	Clinical neurology (local + overseas)
Neuro-toxicology	Clinical neurology (local + overseas)

Neuro-otology	Clinical neurology (local + overseas)
Uro-neurology	Clinical neurology (local + overseas)
Neuropsychiatry	Clinical neurology (local + overseas)
Clinical neuropsychology	Clinical neurology (local + overseas)
Sleep disorders	Clinical neurology (local + overseas)
Pain	Clinical neurology (local + overseas)
Neurorehabilitation	Training day
Neuro-imaging	Neuroradiology (1 month)
Clinical neurophysiology	Neurophysiology (3 months)
Cerebrospinal fluid	Clinical neurology (local + overseas)
Neuropathology	Training day
Neuropharmacology	Clinical neurology (local + overseas)
Neurological intensive care	Clinical neurology (local + overseas)
Head injury	Clinical neurology (local + overseas)
Neurosurgery	Neurosurgery (1 month)
Neurology of particular patient groups	Clinical neurology (local + overseas)
Neuropaediatrics	Neuropaediatrics (1 month)
Research and audit methodology	Research and audit project
Teaching and training	Clinical neurology (local + overseas)

*See detailed curriculum in **Annexure 1***

5. Training programme details and structure

The total duration of training is three years in neurology.

Local training - Two years
Overseas training - One year

5.1 Structure of the Training Programme

Stage and assessments	Rotation	Duration
Year 1	Clinical Neurology with Principal Trainer	**12 months**
APPRAISAL at 6 months		
ASSESSMENT at 12 months		
Year 2	Neurophysiology	**3 months**
	Neurosurgery	**1 month**
	Neuroradiology	**1 month**
	Paediatric Neurology	**1 month**
	Clinical Neurology with second Trainer	**6 months**
Year 3	Overseas training in Clinical Neurology	**12 months**
PRE-BOARD CERTIFICATION ASSESSMENT		

The training programme will have a Course Coordinator nominated by the Specialty Board in Neurology and named trainers who will undertake educational supervision. The Course Coordinator will coordinate rotations in liaison with the Director, PGIM and Chairpersons of relevant Boards of Study.

Training will be under the supervision of one main Neurology Trainer in centres with a broad range of training opportunities recognized by the Board of Study for Senior Registrar training.

Training rotations specified in Year 2 can be undertaken only after completion of 12 months of training in Clinical Neurology with the Principal Trainer specified in Year 1. To commence overseas training specified in Year 3, a trainee should have completed a minimum of 12 months of the training programme and have successfully completed the Appraisal at 6 months and the Assessment at 12 months.

All the subspecialty attachments in Year 2 must be done under the supervision of Specialists (Consultants) in the respective fields. Both the trainer and the centre must be acceptable to the Specialty Board in Neurology. Subspecialty attachments in Year 2 of the training programme will be limited to the sessions specified by the supervising Consultant of the subspecialty with concurrence of the Principal Neurology Trainer. The trainee is expected to continue training with the Principal Neurology Trainer and provide on-call services to that Unit when not engaged in any specified teaching-learning activity during the Year 2 subspecialty rotations. In the event that it is not geographically feasible to continue training in the Unit of the Principal Neurology Trainer during the subspecialty rotations, the Course Coordinator will decide which Neurology Unit and Trainer that the trainee must report to during this period. The subspecialty rotations (*not in any particular order*) must be completed during year 2 for the prescribed durations and must be certified in the Portfolio by the respective trainer of each subspecialty. It will be the responsibility of the Principal Neurology Trainer to ensure that the trainee completes the subspecialty rotations specified in year 2 for the prescribed durations.

5.2 Method of delivery and learner support system

a. Text book and journal-oriented theory knowledge
b. Patient-oriented discussions and case-based learning on ward rounds and clinics
c. Specialist clinics in movement disorders, epilepsy, stroke, etc.
d. Monthly Journal Clubs
e. Monthly Clinical Forum of the Association of Sri Lankan Neurologists
f. Monthly Neurology Lectures of the Association of Sri Lankan Neurologists
g. Annual Scientific Sessions of the Association of Sri Lankan Neurologists, Ceylon College of Physicians, Sri Lanka Medical Association
h. Updates in Neurology conducted by the Association of Sri Lankan Neurologists, the Ceylon College of Physicians and other professional associations

5.3 Training requirements

5.3.1 On-call commitment

During the local training period in Neurology, the trainee will be expected to perform on-call duties at a frequency determined by the need of the centre of training.

5.3.2 Neurology referrals

The trainee could undertake to see neurology referrals from other units under the supervision of the trainer.

5.3.3 Teaching

The trainee must gain experience in teaching undergraduates, postgraduates, nursing staff and ancillary medical staff, and must show evidence to that effect in the Portfolio.

5.3.4 Research project leading to a research paper

Successfully carrying out a research project is a *mandatory requirement* that needs to be fulfilled to be eligible to appear for the Pre-Board Certification Assessment (PBCA). The Research Project should be undertaken at the commencement of training. It should be a study which is either hospital-based or community-based and could include clinical, epidemiological, genetic or immunological components. It may be observational or interventional in type.

All aspects of the study have to be assessed and deemed to be satisfactory by the Specialty Board in Neurology *before embarking on the proposed study*. Towards that end, a comprehensive project proposal has to be submitted to the Board within three months of entering the training programme and approval obtained, *prior to commencing the study*. The draft proposal (prepared according to **Annexure 2)** should be all-inclusive and detailed with all relevant particulars being included. The supervisor would be the Principal Neurology Trainer. The submitted proposal will be evaluated by an evaluator and comments submitted to the Board**(Annexure 3).**

Once approved, it should be commenced without any delay and within a period of two months after approval. Instructions to the supervisor is given in **Annexure 4.**The supervisor should submit a progress report to the Specialty Board in Neurology every six months using the form in **Annexure 5.**

All projects would need approval from a relevant Ethics Review Committee while interventional studies have to be registered with the Clinical Trials Registry.

The trainee is expected to submit the study for publication in a peer-reviewed journal. Either the published article or evidence of the study being accepted for publication should be provided to the Specialty Board in Neurology. In the event that the trainee fails to get

the study published, a comprehensive report on the completed study should be incorporated into the Portfolio according to the format in **Annexure 6.** Two examiners appointed by the Specialty Board in Neurology will assess the completed project report based on the marking scheme in **Annexure7**as part of the evaluation of the Portfolio.

5.3.5Clinical Audit

The trainee is required to do a comprehensive Clinical Audit and formally present it at the hospital where he or she is working during either the local or overseas training period. This is in addition to the prescribed Research Project (*see* 5.3.4). Documentary evidence of such an audit presentation must be included in the trainee's Portfolio.

5.3.6 Portfolio

The portfolio is a framework containing evidence of achievement of learning outcomes over time. This evidence is supplemented by the portfolio builders' reflections on their learning and can be used to provide feedback to the learner. The training portfolio should include evidence of specialized procedures, supervision of ventilated patients, assessment of brain death, outpatient clinic duties, subspecialty attendance, grand rounds, conferences, teaching courses, on-call commitments and teaching. The portfolio should be prepared and submitted according to the format indicated in **Annexure 8.** The portfolio must be built by the trainee and be up to date at all times during the training period including the overseas period. The portfolio will be regularly inspected and signed by the supervising consultant. The portfolio will have to be produced at the assessments.

The fundamental basis of Portfolio maintenance is Reflective Practice, which is an important tool in postgraduate training. Reflective practice consists of:

a. focused self-assessment
b. reflecting on experience
c. reflecting on strengths, weaknesses and areas for development
d. design of own strategies that leads to improvement in practice

Using such a process, there is improved training by self-identification of strengths and weaknesses, which is expected to promote deep learning, document what the trainee already knows, identify areas for improvement and help in planning further learning. This approach promotes self-directed learning and critical thinking skills.

The objectives of maintaining a Portfolio is

a. to help the trainee to record his/her training in brief so that the experience acquired can be assessed and deficiencies identified and remedied
b. to help supervisors and assessors to evaluate the overall training and provide guidance in areas where it is needed.

The Portfolio should consist of

- Documentation of all aspects of training and learning experienced by the trainee.
- It must include a case record book of a minimum of five case records. Each case record should not exceed 3000 words. A published case report in a refereed journal can be substituted for a case, if the supervisor certifies that the trainee's contribution for the publication justifies exemption.
- Details of Continuing Professional Development (CPD) activities: minimum of 30 CPD points.

  CPD points will be allocated as follows:
  - Participation in the Academic Sessions of the Association of Srilankan Neurologists (ASN) or any Neurology congress: 3 points each
  - Participation in the Academic Sessions of the Sri Lanka Medical Association (SLMA) or the Ceylon College of Physicians (CCP): 2 point each
  - Oral or poster presentation related to neurology at ASN, CCP, SLMA, PGIM or Neurology congress: 6 points each
  - Participation in ASN lecture, ASN clinical forum or workshop relevant to neurology: 1 point each
  - Presentation at Young Physician forum, Young Neurologist forum or ASN clinical forum: 2 points each

  Points will be allocated in only one category for one activity, i.e., a trainee presenting at a session can only claim points for presentation and not participation in that session. Documentary evidence such as a certificate or a letter is required in order to claim points.

- Records of scientific presentations made.
- Case-based discussions (CBD) (**Annexure 9**): minimum of five.
- Mini-clinical examination (Mini-CEX) (**Annexure 10**): minimum of five.
- Regular reflective entrees on all aspects of patient care and professional training.
- A record of individual activity-based entries on the trainee's own experience.
- Published article or report of the research project undertaken during the training period (see 5.3.4).
- Report of clinical audit (see 5.3.5).

The contents of the portfolio should be divided into **7 sections**. The following list sets out the type of evidence that may be relevant to each section.

1. Subject expertise:
   - case record book
   - progress reports from supervisors (essential, should be according to prescribed format)
   - Supervisor feedback on communication skills

- log of procedures carried out
- results of any work-place assessments conducted
- In the case of sub-specialities, this section must include evidence that the trainee has acquired the essential knowledge, skills and competencies related to the sub-speciality, identified by the Speciality Board (see above), and monitored with regular assessments throughout the period of post-MD training, e.g. mini-CEX, Case-Based Discussions, Direct Observation of Practical Skills

2. Teaching
    - undergraduates
    - postgraduates
    - ancillary health staff
3. Research and Audit relevant to Neurology
    - Dissertations / theses
    - Research papers published or accepted for publication
    - abstracts of presentations
    - Clinical audit
4. Ethics and Medico-legal Issues
    - Completed Professionalism Observation Forms (from integrated learning component of Professionalism Strand)
    - Completed PTR forms during post-MD training
5. Information Technology
    - Participation in training programmes / workshops
    - Evidence of searching for information and application of findings in practice
6. Life-long learning
    - Participation in conferences and meetings
    - CPD points
7. Reflective practice
    - Narration of at least one learning event experienced by the trainee, in relation to each of the above outcomes, with reflection on what and how the trainee learned from this experience

Entries in the Portfolio should be made by the trainee at the time of acquiring the skill and *authenticated (signed)* by the trainer or supervisor.

The trainee is expected to keep the portfolio updated regularly. The trainers and supervisors will use the portfolio to assess the progress of the trainee and to provide a feedback at regular intervals (e.g. every 6 months) during the training period. The trainers and supervisors are expected to assess the level of competencies in different areas of training and provide advice and assistance to the trainees to achieve the expected levels of skills empowerment.

It is the responsibility of the trainees, the trainers and the supervisors to ensure that the entries in the Portfolio are *authentic* and made *regularly*. It is essential to provide the trainee with accurate feedback on his or her views about his or her performance during the training period.

The Specialty Board in Neurology expects the Trainee and the Trainers to make the best use of the Portfolio in order to achieve the objectives of the training programme. The portfolio should be kept as a ring binder document which will allow easy insertions of documents by the Trainee.

When the trainee is eligible for Pre-Board Certification Assessment (PBCA), 3 copies of the completed portfolio should be submitted to the PGIM Examinations Branch. It will be assessed by a panel of two examiners appointed by the Specialty Board in Neurology as described later.

5.3.7 Overseas training

One year of training in clinical Neurology in an overseas centre of excellence for Neurology is an essential pre-requisite for Board certification as a specialist in Neurology. The overseas centre in which the trainee proposes to train must be approved by the Board of Study in Medicine prior to commencing overseas training. The BOS in Medicine will approve only overseas centres that have been recommended by the Specialty Board in Neurology. The trainee must submit details of the job description (weekly or monthly work schedule), training offer, and the facilities and training opportunities available at the proposed overseas training centre to the Specialty Board in Neurology in order to obtain approval.

6. Trainers and Training Centres

A panel of Board-approved Trainers who are Board-certified Specialists with employment in the Ministry of Health or the Universities would carry out the training locally. Overseas training would be carried out by Consultant Neurologists in centres approved for training.

a. Local training in Clinical Neurology

The training will be done in a centre recognized by the PGIM for training in Clinical Neurology. The Trainer should be a Board-certified Consultant Neurologist with a minimum of three years after Board certification. The training centre should possess the following minimum requirements: a Neurology ward, out-patient Neurology clinics, access to intensive care units and free access to CT scan, EEG and neurophysiology facilities in the same centre.

b. Training in Clinical Neurophysiology

The centre should be recognized by the PGIM for training in Clinical Neurophysiology. The trainer should be a Board-certified Clinical Neurophysiologist with a minimum of three years after Board certification. Facilities outside the training centre (including the private sector) may be utilized by the trainer, with the approval of the Specialty Board in Neurology and the Board of Study in Medicine, solely for enhancing the training experience.

c. Training in Neurosurgery

The centre should be recognized by the PGIM for training in Neurosurgery. The trainer should be a Board-certified Consultant Neurosurgeon with at least 3 years' experience after Board certification. Facilities outside the training centre (including the private sector) may be utilized by the trainer, with the approval of the Specialty Board in Neurology and the Board of Study in Medicine, solely for enhancing the training experience.

d. Training in Neuroradiology

The training should be in a centre recognized by the PGIM with adequate facilities for neuro imaging. The trainer should be a Board-certified Consultant Radiologist with at least 3 years' experience after Board certification.. Facilities outside the training centre (including the private sector) may be utilized by the trainer, with the approval of the Specialty Board in Neurology and the Board of Study in Medicine, solely for enhancing the training experience.

e. Training in Paediatric Neurology

The principal trainer together with a Board-certified Paediatric Neurologist with at least 3 years' experience after Board certification will supervise the training in Paediatric Neurology.

f. Overseas training

The training centre, the trainer and the training programme should be approved by the Specialty Board in Neurology.

7. Evaluation of progress

7.1 Progress Reports

7.1.1 Each completed section of the training programme should be followed by the submission of a Progress Report by the Supervisor/Trainer using the form in **Annexure11**. These reports should be received by the PGIM within one month of completing the relevant section of training. *The onus of ensuring that these reports are sent in time to the PGIM is entirely on the trainee*. He or she should liaise with the trainers and make sure that the reports are received by the PGIM in time. This includes local as well as overseas training. Satisfactory Progress Reports are a mandatory requirement to qualify for the Pre–Board Certification Assessment (PBCA).

Suitable and appropriate action will be taken by the Board of Study in Medicine with concurrence of the Specialty Board in Neurology, according to the General Regulations and Disciplinary Code of the PGIM in the event of the receipt of an unsatisfactory or adverse progress report at any stage of training.

7.1.2 The trainee also should submit the completed Peer Team Rating (PTR) forms every six months **(Annexure12).**

7.2 Appraisals and Assessments

The trainees will undergo an Appraisal at the end of 6 months, a formal assessment at the end of 12 months (Assessment) and after the completion of training (Pre-Board Certification Assessment) prior to Board Certification.

7.2.1 The Appraisal

A formative assessment will be conducted at the end of the first six months of training with the objectives of evaluating whether the trainee is fit to proceed to the next stage of training, to identify deficiencies both in the training and the training programme and to agree on a plan of action to rectify any deficiencies by the next stage of training. The Appraisal will be conducted by the Principal Trainer and one other Board-certified Neurologist. The Appraisal will comprise two components:

a. Assessment of observed history taking, examination, interpretation of physical signs and management (40 minutes)
b. Assessment of the training portfolio (20 minutes)

7.2.2 The Assessment

A barrier-assessment will be conducted at the end of 12 months of training with the objectives of evaluating whether the trainee is fit to proceed to the next stage of training and to assess whether the previously identified deficiencies have been rectified. The Assessment will be conducted by two Board-certified Neurologists other than the

trainee's Principal Neurology Trainer. The Principal Trainer may be an observer. The Assessment will comprise two components:

a. Assessment of observed history taking, examination, interpretation of physical signs and management (40 minutes – 70marks)
b. Assessment of the training portfolio (20 minutes – 30marks)

The trainee must score a total of 60% or above to pass. Trainees who do not pass the Assessment in their first attempt are allowed to re-sit the evaluation while proceeding to Year 2 of the training programme. *However, trainees will not be allowed to proceed to overseas training until successful completion of the Assessment.*

The Assessment will be held 3 times per year. If the trainee fails to successfully complete the Assessment within 3 years of entering the training programme in Neurology or after a maximum of 6 attempts (whichever is sooner), the trainee will be referred to the Specialty Board in Neurology to decide on the continuation or discontinuation of the training.

8. Pre–Board Certification Assessment (PBCA)

8.1 Eligibility to sit for the PBCA

The following criteria have to be accomplished to be eligible to appear for the PBCA.

a. Completion of the training period.
b. Provision of satisfactory Progress Reports and PTR Reports for *all* stages of training.
c. A mark of 60% or more at the Assessment at the end of 12 months of training.
d. Completion of the research project and publication / acceptance for publication of the research paper in a peer-reviewed journal or submission of the research report in the Portfolio using the prescribed format.

8.2 Details of PBCA

The PBCA will comprise an oral examination (*viva voce*) of 60 minutes, during which the trainee will be questioned on the portfolio, recent advances in neurology, evidence-based neurology and clinical reasoning in neurology. The PBCA aims to evaluate knowledge, clinical competence and depth of experience. The trainee is required to start with a presentation of 10 – 15 minutes on the post-MD training.

The PBCA will be conducted by two Board-certified Neurologists other than the trainee's Principal Neurology Trainer. The Principal Trainer may be an observer. The examiners will be appointed by the Specialty Board in Neurology according to the rules and regulations of the PGIM.

8.3 Pass mark

The overall assessment will be based on each of the main sections in the portfolio (as specified in 5.3.6) and the performance at the *viva voce*, which will be assessed as satisfactory or not, on an overall basis.

8.4 Failed candidate

If the examiners are of the view that the trainee's performance is unsatisfactory, and the trainee should not be given immediate Board Certification, the examiners will provide the trainee with written feedback on how the portfolio should be improved in order to reach the required standard. The trainee should then re-submit the portfolio within a specified period of time (up to 3 – 6 months), and face another oral examination (*viva voce*) based on the re-submitted portfolio. If the trainee is successful at this second oral examination, the date of Board Certification will be backdated as done routinely. If unsuccessful again, the date of Board Certification will be the date of passing the subsequent PBCA following further training for a minimum period of six months in a Unit selected by the Board of Study.

Ineligibility to sit the PBCA due to unsatisfactory progress reports will be dealt with as stipulated in 7.1.1.

9. Board Certification

A trainee, who has successfully completed the Pre-Board Certification Assessment is eligible for Board Certification as a Specialist in Neurology, on the recommendation of the Speciality Board in Neurology and the Board of Study in Medicine.

10.Recommended learning material

Text books

a. Donaghy, Michael. *Brain's diseases of the nervous system* (12 ed). Oxford University Press, 2009.
b. Ropper, Allan, Samuels Martin. *Adam's and Victor's Principles of Neurology* (9 ed). McGraw-Hill, 2009.
c. Darroff, Fenichel, Jankovic, Mazziotta. *Bradley's Neurology in Clinical Practice* (6 ed). Saunders, 2012.

Journals

a. *Practical Neurology*. BMJ Publishing Group.
b. *Journal of Neurology, Neurosurgery and Psychiatry*. BMJ Publishing Group.
c. *Lancet Neurology*. Lancet Publishing Group.
d. *Neurology*. American Academy of Neurology.
e. *Continuum*. American Academy of Neurology.
f. *JAMA Neurology*. American Medical Association.
g. *Brain*. Oxford University Press.
h. *Sri Lanka Journal of Neurology*. Association of Sri Lankan Neurologists.
i. *BMC Neurology*. Bio Med Central.
j. *Journal of Neurological Sciences*. Elsevier.
k. *The New England Journal of Medicine.* NEJM Group.
l. *The British Medical Journal.* BMJ Publishing Group.
m. *The Lancet.* Lancet Publishing Group.
n. *Ceylon Medical Journal.* Sri Lanka Medical Association.

Websites:

a. American Academy of Neurology: **www.aan.com**
b. Association of British Neurologists: **www.theabn.org**
c. World Federation of Neurology: **www.wfneurology.org**

11. Annexures

ANNEXURE 1: CURRICULUM

1. Generic Skills

Factual knowledge

- Anatomy and Physiology of the central and the peripheral nervous system including the autonomic nervous system
- The clinical presentation of disorders affecting central and peripheral nervous system
- Localization of diseases within the nervous system
    - focal disease affecting cerebral hemispheres, brain stem, spinal cord, cauda equine, nerve roots, nerve plexus, peripheral nerves, muscles, NMJ
    - multi-focal disorders
    - extrapyramidal disorders
- Metabolic and general medical disorders affecting the central and peripheral nervous system
- The principles of medical management of neurological disease

- The mechanisms whereby psychological, social, behavioural factors and social circumstances can produce and modify the presentation of patients with physical symptoms
- Information technology and its applications
- Knowledge of neurological charities and patient support groups

Clinical Skills

- The ability to conduct a clinical interview to establish a diagnosis and a therapeutic relationship
- Obtain data for diagnosis and problem formulation
- Provide a firm basis for education and management
- Able to discuss difficult issues including breaking bad news, dealing with the hostile, distressed or psychologically disturbed patient, obtaining informed consent
- Able to perform a neurological examination appropriate to the clinical situation
- Able to formulate an appropriate management plan for neurological disease.
- Able to establish effective relationships with other members of the clinical team, provide clinical leadership and delegate where appropriate
- Able to accept appropriate management and responsibility
- Deal with complaints
- Write medico legal report
- End-of-life issues

Attitudes

- The prime importance of an doctor/ patient relationship
- Awareness of ethical and moral issues of neurology
- Awareness of the role of the neurologist s a part of the clinical team.

2. Headaches

Factual knowledge

- Common causes of headache and the differential diagnosis
- Sinister features and causes of headache
- Appropriate investigation techniques applicable to the patients with headache
- Drugs and non-drug management of headache
- Basic knowledge on IHS classification of headaches

Clinical skills

- Ability to take a relevant history from a patient with headache
- Comprehensive examination of the CNS in a patient with headache
- Ability to recognize common abnormalities on CT and MRI scans
- Knowledge of when, and when not to perform a lumbar puncture in patients with headache
- Management of temporal arteritis, migraine, TTH, IIH, cluster headache/TACs and other headaches

Attitudes

- Awareness of the anxiety generated in patients with frequent headaches

3. Infections

Factual knowledge

- Common and uncommon causes, presentation and treatment of bacterial and viral meningitis and viral encephalitis including post infectious syndromes
- Neurological presentation of systemic diseases such as SAIE, septicaemia
- The clinical presentations, diagnostic findings and treatment of TB of the nervous system
- HIV infections of the central and peripheral nervous systems
- Infections in the immune compromised
- Neurological syndromes associated with Varicella-Zoster and Herpes Simplex Viruses
- Cerebral and spinal abscess and empyema
- Some knowledge of rare infections such as fungal infections, toxoplasmosis, Listeria, mycoplasma, malaria, cysticercosis, CMV, botulism, poliomyelitis, tetanus, spirochaetal infections (borrelia, syphilis and leptospirosis), prion diseases, leprosy and rickettsia infections
- Cerebral thrombophlebitis as a complication of CNS infection

Clinical Skills

- Able to manage common bacterial, TB and viral infection of CNS
- Able to appreciate rare fungal infections in poorly responding and high risk patients
- Able to distinguish between meningitis and encephalitis clinically
- Able to assess for complications and for raised intracranial pressure in the unconscious patient and the need for ICU care and assisted ventilation
- Able to perform lumbar puncture and interpret CSF findings in the context of clinical features
- Able to diagnose spinal cord compression due to an infective cause
- Able to assess neuro-imaging (CT & MRI) evidence of neurological infections eg: cerebral and spinal abscess, subdural empyema
- Able to recognize surgically treatable conditions and complications

Attitudes

- Awareness of the need to liaise with bacteriologist, virologist, mycologist and parasitologist in arranging specific investigations
- Awareness of notification

4. Cerebrovascular disease

Factual knowledge

- Anatomy of the cerebral arteries and veins
- Epidemiology, causes and prognosis of cerebral infarction, cerebral hemorrhage and subarachnoid haemorrhage
- Diagnosis and management of transient ischaemic attacks
- Medical treatment of acute stroke
- Surgical and neuroradiological interventional treatment of stroke
- Carotid surgery and angioplasty
- Investigation of stroke including risks and costs
- Secondary prevention of stroke
- Organization of stroke care including stroke units
- Management of arterio-venous malformations and cerebral aneurysms
- Clinical features, diagnosis and management of intracranial venous thrombosis
- Clinical features, diagnosis and management of cerebral vasculitis

Clinical skills

- Able to clinically distinguish TACS, PACS, LACS and POCS at the bedside
- Able to recognize cognitive deficits including speech and language dysfunctions due to strokes
- Able to identify the very early stages of cerebral infarction on CT imaging of the brain
- Able to identify and assess the age of changes or cerebral infarction and cerebral haemorrhage on CT and MRI
- Able to counsel patients about the risks and benefits of cerebral angiography and carotid surgery
- Able to assess patients using the Barthel index and the Rankin score
- Familiar with the prevention and management of complications of stroke
- Able to lead a multidisciplinary team discussion

Attitudes

- A positive approach to health promotion
- Aware of the needs of the patient, the family and the carers
- Awareness of the facilities for stroke patients in the community
- Awareness of the needs of liaison between different members of the multidisciplinary team

5. Disorders of consciousness

Factual knowledge

- Anatomy and pathophysiology of consciousness
- Causes of impaired consciousness
- Indicators of prognosis
- Definitions of brain death, persistent vegetative state, minimally conscious state and locked-in syndrome
- Legal aspects of above and issues related to cadveric organ transplantation

Clinical skills

- Assessment of the patient with altered consciousness
- Able to prognosticate
- Able to perform tests for brain death
- Able to break bad news to relatives

Attitudes

- Awareness of the carers and professions allied to medicine in the longer term management of patients with impaired consciousness
- Awareness of attitudes and ethical principles related to withdrawal of life support, organ donation and transplantation

6. Epilepsy

Factual knowledge

- Differential diagnosis of paroxysmal and transient events
- Imaging, EEG and neuropsychology applied to epilepsy
- Efficacy and adverse effects of antiepileptic drugs
- Teratogenic effects of antiepileptic drugs
- Epilepsy, antiepileptic drugs and reproduction
- Principles of antiepileptic drug treatment
- Interactions involving antiepileptic drugs
- Starting and stopping drug therapy
- Management of refractory seizures
- Psychiatric disorders associated with epilepsy
- Surgery for epilepsy
- Complementary therapies
- Sudden unexpected deaths
- Epilepsy charities and patient support groups
- Epilepsy and the law
- Driving regulations pertaining to epilepsy

Clinical skills

- Able to take and evaluate a detailed history from patient and witness
- Able to evaluate differential diagnosis of paroxysmal events including epileptic seizures, faints and non-epileptic attacks
- Able to plan investigation strategy for patients with newly diagnosed and chronic epilepsy
- Able to plan treatment strategy for patients with newly diagnosed and chronic epilepsy
- Able to manage status epilepticus

Attitudes

- Awareness of need to re-evaluate diagnosis and treatment if seizures continue
- Awareness of psychological and social consequences of epilepsy and of the need for careful and sympathetic education and information giving
- Awareness of information and counselling needs of patients, relatives, schools and employers
- Creating awareness amongst general public regarding actual nature and treatability of seizures

7. Movement disorders

Factual knowledge

- Knowledge of the anatomy of the basal ganglia and main connecting pathways
- Clinical features of the movement disorders including Parkinson disease, atypical Parkinsonian disorders such as progressive supranuclear palsy (PSP), multiple system atrophy (MSA), corticobasal ganglionic degeneration (CBGD), myoclonic disorders, chorea, tremors, dystonia tic disorders and paroxysmal movement disorders
- Differential diagnosis of Parkinsonism, general and focal dystonia, tremor, tic, chorea and paroxysmal movement disorders
- The effects of drugs including neuroleptics and their ability to produce both acute (neuroleptic malignant syndrome) and long term side effects (tardive dyskinesia)
- Investigation of movement disorders including the appropriateness of tests such as brain scans
- Understanding the possible causes of movement disorders
- Understanding the possible aetiology, pathogenesis, and genetic background of movement disorders
- Management of movement disorders to include surgical and drug treatments and knowledge of the short and long term side effects of drug treatment and squeal of surgery
- Neuropathology of Parkinson disease , atypical parkinsonism, essential and other tremors, tics, chorea and dystonia

Clinical skills

- Ability to clinically diagnose Parkinsonism, tremors of different types, chorea, dystonia, tics and paroxysmal movement disorders
- Ability to recognize imaging features of Parkinson disease on SPECT-DAT scans, PET scans, atypical Parkinsonism and normal pressure hydrocephalus (NPH) on MRI scans.
- Able to understand and interpret investigations of Parkinsonism, tremor, chorea dystonia, tics and paroxysmal movement disorders
- Ability to evaluate young onset Parkinsonism.
- Able to instigate and manage drug treatment for Parknsonian disorders, tremor , tics, dystonia, and other movement disorders
- Ability to use botulinum therapy in movement disorders
- Ability to decide on when to recommend surgical treatment in movement disorders.
- Able to understand and involve a multidisciplinary team and social services in the management of movement disorders

Attitudes

- Awareness of the needs of patients, families and carers
- Awareness of support networks and patient groups

8. Demyelination and vasculitis

Factual knowledge

- Neurobiology of demyelination and vasculitis
- Clinical features of multiple sclerosis, neuromyelitisoptica (NMO), NMO spectrum disorders and other related demyelinating disorders, vasculitic and arteritic disorders.
- The roles of imaging and other investigations
- Management of specific impairments and disabilities arising in MS
- Role of disease modifying drugs and symptomatic therapy.
- Use of disability rating scales.
- Other demyelinating diseases: ADEM, Leucodystrophies, Behcet's disease, etc.

Clinical skills

- Ability to evaluate and manage people with demyelinating and vasculitic disorders.
- Ability to interpret the investigative findings in relation to the clinical picture.

Attitudes

- Understand the contribution and roles of professions allied to medicine such as physiotherapists, occupational therapists and speech therapists and patient group/support organizations
- To be sensitive to physical, psychological and emotional needs of the patients and their care givers.
- Close liaison between specialists and rehab services
- Awareness of the anxiety and fear experienced by patients and their carers

9. Dementia

Factual knowledge

- Clinical features of dementia and differentiation from focal brain disease, reversible encephalopathies and depression
- Differential diagnosis of dementia including Alzheimer disease, vascular dementia, Lewy body disease, CJD and fronto-temporal dementia
- Investigation of dementia
- Management of dementia
- Neuropathology of dementia
- Possible aetiological and pathogenic factors of dementia
- Knowledge on counselling

Clinical skills

- Able to carry out and interpret bedside testing of cognitive function and mental state
- Able to interpret neuropsychometric evaluation
- Able to diagnose dementia
- Able to differentiate between the different causes of dementia
- Able to recognize neuroimaging features of Alzheimer disease, subcortical leukoaraioisis, NPH and CJD
- Able recognize EEG features of CJD
- Able to recognize common neuropathological features of dementia (neurofibrillary tangles, amyloid plaques and Lewy bodies)

Attitudes

- Aware of the needs of the families and carers of patients with dementia
- Aware of the support network

10. Disorders of Cranial Nerves

Factual knowledge

- Anatomy of the skull base, particularly the orbit, cavernous sinus,pituitary fossa, foramen magnum and jugular foramen.
- Pathological processes involving cranial nerves and their central connections.
- Clinical assessment of cranial nerve function.
- Knowledge of common and rarer causes of isolated and multiple cranial nerve palsies.
- Management of cranial nerve disorders including multidisciplinary
- Approaches to visual, hearing & balance, speech &swallowing disorders.

Clinical skills

- Ability to evaluate and manage people with disorders of cranial nerve function and to understand the clinical features of cranial nerve palsies.
- Understanding the role of imaging, CSF examination, and neurophysiologic techniques in assessment and diagnosis.

Attitudes

- Demonstration of relevant general and professional content competencies.

11. Disorders of the peripheral nervous system

Factual knowledge

- Anatomy of the nerve supply of upper limb and lower limb
- Histology and physiology of nerves, muscles and neuromuscular junction
- Pathophysiology of nerve injuries and peripheral neuropathy
- Common causes and situations of nerve injuries
- Myopathies and muscular dystrophies
- Neuromuscular junction abnormalities
- Type and prognosis of different anterior cell disorders

Clinical skills

- Examination of limbs with a view to clinically diagnose the nerve lesions
- Nerve conduction studies to confirm common entrapment neuropathies
- Treatment strategies in mononeuropathies
- Treatment of myasthenia gravis
- Management of acute and chronic neuro-radiculopathies

Attitudes

- Cooperate with other relevant specialist and therapists
- Genetic counselling for hereditary disorders
- Counselling of parents with incurable myopathies

12. Disorders of the spine and spinal cord

Factual knowledge

- Spinal and spinal cord anatomy
- Clinical features of cord, root and caudaequina syndromes, specially:
    - Cervical myelopathy
    - Cord compression
    - Caudaequina compression
    - Lumbosacral and cervical spondylotic radiculopathy
    - Subacute combined degeneration
    - Spinal cord ischaemia, infarction and haemorrhage
- Potential and limitations of spinal MRI: indications and risks of myelography and spinal angiography
- Emergency management of cord or caudaequina compression, spinal injury
- Management of cervical spondylosis, low back pain and sciatica
- Common spinal surgical procedures, indications, limitations and risks
- Management of paraplegia and role of spinal injuries units

Clinical Skills

- Localization and diagnosis of spinal lesions
- Interpretation of spinal neuroradiology

Attitudes

- Recognize the extreme urgency of some spinal disorders
- Appreciate need for communication with radiologists, neurosurgeons, spinal injuries units and multidisciplinary rehabilitation teams
- Awareness of the psychological and physical needs of paraplegic or quadriplegic patients, their relatives and carers

13. Autonomic nervous system

Factual knowledge

- Neuroanatomy and neurophysiology of autonomic nervous system
- Presentation of autonomic nervous system
- Investigations of autonomic dysfunction

Clinical skills

- Performing bed side autonomic function tests
- Interpretation of results of autonomic dysfunction
- Management of autonomic dysfunction

Attitudes

- Be aware of disability in patients with autonomic dysfunction
- Sensitivity to the psycho-social and sexual issues in patients with autonomic dysfunction

14. Neuro-ophthalmology

Factual knowledge

- Relevant neuroanatomy and neurophysiology of vision control of eye movements, gaze abnormalities and nystagmus
- Causes of neurological and ophthalmological conditions that cause visual failure.
- Conditions that make eye movement abnormalities
- Causes of different types of nystagmus and how to investigate them

Clinical skills

- Examination of visual field, acuity and colour vision
- Examination of optic fundus and identifying abnormalities including papilloedema, papillitis, optic atrophy and other conditions
- Examine the eye movements and identify abnormalities
- Evaluate a patient with nystagmus and other eye movement abnormalities.

- Management of myasthenia gravis, ocular myopathy etc.
- Techniques to help patients with visual failure
- Select relevant investigations including neuroimaging in visual failure and eye movement abnormalities.

Attitudes

- Empathy towards patients with visual failure
- Correct use of non-humiliating language in describing the disabilities
- Make appropriate references to eye surgeons and cooperate with them when patients are referred by them.

15. Neuroimmunology

Factual knowledge

- The basic principles of immunology and autoimmune reactions in the CNS and neuromuscular junction
- The clinical manifestations of autoimmune disorders of the central and peripheral nervous system
- Serological markers and imaging characteristics of neuroimmunological diseases
- Immunosuppressive and immunomodulating pharmacotherapy, their mechanisms of action, indications, side effects and other limitations of treatment

Clinical skills

- Able to identify neuroimmunological diseases (clinical, laboratory – routine and special tests, neuroimaging techniques)
- Able to interpret CSF and serological studies for use in neuroimmunological disorders
- Able to institute a treatment algorithm for each of the major neuroimmunological disorders

Attitudes

- Awareness of the need to explain the risk / benefit analysis to patients being considered for immunomodulating or immunosuppressive therapy
- Awareness of the needs of managing long term disability

16. Neurogenetics

Factual knowledge

- Chromosomes, genes, DNA, RNA, Mendelian, mitochondrial and other modes of transmission
- Principles of molecular genetics including PCR, cloning
- Methods of genetic diagnosis
- Common neurogenetic diseases eg. Huntington, neurofibromatosis, hereditary ataxias, neuropathies, myopathies
- Conditions for which genetic diagnosis is available

Clinical skills

- Able to recognize neurogenetic disorders
- Calculation of genetic risks
- Principles of genetic counselling

Attitudes

- Awareness of ethical and legal aspects of genetic testing, consent and disclosure
- Awareness of the needs of managing long term disability

17. Neuro-oncology

Factual knowledge

- Natural history of common primary and secondary tumours of the nervous system
- The neuropathology of brain tumours
- Paraneoplastic syndromes of the nervous system
- Malignant meningitis
- Therapeutic options for common primary and secondary tumours of the nervous system including palliative care in advanced disease
- Knowledge of acute and delayed complications of treatments including chemotherapy and radiotherapy

Clinical skills

- Able to recognize common patterns of abnormality of tumours on CT/MRI
- Able to discuss the pros and cons of biopsy
- Able to break bad news
- Able to discuss treatment options in context of quality of life and to formulate a treatment plan
- Able to handle terminal care issues

Attitudes

- Awareness of interplay of diagnostic, treatment and caring roles
- Awareness of principles of holistic management and end-of-life issues
- Awareness of potential differences in perceptions of patients and relatives

18. Neuroendocrinology

Factual knowledge

- Clinical features and investigations in endocrine disorders; including pituitary, adrenal, thyroid and diabetic complications.
- Emergency management of endocrine disorders with neurological complications.
- Normal function and neuroendocrine control of the pituitary gland
- Symptoms and signs and differential diagnosis of pituitary tumours

- Treatment of pituitary tumours
- Steroid therapy and its complications

Clinical skills

- Understand the principles of the NS in endocrine function and neurological features of endocrine disorders particularly pituitary disease.
- Ability to recognize pituitary failure, pit apoplexy, hypothyroidism, growth hormone excess and prolactin excess on clinical examination
- Ability to arrange the appropriate tests and interpret the results
- Ability to coordinate with endocrinological colleagues.

Attitudes

- Demonstration of relevant general and professional content competencies.
- Awareness of the need for long term follow up and the need for close liaison between specialities
- Awareness of the role of neurosurgeons, endocrinologists and radiotherapists in the treatment of pituitary tumours.

19. Neurotoxicology

Factual knowledge

- The effects of toxins such as alcohol, recreational drugs, heavy metals, chemicals, pesticides, therapeutic agents, animal poisons and plant poisons on the nervous system
- The socio-economic impact of alcoholism and other toxins.

Clinical skills

- Able to recognize and diagnose alcohol induced neurological syndromes
- Able to interpret investigation of neurotoxin disorders
- Able to recognize the need for psychiatric services in alcoholism, drug abuse and self poisoning
- Able to instigate management of acute ethanol and methanol poisoning and drug abuse and withdrawal syndromes.

Attitudes

- Awareness of the need for support services in drug addiction

20. Neuro-otology

Factual knowledge

- Anatomy and physiology of hearing and balance
- Neurological presentations of ENT conditions
- Diagnosis and management of acoustic neuroma, benign positional vertigo, Meniere's syndrome and vestibular neuronitis
- Preventable causes of neural deafness

Clinical skills

- Able to asses a patient with dizziness
- Perform and interpret results of tests of positional vertigo
- Interpretation of autograph, brain stem auditory evoked potentials
- Hallpikemanoeuvre and repositioning man oeuvres

Attitudes

- Be sensitive to communication issues in patients with hearing impairment
- Be aware of the role of other specialists in management of patients with acoustic neuroma

21. Uro-neurology

Factual knowledge

- The normal control of micturition and sexual function
- The differential diagnosis of causes of disorders of micturition
- The investigation strategy for disorders of micturition
- The causes of erective dysfunction

Clinical skills

- Ability to take and evaluate a urological and sexual history from male and female patients
- Ability to evaluate urological and uro-dynamic findings in the clinical context
- Ability to plan treatment strategy for patients with disorders of micturition and of sexual function
- Assessment and management of disorders of micturition and sexual function

Attitudes

- Awareness of the need to work in conjunction with urologists
- Awareness of the psychological and social consequences of disorders of micturition and of sexual function
- Awareness of information and counselling needs of patients and their relatives

22. Neuropsychiatry

Factual knowledge

- Cognitive, psychiatric, behavioural and psychological presentations of neurological illness
- Symptoms and differential diagnosis of depression, psychosis, anxiety and obsessive compulsive disorders
- Medically unexplained symptoms related to neurology
- Principles of management of psychosis Neurological adverse effects of psychiatric drugs

Clinical skills

- Able to evaluate a psychiatric history and determine whether the patient has a primary psychiatric illness or neurological illness
- Able to appreciate psychological problems in a patient with neurological disability

Attitudes

- Be sensitive to psycho-social consequences of neurological illness
- Be are of the need to work together with psychiatrists in providing care
- Able to counsel the patient family and other relevant individuals

23. Clinical Neuropsychology

Factual knowledge

- Basic understanding of cognitive domains
- Cortical localization and hemisphere dominance
- Clinical manifestations of cognitive impairment
- Pseudo-dementia
- Methods and tests in Neuropsychology

Clinical skills

- Recognition of patients who would require formal neuropsychological evaluation
- How to test higher mental functions including attention, language, memory, visuo-spatial function, praxis and executive functions
- How to interpret a neuropsychology report
- The mini-mental state examination
- Understanding the concepts of counselling

Attitudes

- Sensitive and professional assessment of patients
- Awareness of the importance of the history from relatives
- Interaction with colleagues – psychiatrists, psychologists, social services, family doctor, etc

24. Sleep disorders

Factual Knowledge

- Physiological changes of sleep
- Neurological symptoms of sleep disorders
- Common sleep disorders like sleep apnoea, narcolepsy, restless leg syndrome, periodic leg movements of sleep terror and nightmares
- Neurological problems that occur during sleep and those which are precipitated by sleep deprivation
- Treatment options in common sleep disorders

Clinical skills

- Interpretation of multiple sleep latency tests
- Interpretation of polysomnography
- Identify normal EEG changes during different stages of sleep

Attitudes

- Understand psycho-social issues of patients with sleep disorders
- Work with a team of different specialties to help the patients with sleep disorders

25. Pain

Factual knowledge

- Physiology of pain and pain pathways
- Pathophysiology and mechanisms of generation of pain with a special reference to neuralgic pain
- Investigation of pain
- Drugs used in pain management
- Other therapies in management of pain
- Trigeminal neuralgia, post herpetic neuralgia, radicular pain and painful neuropathies
- Complex regional pain syndrome

Clinical skills

- Be able to diagnose pain syndromes
- Examine a patient with painful conditions to arrive at a diagnosis with minimal discomfort to the patient
- Plan the management strategy for intractable pain syndromes

Attitudes

- Be sensitive to the suffering of patient and family
- Coordinate with other specialists in management of pain
- Be aware of complementary remedies for pain

26. Neurorehabilitation

Factual knowledge

- Understand the difference between pathology, impairment, activity & participation;
- Understand the potential and limitations of neurorehabilitation
- Understand the social perspective, relevant social work legislation and availability of care in the community.

Clinical skills

- Ability to evaluate the requirement for rehabilitation in people with neurological disorders (including stroke, head injury, spinal injury and MS) in the context of a multidisciplinary team and make appropriate referrals.
- Ability to perform and utilize a functional assessment.
- Contribute to and, if appropriate, lead an MDT meeting being aware of the different roles, skills, approach and agenda of rehabilitation teams.

Attitudes

- Demonstration of relevant general and professional content competencies.

27. Neuro-imaging

Factual knowledge

- The capacity, risks and limitations of the all the common neuro-imaging techniques
- Basic X-ray- skull/ sinus/ spine
- CT scan
- MR imaging
- CT and MR angiography
- Conventional angiography
- Myelography
- Ultrasound of the carotid arteries, heart, peripheral nerves and muscles
- Trans-cranialdoppler
- The appearance of brain, spinal cord, nerve roots and the vasculature of the CNS in health and in neurological disorders
- Some knowledge on
    - SPECT, PET, MR spectroscopy
    - Interventional neuroradiology
- Cost of these investigations

Clinical skills

- Ability to recognize on CT and MRI brain scan
    - Ischaemic stroke
    - Intracranial haemorrhage
    - Mass lesions
    - Hydrocephalus

        - Cerebral atrophy
        - Demyelinating disorders
        - CNS infections
- Ability to recognize on CT and MR spine scan
        - Cord compression
        - Cord demyelination
        - Disc disease and spinal stenosis
        - Vascular malformations

Attitudes

- Awareness of the needs of the neuro-radiologist in terms of clinical information about patients
- The value of combined educational clinical meetings involving neurologists and neuro-radiologists
- Awareness of patients' anxiety regarding neuroradiological investigations and treatment

28. Clinical Neurophysiology

Factual knowledge

- The principles of NCS, EMG, EEG and EP studies
- The common abnormalities in NCS and EMG
- The common forms of abnormalities on EEGs
- The capability and limitation of EEG in other neurological conditions
- The common abnormalities of evoked potentials seen in neurological disorders
- Usefulness of less common neurophysiological techniques
        - Video-telemetry and sleep studies
        - Perioperative recording of brain and spinal cord
        - Magnetic stimulation techniques

Clinical skills

- NCE/EMG:
        - Ability to perform basic NCS / EMG on CTS, GBS, Other peripheral neuropathies,
        - common radiculopathies, myopathy, anterior horn cell disorder and NMJ disorder.
        - Ability to interpret NCS / EMG reports
- EEG:
        - Ability to identify epileptiform and non-epileptiform abnormalities in EEG
        - Ability to differentiate the common forms of epileptic abnormalities from each other and from artifacts
        - Ability to correlate EEG abnormalities with clinical information
- EP:
        - Ability to interpret common VEP abnormalities

Attitudes

- Awareness of the judicious use of neurophysiology services
- Awareness of the needs of the clinical neurophysiologist in terms of clinical information about patients
- The value of continued educational clinical meetings involving neurologists and clinical neurophysiologists

29. Cerebrospinal fluid

Factual knowledge

- The cellular and chemical composition of CSF in health and disease, particularly acute and chronic meningitis, TB meningitis, encephalitis, malignancies, sarcoid and multiple sclerosis
- Production, circulation and absorption of CSF
- Disorders of CSF production, circulation and absorption
- Clinical features, causes, diagnosis and treatment of obstructive and communicating hydrocephalus, normal pressure hydrocephalus, idiopathic intracranial hypertension and spontaneous intracranial hypotension
- Causes, features and dangers of coning
- Knowledge of the contraindications of lumbar puncture

Clinical skills

- Able to perform lumbar puncture atraumatically
- Able to recognize acute and chronic hydrocephalus on imaging
- Able to recognize papilloedema
- Able to measure the size of the blind spot by visual confrontation

Attitudes

- Awareness of the anxiety related to lumbar puncture
- Awareness of the adverse consequences of lumbar puncture
- Awareness of the laboarory requirements for CSF analysis

30. Neuropathology

Factual knowledge

- Knowledge on anatomy of basic brain sections
- Knowledge on appearance of gliosis, amyloid, neuro-fibrillary tangles, Lewy bodies, inflammation, granulomatous change
- Pathological classification of tumors and grading
- Basic pathology of –
    - Multiple sclerosis
    - Parkinson’s disease
    - Alzheimer’s disease

        - Meningitis
        - Prion diseases
        - Vasculitis
        - Axonal / demyelinating peripheral neuropathy
        - Inflammatory myopathies
        - Muscular dystrophies
- Scope and limitations of nerve, muscle and brain biopsies

Clinical Skills

- Understand a pathology report
- Obtain consent for a post mortem

Attitudes

- Recognize the importance of good liaison with pathologists

31. Neuropharmacology

Factual knowledge

- Synapse and neurotransmitter physiology
- Principles of phamacokinetics and pharmacodynamics of commonly used drugs in Neurology
- Principles of pharmacological treatment with particular regard to vascular disease, migraine, epilepsy, pain, psychiatric disorders, movement disorders, multiple sclerosis, autoimmune diseases, dementia, motor neuron disease
- Adverse effects of medications
- Interactions involving medications

Clinical Skills

- Able to take and evaluate a detailed medication history
- Able to plan treatment strategies

Attitudes

- Awareness of need to critically re-evaluate diagnosis and treatment, if therapy is ineffective
- Awareness of the cost of medication and drug budgets
- Awareness of the problem of non-compliance with prescribed therapy
- Awareness that drug prescription is only one part of the management of a patient with a neurological disease

32. Neurological intensive care

Factual Knowledge

- The common and uncommon causes of coma
- The multiplicity of factors often responsible for patient's critical neurological status following cardiac interventions, major surgeries and transplants.
- The causes and principles of management of patients with neurological disorders which cause paralysis involving bulbar and/or respiratory muscles with major emphasis on GuillainBarre Syndrome, myasthenic crisis and common poisonings
- Basic knowledge on water & electrolyte balance, other metabolic and endocrine disturbances which are encountered in neurological intensive care settings
- The management of status epilepticus

Clinical Skills

- Able to asses unconscious patients and apply the Glasgow Coma scale
- Able to asses patients needing artificial ventilatory support & monitor them throughout the process
- Able to asses when and how urgently to seek neurosurgical advice
- Able to keep patient's expectations of intensive care & neurosurgery realistic

Attitudes

- Awareness of the importance of cooperation and collaboration of neurologists and neurosurgeons for optimal service delivery
- The value of combined educational clinical meetings involving neurologists, neurosurgeons, anaesthetists and paramedical staff
- Awareness of patient's and relative's anxiety regarding neurosurgery

33. Head Injury

Factual knowledge

- Knowledge of symptoms and signs and management of head injury and its complications such as open head injury, extradural and subdural haematoma
- Patho-physiology of head injury
- Indications for intervention
- Long term sequelae of head injury

Clinical skills

- Ability to evaluate and manage people with acute head injury, use and interpret Glasgow Coma Scale.
- Ability to recognize and manage raised ICP
- Perform immediate resuscitative measures
- Formulate a strategy for immediate and short term management
- Recognise primary and secondary effects of head injury.
- Ability to evaluate and manage post traumatic change in consciousness, behaviour and

cognition, and other post-traumatic symptoms including epilepsy.
- Ability to interface with neurosurgeons and ITU staff.

Attitudes
- Demonstration of relevant general and professional content competencies.
- Awareness of medico legal consequences, difficulties faced by families of head injury victims.

34. Neurosurgery

Factual knowledge
- Knowledge on the capability and limitations of neurosurgery in patients with –
    - Head injury
    - Extradural, subdural and intracerebral haematomas
    - Brain tumours
    - Intracranial AVM & aneurysms
    - Hydrocephalus
    - Carotid artery stenosis
    - Spinal cord compression
    - Nerve root compression
    - Intracranial and spinal abscesses
    - Congenital abnormality of skull and spine
    - Epilepsy
    - Parkinson disease
    - Pain syndromes
- Knowledge on craniotomy, burrhole, shunt insertion and laminectomy operations, muscle / nerve biopsy and postoperative care and follow up

Clinical Skills
- Able to assess the unconscious patient and monitor applying the Glasgow Coma Scale
- Able to assess when and how urgently to seek neurosurgical advice
- Able to counsel patients regarding common neurosurgical procedures

Attitudes
- Awareness of the importance of corporation and collaboration of neurologists and radiologist and neurosurgeons for optimal service delivery
- The value of combined educational clinical meetings involving neurologists, radiologist and neurosurgeons
- Awareness of patients' and relatives' anxiety regarding neurosurgery

35. Neurology of particular patient groups

Factual knowledge

- Pregnancy and women of reproductive age
    - Teratogenic risks of drugs, specially AEDs
    - Genetic risks of common neurological disorders
    - Methods of contraception and their failure rates; interactions of OC and AEDs/ other drugs
    - Neurological conditions either induced by or worsened by pregnancy such as eclampsia, epilepsy, MS, stroke, prolactinomas, cerebral haemorrhage, prothrombotic states and NMJ disorders
- The elderly
    - Normal clinical and radiological findings in the elderly
    - Effects of common drugs in the elderly
    - Presentation of neurological diseases in these patients
- Uncommon infections seen in travellers
    - AIDS, cysticercosis, cerebral malaria

Clinical Skills

- Counselling skills for genetic risks of inherited conditions

Attitudes

- Pregnancy and women of reproductive age
    - Awareness of prescribing problems
    - Medico-legal awareness
- The Elderly
    - Special needs of elderly patients
- Uncommon infections seen in travellers
    - Suspicion of uncommon conditions in relevant to travelling

36. Neuropaediatrics

Factual knowledge

- Knowledge of paediatric neurological conditions which persist up to adulthood.
- Knowledge of paediatric conditions that can present in adulthood.
- Knowledge of neurological disorders in intrauterine life and childhood; key stages of development and range of normality.
- Knowledge on neurological conditions that present in childhood
- Knowledge of developmental disorders (including effects of intrauterine and perinatal factors on neural development), metabolic conditions, cerebral palsy, learning disability and autism.

Clinical skills

- Ability to evaluate and manage neurological disorders in teenagers in liaison with paediatric neurologists.
- Ability to examine children and teenagers.

Attitudes

- Demonstration of relevant general and professional content competencies.

37. Research and audit methodology

Factual knowledge

- Study designs and levels of evidence
- Research methods
- Statistical tests including tests of significance, regression analysis and risk (relative/attributable risk, odds ratio and NNT) calculations
- Writing a research proposal and ethics committee submission
- Principles of meta-analysis, systematic review and clinical audit
- Methods of clinical audit and the audit cycle
- Critical appraisal of a scientific paper

Skills

- Able to frame the clinical questions
- Able to locate the best evidence (Medline, Cochrane databases)
- Able to critically appraise scientific literature including applicability, validity and impact of individual studies and levels of evidence
- Able to interpret statistics
- Able to design a research project to answer a clinical question and write a research proposal including ethics committee submission
- Able to present research and audit results to a medical audience

Attitudes

- Awareness of the importance of the evidence based medicine
- Appreciation of the ethics of research
- Awareness of the importance of clinical audit

38. Teaching and Training

Factual knowledge

- Understand the meaning of
    - Problem based learning, student based learning, appraisal, assessment types, CPD, revalidation
- To understand that good teaching sessions require careful planning

Clinical skills

- Able to facilitate learning in different circumstances

Attitudes

- Being a role model
- Keen on life-long learning and self-criticism

ANNEXURE 2: FORMAT OF DETAILED PROJECT PROPOSAL

Section 1

1. Name of trainee
2. Name(s) of supervisor(s)
3. Training centre

Section 2

1. Project title
2. Background and justification
3. Objectives of study
4. Research plan
    a. Design
    b. Setting
    c. Method
    d. Sample size and sampling techniques
    e. Outcome measures
    f. Statistical analyses and plan of presentation of results
    g. Ethical considerations
    h. Work plan and time lines
5. References
6. Funding for study
7. Signature of trainee

Section 3

Recommendation of supervisor(s)

Signature of Supervisor 1 Signature of Supervisor 2

Date Date

Section 4

Date of submission to PGIM

Date of approval by BOS Signature of Secretary BOS

ANNEXURE 3: REPORT OF THE RESEARCH PROJECT FOR REVIEWER

1. **Name of Trainee:**

2. **Training Centre:**

3. **Supervisor:**

4. **Reviewer:**

Name:

Designation: Address Official:

Tel//Fax: Email:

5. **Title of Project:**

6. **Please comment on each of the following headings.**

6.1 Introduction : Rationale(Justification) – problem identified and quantified. Hypothesis and expected outcome, impact and relevance of the study.

Comment : …….

6.2 Literature Review: Adequacy (evidence of a systematic search for related. similar, relevant studies)

Comment : …….

6.3 Objectives : Clearly defined, relevant and stated in measurable terms .

Comment : …….

6.4 Method: Appropriate study design to address the objectives with clear detailed description of subjects, sampling technique and sample size, interventions, data collection and management. The study should be, internally valid and reproducible. Where specific details are available in the literature, reference should be made to the original papers, and comments kept to a minimum. If modifications have been made to the published techniques, these should be described in full. Appropriate statistical tests planned should be mentioned and ethical issues addressed

Comment : …….

6.5 Results: Order of presentation and appropriate presentation of tables, figures, graphs. Appropriate statistical analyses and interpretations

Comment :…….

6.6 Discussion: The findings of the study should be discussed taking into consideration findings of relevant studies, within and outside the country. The discussion should not be a repetition of the results only. Limitations should be included.

Comment :……

6.7 Conclusion and recommendation: Based of the results of the study and to address the objectives

Comment : ……

6.8 Limitations: Any inherent and / or inadvertent biases and how they were dealt with.

Comment :……

6.9 References: According to the Vancouver system and relevant to the study. Properly documented in the Bibliography and appropriately cited in the text

Comment : ……

6.10 Institution(s) where work would be carried out:

6.11 Ethical considerations/institution from where ethical approval will be /has been obtained:

Comment : ……

6.12 Overall presentation: Overall presentation of the proposal (grammar, spelling, typographical mistakes etc).

Comment : ……

---

7. Recommendation of reviewer:

Comment : ……

- Is the project report acceptable? Yes / No

- If No, What corrections are required? (Attach a separate sheet of paper if necessary)

Signature: **Date:**

---

8. Recommendation of the Specialty Board in Neurology:

Signature of Chairperson/Secretary: **Date:**

ANNEXURE 4: INSTRUCTIONS TO SUPERVISORS

- The objective of the research project is to prove the trainee's capability to plan, carry out and present his / her own research. The purpose of this training is to ensure maturity, discipline and scholarship in research.
- The supervisor should guide the student in planning and designing, carrying out the research and in presentation of the work.
- The research project must be original and must comprise the trainee's own work.
- It must contribute to existing knowledge relevant to Sri Lanka and afford evidence of originality as shown by independent, critical assessment and / or discovery of new facts in the area under study.
- It should be satisfactory with regard to literary presentation.
- The research project should be certified by the supervisor as suitable for submission.
- General Comments on the contents: The objectives should be clearly stated and should be feasible to achieve within the time frame. Other published work relevant to the problem (both international and local) should be comprehensively and critically evaluated. An appropriate study design and method should be used to achieve the objectives stated. The results should be appropriately analysed, interpreted and presented effectively. The discussion should include comments on the significance of results, how they agree or differ from published work. If they differ, the probable reasons for these differences need to be discussed. Theoretical / practical applications of the results, if any should be given. The conclusions should be valid and be based on the results obtained on the study.
- Ethics: Approval should be obtained by a recognized Ethics Review Committee prior to commencement of the research project.
- If at any time the supervisor is not satisfied with the work progress of the trainee, the trainee should be made aware of the deficiencies and corrective measures suggested. This should be conveyed in writing to the trainee with a copy to the Specialty Board in Neurology. In such instances, a follow-up report should be forwarded within three months or earlier.

ANNEXURE 5: RESEARCH PROGRESS REPORT

To be forwarded by the supervisor to the Specialty Board in Neurology at least once in SIX months

1. **Name of trainee:**
2. **Training Centre:**
3. **Supervisor:**
4. **Title of project:**
5. **Description of work carried out to date:**

To be filled in by trainee: briefly describe progress in lab / field work and report writing

---

Supervisor's comments

6. **Is the work on schedule**? Yes / No
7. **Progress in writing**: satisfactory / unsatisfactory
8. **Constraints** (if any)
9. **Recommendation of supervisor**:

Signature: Date:

---

10. Recommendation of the Specialty Board in Neurology:

Signature of Secretary: Date:

ANNEXURE6: RESEARCH REPORT FORMAT

General instructions
The past tense should be used . The metric system and the International System (SI) of units should be used whenever possible.

Length
The text should *not* exceed4000 words, which equals to approximately 10 pages. With figures, references, etc., the total length is likely to be in the region of 15 - 20 pages.

Submission
The research report should be included in the Portfolio only if the trainee does not succeed in publishing the study in a peer-reviewed journal. If published, only the published article should be included in the Portfolio.

Layout
As presented in research papers in the journal *Lancet Neurology*.

ANNEXURE 7: RESEARCH REPORT MARKING SCHEME

1. Title (05)
2. Author's name and address
3. Abstract (05)
4. Table of contents
5. List of tables
6. List of figures
7. Introduction (10)
8. Objectives (10)
9. Review of literature (10)
10. Materials and methods (15)
11. Results (15)
12. Discussion (including limitations) (20)
13. Conclusion and recommendations
14. Acknowledgements
15. References (05)
14. The overall presentation (05)

To pass the trainee should score 50 % or more. This mark will be part of the overall evaluation of the Portfolio.

ANNEXURE 8: PORTFOLIO

Objectives

To be appointed as a Specialist in Neurology to practice independently in Sri Lanka, on completion of the in-service training after the MD (Medicine) Examination and three years training in neurology, the Trainee should:

a) have administrative and organizational skills
b) be able to clearly document and prioritize problems
c) have skills appropriate to a specialist (diagnostic, operative, counselling, risk management, management of medico-legal issues)
d) have appropriate attitudes
e) be able to carry out and also supervise research and clinical audits
f) be committed to Continuous Professional Development
g) be able to disseminate knowledge effectively
h) be able to communicate effectively
i) have adequate knowledge and skills in Information Technology

Learning outcomes

1. Subject expertise
2. Teaching
3. Research and audit
4. Ethics and medico-legal issues
5. Information technology
6. Life-long learning
7. Reflective practice

The contents of the portfolio should encompass all of the above learning outcomes and contain evidence of achievement of these outcomes by the trainee. Although some of these may have been evaluated before the MD examination, the portfolio assessed at the PBCA should mainly contain evidence of achievements during post-MD training, either locally or overseas. All sections need not be of equal weight – for example, the section on Subject Expertise may be much more detailed than the others.

ANNEXURE 9: MINI-CLINICAL EVALUATION EXERCISE

Study Programme: **Date of Assessment:**

Trainee's Name: **Training Year:** **PGIM Reg. No:**

Assessor's Name: **Designation:**

Brief summary of Case:

Focus: O Data gathering O Diagnosis O Therapy O Counselling

1. **Medical Interviewing Skills**(O Not Observed)
   1 2 3 / 4 5 6 / 7 8 9
   UNSATISFACTORY SATISFACTORY SUPERIOR

2. **Physical Examination Skills**(O Not Observed)
   1 2 3 / 4 5 6 / 7 8 9
   UNSATISFACTORY SATISFACTORY SUPERIOR

3. **Humanistic Qualities/Professionalism**(O Not Observed)
   1 2 3 / 4 5 6 / 7 8 9
   UNSATISFACTORY SATISFACTORY SUPERIOR

4. **Clinical Judgement**(O Not Observed)
   1 2 3 / 4 5 6 / 7 8 9
   UNSATISFACTORY SATISFACTORY SUPERIOR

5. **Counselling Skills**(O Not Observed)
   1 2 3 / 4 5 6 / 7 8 9
   UNSATISFACTORY SATISFACTORY SUPERIOR

6. **Organisation/Efficiency**(O Not Observed)
   1 2 3 / 4 5 6 / 7 8 9
   UNSATISFACTORY SATISFACTORY SUPERIOR

7. **Overall Clinical Competence** (O Not Observed)
   1 2 3 / 4 5 6 / 7 8 9
   UNSATISFACTORY SATISFACTORY SUPERIOR

Rating Scale: Nine point rating scale is used. Rating of 4 is defined as 'marginal" and conveys the expectation that with remediation that the trainee will meet the expected standards.

DESCRIPTORS OF COMPETENCIES DEMONSTRATED DURING MINI-CEX

Medical Interviewing Skills: facilitates patient's telling of story, effectively uses questions directions to obtain accurate information needed, responds appropriately to affect, non-verbal cues.

Physical Examination Skills: follows efficient, logical sequence, balances screening/diagnostic steps for problem, informs patient, sensitive to patient's comfort, modesty

Humanistic/Qualitative Professionalism: shows respect, compassion, empathy, establishes trust, attends to patient's needs of comfort, modesty, confidentiality, information

Clinical Judgement: selectively orders/performs diagnostic studies, considers risks/benefits

Counselling Skills: explains rationale for test/treatment, obtains patient's consent, educates/counsels regarding management

Organization/Efficiency: prioritize, is timely, succinct

Overall Clinical Competence: Demonstrates judgement, synthesis, caring, effectiveness, efficiency

Which aspects of the encounter were done well?

……
……
……
……
……

Any suggested areas for improvement?

……
……
……
……
……

Agreed action:

……
……
……
……
……

Assessor Satisfaction with Mini-CEX

LOW 1 2 3 4 5 6 7 8 9 HIGH

Trainee Satisfaction with Mini-CEX

LOW 1 2 3 4 5 6 7 8 9 HIGH

Comments:……..……..……
……..……
……

Assessors Signature: …… Trainee's Signature:……

ANNEXURE 10: CASE-BASED DISCUSSION

Study Programme: **Date of Assessment:**

Trainee's Name: **Training Year:** **PGIM Reg. No:**

Assessor's Name: **Designation:**

Brief summary of Case:

Setting: O In-Patient O Out-Patient O Emergency O Other (please specify)

8. Medical Record Keeping(O Not Observed)

1 2 3 / 4 5 6 / 7 8 9
UNSATISFACTORY SATISFACTORY SUPERIOR

9. History taking(O Not Observed)

1 2 3 / 4 5 6 / 7 8 9
UNSATISFACTORY SATISFACTORY SUPERIOR

10. Clinical findings and Interpretation(O Not Observed)

1 2 3 / 4 5 6 / 7 8 9
UNSATISFACTORY SATISFACTORY SUPERIOR

11. Treatment/management Plan(O Not Observed)

1 2 3 / 4 5 6 / 7 8 9
UNSATISFACTORY SATISFACTORY SUPERIOR

12. Follow-up and Future Planning(O Not Observed)

1 2 3 / 4 5 6 / 7 8 9
UNSATISFACTORY SATISFACTORY SUPERIOR

13. Professionalism(O Not Observed)

1 2 3 / 4 5 6 / 7 8 9
UNSATISFACTORY SATISFACTORY SUPERIOR

14. Overall Clinical Judgement(O Not Observed)

1 2 3 / 4 5 6 / 7 8 9
UNSATISFACTORY SATISFACTORY SUPERIOR

Rating Scale: Nine point rating scale is used. Rating of 4 is defined as 'marginal" and conveys the expectation that with remediation that the trainee will meet the expected standards.

DESCRIPTORS OF COMPETENCIES DEMONSTRATED DURING CbD

Medical Record Keeping: Understood the need for an accurate and appropriate clinical record

History taking: : facilitates patient's telling of story, effectively uses questions directions to obtain accurate information needed, responds appropriately to affect, non-verbal cues

Clinical Findings and Interpretation: Was able to describe the key issues and their clinical relevance

Treatment/Management Plan: Reviewed and understood the significance of appropriate investigations, requested additional information and was able to formulate a treatment/management plan

Follow-up and Future Planning: Was able to formulate a plan for future care based on knowledge of potential problems and their severity.

Professionalism: Where relevant, knew and followed appropriate standards, guidelines and protocols**.** Selectively orders/performs diagnostic studies, considers risks/benefits

Overall Clinical Judgement and Clinical care: Demonstrates an appropriate, systematic and co-ordinated approach to clinical care.

Strengths

……
……
……
……

Suggestions for development

……
……
……
……
……

Agreed action:

……
……
……
……

Time taken for discussion **mins** **Time taken for discussion** **mins**

Assessor Satisfaction with CBD

LOW 1 2 3 4 5 6 7 8 9 HIGH

Trainee Satisfaction with CBD

LOW 1 2 3 4 5 6 7 8 9 HIGH

Comments:……..……..……
……..……
……
……

Assessors Signature: …… Trainee's Signature:……

- The Case-based Discussion encounter takes approximately 30 minutes, including a 10 minute feedback session.
- The trainee discusses the case(s) with their assessor, including their approach, the results, and reflection on what went well and what they would change in similar situations in the future.
- The assessor may prompt for further information when required.
- The assessor makes notes and rates the trainee's performance on the PGIM Case-based Discussion rating form throughout the session. The assessor provides an overall 'competence' rating based on the outcome of the encounter.
- If a trainee receives a rating which is unsatisfactory, the assessor must complete the 'Suggestions for development' section. The form cannot be submitted if this section is left blank.
- Discussion of the case(s) is immediately followed by feedback from the assessor.
- Feedback should focus on the trainee's clinical decision making skills and include comments on what the trainee did well and areas for improvement.
- If any significant areas for development are identified during the session, the assessor and the trainee should devise a remediation plan.

ANNEXURE11: PROGRESS REPORTASSESSMENT FORM

Name of the trainee : Name of the trainer :

Institution : Period covered :

(Please tick [√] in appropriate cages)

Training modality	***Excellent***	***Good***	***Average***	***Poor***	***Comments***
Clinical skills :- History taking	☐	☐	☐	☐	
Examination	☐	☐	☐	☐	
Clinical decision making	☐	☐	☐	☐	
Use of diagnostic tests	☐	☐	☐	☐	
Procedural / Technical skills	☐	☐	☐	☐	
Doctor-patient relationship	☐	☐	☐	☐	
Communication skills	☐	☐	☐	☐	
Staff relationships	☐	☐	☐	☐	
Professional responsibility	☐	☐	☐	☐	
Participation in research activities	☐	☐	☐	☐	
Participation in Seminars,	☐	☐	☐	☐	
Case presentations/audits etc.	☐	☐	☐	☐	
Punctuality	☐	☐	☐	☐	

Attitudes ☐ ☐ ☐ ☐

Overall assessment at the end ☐ ☐ ☐ ☐

General / Specific comments

.....
.....

.....
.....

Signature of Trainer :- Date :-

Designation :-

ANNEXURE 12: PEER TEAM RATING (PTR)

PTR FORM

(Rater Assessment 1-20)

PGIM Roll No. **Date of assessment (DD/MM/YY)** **Year training**

PGIM/ | | | | | | **/** | | | **-** | | | | | | | | | ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6

Name of Rater

(You can remain Anonymous)

Please indicate your profession by filling in one of the following circles

○ Consultant ○ Registrars ○ SHO or HO ○ Other Specify

○ Allied Health Professional ○ SR ○ Clerical or Secretarial Staff **……**

Please mark one of the circles for each component of the exercise on a scale of 1 (extremely poor) to 9 (extremely good). A score of 1-3 is considered unsatisfactory, 4-6 satisfactory and 7-9 is considered above that expected, for a trainee at the same stage of training and level of experience. Please note that your scoring should reflect the performance of the trainee against that which you would reasonably expect at their stage of training and level of experience. You must justify each score of 1-3 with at least one explanation/example in the comments box, failure to do will invalidate the assessment. Please feel free to add any other relevant opinions about this doctor's strengths and weaknesses.

THE PTR IS NOT AN ASSESSMENT OF KNOWLEDGE OR PRACTICAL SKILLS

1. Attitude to staff: Respects and values contributions of other members of the team			
○ Don't know	○ 1 ○ 2 ○ 3	○ 4 ○ 5 ○ 6	○ 7 ○ 8 ○ 9
	UNSATISFACTORY	SATISFACTORY	ABOVE EXPECTED
2. Attitude to patients; Respects the rights, choices, beliefs and confidentiality of patients			
○ Don't know	○ 1 ○ 2 ○ 3	○ 4 ○ 5 ○ 6	○ 7 ○ 8 ○ 9
	UNSATISFACTORY	SATISFACTORY	ABOVE EXPECTED
3. Reliability and punctuality			
○ Don't know	○ 1 ○ 2 ○ 3	○ 4 ○ 5 ○ 6	○ 7 ○ 8 ○ 9
	UNSATISFACTORY	SATISFACTORY	ABOVE EXPECTED
4. Communication skills: communicates effectively with patients and families			
○ Don't know	○ 1 ○ 2 ○ 3	○ 4 ○ 5 ○ 6	○ 7 ○ 8 ○ 9
	UNSATISFACTORY	SATISFACTORY	ABOVE EXPECTED
5. Communication skills: communicates effectively with healthcare professionals			
○ Don't know	○ 1 ○ 2 ○ 3	○ 4 ○ 5 ○ 6	○ 7 ○ 8 ○ 9
	UNSATISFACTORY	SATISFACTORY	ABOVE EXPECTED
6. Honesty and Integrity, do you have any concerns?	○ **Yes**	○ **No**	
7. Team player skills: Supportive and accepts appropriate responsibility; Approachable			
○ Don't know	○ 1 ○ 2 ○ 3	○ 4 ○ 5 ○ 6	○ 7 ○ 8 ○ 9
	UNSATISFACTORY	SATISFACTORY	ABOVE EXPECTED
8. Leadership skills: Takes responsibility for own actions and actions of the team			
○ Don't know	○ **1** ○ **2** ○ **3**	○ **4** ○ **5** ○ **6**	○ **7** ○ **8** ○ **9**
	UNSATISFACTORY	SATISFACTORY	ABOVE EXPECTED

9. OVERALL PROFESSIONAL COMPETENCE

○ Don't know	○ **1** ○ **2** ○ **3**	○ **4** ○ **5** ○ **6**	○ **7** ○ **8** ○ **9**
	UNSATISFACTORY	SATISFACTORY	ABOVE EXPECTED

Comments about the trainee (BLOCK CAPITALS PLEASE) – Write in English/ Sinhala/ Tamil

Your (You can remain Anonymous) **Signature:**

Please place form in the attached self addressed envelope and return to the PGIM (PTMU) named on the envelope. DO <u>NOT return to the Registrar or Senior Registrar</u>.

We are very grateful for your independent and honest rating our all trainees.