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**PROPOSAL FOR STARTING PDF IN NEUROCRITICAL CARE BY Neurocritical care society of India (NCSI)**

As per the request of the Executive Body, the education committee of NCSI discussed the issue of starting a one year PDF (Neurocritical Care) course.

Now it is well established that many acute neurological conditions are eminently treatable provided correct principles are understood by the treating team and the care is delivered expeditiously. To achieve these goals a specialised training is required for physicians managing these cases. Considering the need of trained professionals of neurocritical care in the country, NCSI has initiated this proposal

The institutions providing such a course should be well-equipped, must have a good patient load and must have competent teaching staff. With that idea the following recommendations are made with respect to the hospitals which can offer this course:

1. The hospital must have active Neurology and Neurosurgery Departments
2. Neurointerventional procedures should also be performed in the centre
3. Anaesthesia department should have designated Neuroanaesthetists
4. The hospital must have an exclusive Neurocritical Care Unit of not less than 6 beds
5. The critically ill patients requiring mechanical ventilation for > 48 hrs has to be at least 40-50 patients in a year.
6. It is preferred to have a full-time consultant in charge of the NeuroICU. The consultant should have an experience of at least 5 years in managing Neurocritical care patients.
7. At least two faculty members should be available for starting the course. One consultant/senior consultant and at least one junior consultant.
8. There should be adequate number of ventilators and monitors to monitor ECG, blood pressure, SpO2, capnometry and invasive blood pressure.
9. There must be a blood gas analyser.
10. There must be a round the clock biochemistry laboratory, and CT scanning facility
11. Facilities to monitor Intracranial pressure, Transcranial blood flow velocity and EEG monitoring must be present.
12. Cardiac output monitoring, Near-infrared spectroscopy, brain tissue oxygen tension monitor, cerebral microdialyis, evoked potential monitor, and jugular venous oximetry are desirable.
13. In case of any shortfall in the parameters, the inspectors should take a final call based on all the facilities and parameters available.

**PDF in Neurocritical Care**

1 **Title of the the Course**: PDF in Neurocritical Care

3 **Duration of the course:** One year duration.

4 **Eligibility for admission**

1. DM in Neuroanaesthesia or Neurology or Critical Care Medicine or MCh in Neurosurgery.

OR

 (ii) MD/ DNB in Anaesthesiology or General Medicine or Paediatrics or Emergency Medicine along with one year recognized experience in Neurosciences / Critical care after the post graduation.

5 **Age limit:** nil

6 **Mode of Admission:** The procedures followed in the respective institutions to be followed along with the above mentioned criteria

7 No. of seats To be decided after inspection of the hospital by the NCSI

8. Aims and objectives of the course

 The objectives of the course are to

 a) Prepare the physicians for practice of neurocritical care.

 b) Improve the academics related to neurocritical care.

9 **Attendance**

 Not less than 90% of the duration of the fellowship

10**. Monetary Benefits**

 The selected candidates will be eligible for monetary benefits as per the norms of the hospital. But it is encouraged that the monthly emoluments be equal to senior resident’s pay of the central institutes.

11. **Rotation within and outside the institute**

 The candidates will have rotations in the departments of Neurology, Neurosurgery, Neuroradiology and such other departments/as the course coordinator considers appropriate in consultation with the Head of the department. Similarly, the duration of such postings shall be determined by the course coordinator in consultation with the head of the department. Few weeks of observation in another ICU/ neuro ICU would be preferable. **In any case, such rotation should not exceed a total period of 3 months.**

13. **Scheme of examination and Method for assessment**

 At the end of one year period of training a written test and viva voce examination will be conducted by the NCSI.

14. **Board of Examiners**: Two examiners with not less than 10 years of experience in Neuroanaesthesia and Neurocritical Care as appointed by NCSI

15. **Syllabus / content of the course**

**Curriculum**

* Airway, Mechanical Ventilation and Management of Respiratory Disease
* Fluids, Acid -Base Electrolyte disturbance
* Cardiovascular monitoring and complications
* Endocrine issues in Neurocritical Care
* Nutrition and Metabolism in Neurocritical Care
* Non Neurological Trauma
* Sedation and Analgesia
* DVT, Pulmonary thromboembolism and Thromboprophylaxis
* Glycemic Management in Neurocritical care
* Renal function management
* Gastrointestinal issues in Neurocritical care
* Dermatological issues in Neurocritical care
* Pharmacology in Neurocritical Care
* Traumatic Brain Injury
* Traumatic Spinal cord injury
* Non traumatic weakness and acute neuromuscular dysfunction
* Acute ischemic stroke
* Intracerebral Hemorrhage
* Subarachnoid hemorrhage
* Neuroinfectious disease
* Perioperative Neurosurgical critical care
* Infection prevention, control and management
* Seizures and status Epilepticus
* Delirium and encephalopathy
* Hypoxic ischemic cerebral injury after cardiac arrest
* Coma
* Brain Death evaluation, certification and management of deceased organ donar
* Multimodal Neuro Monitoring
* POCUS in Neurocritical care
* Neuroimmunology in Neurocritical care
* Neuroradiology
* Neurocritical Care Nursing Considerations
* Pregnant Neurocritical care patient
* Pediatric Neurocritical Care
* Neuro Rehabilitation
* Prognostication in Neurocritical Care
* Palliative care
* Neurocritical care outreach

**Didactic Components**

Trainees will regularly attend departmental teaching program which includes seminars and journal clubs including related case scenarios, seminars in neurology, neurosurgery and neuroradiology. Trainees will learn about major developments in both the basic and clinical sciences relating to critical care, neurology, neurosurgery, and neuroradiology.

**Documentation**

Log Book:

Each fellow will keep a log of all patients admitted to the ICU including dates, diagnosis, management, complications and outcome. A log of procedures carried out should also be maintained.