Fellow Responsibilities in the NeuroCare Unit (NCU)

During their months in the NeuroCare unit, critical care fellows are expected to become proficient in the evaluation and management of neurological and neurosurgical diseases as well as their attendant co-morbidities. Further, it is expected that she or he will assume a leadership role in concert with the NCU attending. Specific duties and functions are delineated below:

Patient Care

The NeuroCare fellow will coordinate and manage the patient flow of the unit with advice and guidance from the attending intensivist. The level of attending involvement will be based on the fellow's experience and willingness to assume a leadership role. The fellow will ensure that the patient care delivered is compassionate, appropriate, and effective. Patients will be managed according to evidence-based guidelines and protocols to the extent practical and/or possible. The fellow work closely with advanced practice nurses, who are integral members of the critical care team. It is the fellow's responsibility to coordinate the care teams, including the primary service, consultation services, and ancillary services.

Medical Knowledge

It is imperative that critical care trainees expand their fund of knowledge in neurocritical care during their months in the NCU. Achieving this aim involves attending didactic lectures, studying online materials, and participating in conferences. It is the attending intensivist's role to motivate and help the ICU trainee to learn about the biomedical, clinical, and cognate aspects of neurocritical care, which are continually evolving.

Didactic Teaching

A core aspect of communication is teaching others the principles of critical care, thereby improving the knowledge base of both instructor and learner. A suggested teaching curriculum for neurocritical care fellows is outlined below:

Coma management
ICP and external ventricular drain (EVD) management
Status epilepticus
Myasthenia gravis
Guillian-Barre syndrome
Spinal cord injury and diseases
Sub-dural and epidural hematoma management
Sub-arachnoid hemorrhage management
Ischemic and embolic stroke management
Brain tumor management
Movement disorder management
EEG, SSEPS and EMG monitoring
Ethics end of life care issue and brain death examination

Practice-based Learning and Improvement

In addition to improving her or his knowledge base, the critical care fellow must continually strive to critically appraise her or is patient care and solicit appraisal from nursing staff,

residents, patients, attending, etc. The trainee should be cognizant of patient safety initiatives and know related protocols. These include but not limited to prevention of ventilator-associated pneumonia (VAP), catheter-related blood stream infections (CRBIs), urinary tract infections (UTI's), and in-hospital falls.

Interpersonal and Communication Skills
Good communication is central to providing safe and effective patient care. The critical are fellow is responsible for interacting with all members of the critical care staff to coordinate care. Some specific communication roles are as follows:

Patient Rounds
The fellow determines the time for morning and afternoon rounds and conducts them in lieu of the attending when feasible. However, the expectation is that the attending be immediately available and will able to mentor the fellow when needed.

Patient/Family Support
Establishing a warm rapport with patients and their families and integrating them into the critical care team is an essential duty for critical care trainees. Fellows are expected to meet with patients family members to discuss the daily care plan and answer questions whenever they arise. The fellow will also coordinate and lead family conferences under the supervision of the attending intensivist.

Professionalism
Fellows in the NCU are expected to perform their duties in professional and timely manner, adhere to ethical principles, and respect the needs of the patient population, which is increasingly diverse. **Unexcused absences will be reported to the fellowship director and may be grounds for failure to pass the rotation.**

Systems-based Practice
Critical care trainees are expected to demonstrate an awareness of the larger system of healthcare in which they work and be able to call upon system resources to provide optimal patient care. Such resources include nutritional services, physical therapy, and palliative care, among others.

Procedure-based Learning
The fellow will supervise medical students, interns and residents during procedures at the discretion of the attending intensivist. It is expected that the fellow will supervise all procedures unless she or he has limited or no experience with the task being performed. If possible, the fellow should perform the procedures that are time-sensitive in nature, those that must be done emergently, and those that may increase the risk to the patient if not preformed smoothly. **Proper sterile technique MUST be used for any procedure unless the time required to do so would compromise patient care** (such instances are very rare).

<u>Basic NCU procedures include</u>:
Arterial lines
Central venous catheters. Ultrasound guidance should be used whenever possible.
Bronchoscopy, therapeutic and diagnostic

Thoracentesis
Thoracostomy tube placement
Lumbar subarachnoid punctures for CSF sampling
Endotracheal intubation

Miscellaneous

Call
The NCU fellow will share evening telephone/pager call with the attending intensivist upon request, usually on an alternating daily basis. The fellow will remain in house until all elective patients are out of the operating room and have been stabilized for the night on an alternating basis with the attending. Patient care and education is paramount but remain vigilant about the 80 hour work week and the 10 hour time period away from the bedside.
The Fellow is expected to take two week-end calls per month (Friday, Sunday rounding and taking call, Saturday rounding to maintain continuity of care and communication OR Saturday call, coming in to round on Sunday to maintain continuity of care and communication).

Selected References[1-19]
The references listed below are excellent sources of both expansive and concise information on all aspects of neurological and neurosurgical care. References 3-17 comprise guidelines for the management of acute severe neurological trauma.

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14. Bratton SL, Chestnut RM, Ghajar J, et al. XII. Nutrition. *Journal of Neurotrauma.* 2007;24(supplement 1):S-77-S-82.
15. Bratton SL, Chestnut RM, Ghajar J, et al. XIII. Antiseizure Prophylaxis. *Journal of Neurotrauma.* 2007;24(supplement 1):S-83-S-86.
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18. Broderick J, Connolly S, Feldmann E, et al. Guidelines for the Management of Spontaneous Intracerebral Hemorrhage in Adults: 2007 Update: A Guideline From the American Heart Association/American Stroke Association Stroke Council, High Blood Pressure Research Council, and the Quality of Care and Outcomes in Research Interdisciplinary Working Group: The American Academy of Neurology affirms the value of this guideline as an educational tool for neurologists. *Stroke.* June 1, 2007 2007;38(6):2001-2023.
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