

# Neuro critical care - how it makes a difference in neurology

## Editorial

With the advent of acute stroke therapies and new research there is increased understanding of the pathophysiology of primary and secondary brain injury and the interplay of the neurological system and its disorders and other organ system putting neuro scientists into an active role in patient care in ICU. Neuro critical care or intensive care neurology is a growing body of knowledge that has shown to improve patient care. Neuro critical care is attracting a multi professional group of practitioners into the workforce. These individuals play an important role not only in the delivery of care to neurological critically ill patients but are key to the advocacy, education, prevention and research to help improve outcomes.

How does neuro critical care expertise make a difference? A neuro intensive care unit is a multi professional team of physicians, nurses and pharmacists specially trained for neuroscience critical care. The backbone of the neuro intensive care unit is the nursing staffs. The physician team will include a neuroscience trained physician (Neurologist/Neurosurgeon) and an Intensivist trained in Pulmonologist, Anaesthesiology, internal medicine or surgery. The diagnosis and management of life threatening neurological diseases and recognition of the interplay with other medical conditions and organ system is essential.

Other than improved patient care, presence of a neuro Intensivist showed better adherence to protocols. Also there are improved education sessions to the nursing staffs, respiratory therapists, pharmacists and house staffs focussing on team work and implementation and adherence to guidelines for improved patient care and outcome.

The quality in neuro critical care can be broken into several key areas

1. Development and adherence to standardized evidence-based practices for preventing hospital acquired conditions and emphasis on patient safety.
2. Regular review of quality metrics to identify areas in need of improvement.
3. Development of quality projects and initiatives to correct deficiencies.<sup>1-5</sup>

The intensive care facilities (as per Bethesda conference) can be divided into- Intensive care, high care, medium care and low care. The two main criteria for this classification were the availability of technological resources and human resources. The care of critically ill patients by intensivist and critical care nurses can improve patient related outcomes as well as achieve a more efficient use of available resources. Improved outcomes include reduction in rate of infection, decreased complications, reduced length of stay and decreased mortality.<sup>6</sup>

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The focus on preventing hospital acquired complications is a major focus of quality improvement movements in intensive care settings nationwide. There are two main motivations for this

- a. Preventing line infections, DVTs and UTIs, a relatively straightforward mission, with easily identifiable patient end points that markedly impact patient care in a positive manner.
- b. Reimbursement to hospital is reduced for hospital acquired conditions, so there is a considerable financial incentive for institutions to reduce these events.

Krimsy et al.<sup>7</sup> reported a single institutional experience implementing patient safety programs in an ICU setting. 3 Specific interventions were implemented-DVT prophylaxis in non ambulant patients, ventilatory associated pneumonia prophylaxis in ventilated patients and stress ulcer prophylaxis. Along with this nursing and physical education, team building exercises, enhancing communication and handoffs, and mandatory documentation where implemented. The whole project was very successful with almost 100% compliance.<sup>7</sup>

Communication is a critically important skill in the critical care ICU linking physicians, advanced practitioners, nurses, respiratory therapists, dieticians and most importantly the patients and their families. Quality care is impossible without proper and effective communication. It's very important that the medical care takers know about the patient's wishes before providing the optimal treatment.<sup>8</sup> There is a perfect storm of social demand for improvement in quality and safety as well as economic and regulatory pressures due to soaring health care expenditures. The patient should be provided not only the best possible treatment, but the right thing, at the right time in the right way for the right person with the best possible results.

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## Conflicts of interest

None.

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