



Preface

Neurocritical Care Past, Present, and Future



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Editors

In this issue, we have attempted to portray the evolution of both the science and the field of Neurocritical Care from its organic origins out of the polio epidemic to its reemergence as one of the burgeoning subspecialties in the landscape of modern critical care. Despite the remarkable growth in number of board-certified neurointensivists, specialty trained advanced practice providers, pharmacists, nurses, respiratory therapists, and other allied health care professionals, there continues to be a severe shortage of neurocritical care programs throughout the world. As such, patients with neurologic failure or who are at high risk for neurologic failure continue to be cared for by nonneurointensivists in a variety of general and other specialty intensive care units (ICUs). These units and their providers play a crucial role in the ability of these patients to achieve their best possible functional outcome. The validation of neurocritical care-specific quality metrics is much anticipated to provide support and guide practice as well as fund allocation efforts.

The recognition of neurocritical care as an Accreditation Council for Graduate Medical Education (ACGME) -accredited subspecialty in 2021 marked a crowning moment for the many pioneers and visionaries who have deliberately persevered toward this status. A glimpse into the development of neurocritical care education is included as many institutions seek to add ACGME accreditation to their existing programs.

Neurocritical Care research is a rapidly expanding area that focuses on crucial clinical issues and the need to understand gaps in our current knowledge. The Curing Coma Campaign underway by the Neurocritical Care Society is one example of the vast international and multidisciplinary research collaborations in the field.

With respect to the practice of neurocritical care, we review fundamentals for bedside management as well as the state of the science for acute ischemic stroke, subarachnoid and intracerebral hemorrhage, status epilepticus, neurotrauma and

elevated intracranial pressure, death by neurologic criteria, neuromuscular weakness, neuroprognostication, neurocritical care in the general ICU, neuropharmacology, multimodal monitoring, and the emerging field of big data science and artificial intelligence in neurocritical care. Technology and advanced diagnostics are opening new avenues of investigation and patient care. In summary, the future of the field is bright with ongoing rapid scientific discovery in all areas. We are both honored and excited for this opportunity to provide a review of our specialty, updates in clinical care of critically ill neurologic patients, and a glimpse into some of the advances in our field with the readers.

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