

Chapter 1

The Role of Advanced Practice Clinicians in the Neuroscience ICU

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The field of neurocritical care encompasses a broad range of neurological pathology and requires a multidisciplinary approach to provide best patient care. At institutions across the country, physicians work alongside physician assistants and nurse practitioners to care for neurologically ill patients. This collaborative relationship serves to provide an ideal complement of specialized medical knowledge and experienced bedside care. Stemming from a historical genesis in primary care practice, the fundamental education of nurse practitioners and physician assistants is general by design, including basic principles of medical science and clinical management. This educational foundation offers the benefit of professional flexibility and the ability to adapt to a myriad of subspecialties; however, such adaptation requires continued focused learning when entering a subspecialty to acquire advanced understanding of patient care. Recognizing this challenge, we embarked on a

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J.L. White, K.N. Sheth (eds.), *Neurocritical Care for the Advanced Practice Clinician*, DOI 10.1007/978-3-319-48669-7_1

project to meet the knowledge needs of physician assistants and nurse practitioners that have selected neurocritical care as their field of practice.

Many terms have been used to describe the collective role of physician assistants and nurse practitioners—midlevel provider, nonphysician provider, and advanced practice provider among them. For the purposes of this project, the term advanced practice clinician (APC) is used to encompass both professions. The role of APCs has evolved considerably over the past several decades. Both professions were developed in the 1960s to adjunct a shortage of primary care providers in the United States. The implementation of restrictions on house staff work hours in the 1990s set the stage for the rapid expansion of the APC role into the hospital setting [1, 2]. This role of APCs working in inpatient medicine has grown substantially since that shift. In 1995 the acute care nurse practitioner certification was developed for the purpose of focusing training on caring for critically ill patients. This certification now represents the fifth most common area of practice for nurse practitioners [3]. Similarly, a hospital medicine specialty certification is available for physician assistants and ~25% of these professionals now work in hospital settings [4]. As the medical community is faced with continued projections of physician shortages across the board, the role of APCs in the inpatient realm is projected to increase [1, 2, 5]. The field of neurocritical care has experienced significant growth in recent years, outpacing the growth of residency and fellowship training programs. Across the country, this rapid expansion has provided a considerable opportunity for APCs to enter the field of neurocritical care and work in a dynamically evolving area.

Given this shift in scope of practice, it has been imperative to provide APCs with the training and experience necessary to provide exemplary care to the critically ill. In intensive care units across the country, it has been shown that nurse practitioners and physician assistants provide appropriate medical care to ICU patients, as measured in rates of morbidity and mortality [6, 7]. Beyond these measurements, there are also established

benefits of integrating APCs into intensive care units. APCs offer a unique level of experience and continuity of care that can result in improved compliance with clinical guidelines [8], decreased length of stay, and overall cost savings [9–11].

Intensive care units have integrated APCs in a variety of ways—some by developing units staffed by APCs alone, others by creating multidisciplinary teams of APCs and physicians. Regardless of the chosen structure, APC staffing can aid in providing sustained clinical expertise to bedside care, particularly in settings where house staff work on rotating schedules. In the challenging environment of the intensive care unit, the presence of seasoned clinicians to give support to physicians-in-training provides significant benefits. Survey data from academic institutions indicate that APCs are perceived as an effective complement to physicians-in-training, enhancing patient care through improved communication and continuity of care [12]. Furthermore, APCs contribute to the training of residents by reducing their workload, reducing patient-to-provider ratios, and increasing didactic educational time [13].

The neurocritical care community has experienced this shift in staffing along with the rest of the critical care realm. In keeping with broader trends, APCs working in neurocritical care are seen as promoting effective communication, a team environment, and, most importantly, timely identification of patients with neurological deterioration [14]. However, this impact does not come without dedicated learning and experience. The field of neurocritical care includes a unique spectrum of neurological disease and much of the expertise required to skillfully care for neuroscience ICU patients is not addressed in the general education of the APCs. The purpose of this book is to bridge the gap between the foundational medical education of APCs and the fundamentals of the neurocritical care subspecialty. By discussing common neurocritical topics as presented by a multidisciplinary collection of leaders in the field, we hope to engage and empower the continued expansion of the role of advanced practice clinicians in neurocritical care.

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