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3rd Series

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Edited by:
EELCO F. M. WIJDICKS
ANDREAS H. KRAMER

CRITICAL CARE NEUROLOGY

PART II

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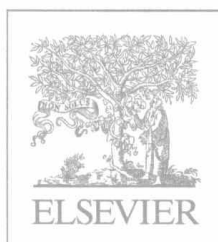
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Volume Editors

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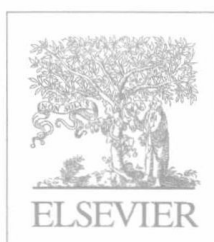
PART II

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Foreword

Modern hospitals in the developed countries have changed remarkably in character over the last quarter-century, no longer serving as a hospice for the chronically sick. Instead, their focus is now primarily on surgical patients requiring perioperative care, patients requiring a procedural intervention, and patients with critical illnesses requiring care in the intensive care unit because of the complexity of their disorders. In the same manner as many other medical disciplines, neurology has become for the most part an outpatient specialty. Patients requiring surgery or with complex neurologic disorders necessitating a multidisciplinary approach and constant monitoring now make up a large component of the patients admitted to hospital and seen by neurologists. It was with this in mind that we felt the need to include critical care neurology within the embrace of the *Handbook of Clinical Neurology* series. To this end, we approached two leaders in the field to develop the subject, and are delighted that they agreed to do so and with what they have achieved.

Eelco Wijdicks is professor of neurology and chair of the division of critical care neurology at the Mayo Clinic College of Medicine, Rochester, Minnesota, and is a well-known author and the founding editor of the journal *Neurocritical Care*. Andreas H. Kramer is a clinical associate professor in the departments of critical care medicine and clinical neurosciences at the Hotchkiss Brain Institute of the University of Calgary, in Alberta, Canada. Both are leaders in the field of neurointensive care, with wide experience in patient management and an international record in developing evidence-based guidelines for optimizing patient care. Together they have developed two volumes of the *Handbook* to cover the pathophysiology and treatment of patients with acute neurologic or neurosurgical disorders requiring care in the intensive care unit (Volume 140), or with neurologic complications that have arisen in the setting of a medical or surgical critical illness (Volume 141).

Forty-one chapters deal with all aspects of these disorders, including ethical and prognostic considerations. Many of the management issues that are discussed in these pages are among the most difficult ones faced by contemporary clinicians, and the availability of these authoritative reviews – buttressed by the latest advances in medical science – will increase physician confidence by providing the most up-to-date guidelines for improving patient care. We are grateful to Professors Wijdicks and Kramer, and to the various contributors whom they enlisted as coauthors, for crafting two such comprehensive volumes that will be of major utility both as reference works for all practitioners and as practical guides for those in the front line.

As series editors, we reviewed all of the chapters in these volumes, making suggestions for improvement as needed. We believe that all who are involved in the care of critically ill patients in the hospital setting will find them a valuable resource. The availability of the volume electronically on Elsevier's Science Direct site should increase their accessibility and facilitate searches for specific information.

As always, we extend our appreciation to Elsevier, our publishers, for their continued support of the *Handbook* series, and warmly acknowledge our personal indebtedness to Michael Parkinson in Scotland and to Mara Conner and Kristi Anderson in California for their assistance in seeing these volumes to fruition.

Michael J. Aminoff
François Boller
Dick F. Swaab

Preface

New subspecialties in neurology continue to germinate, and critical care neurology (also known as neurocritical care) is one of the more recent ones. The field has matured significantly over the last two decades, and a neurointensivist is a recognizable and legitimate specialist. The field involves primarily the care of patients with an acute neurologic or neurosurgical disorder. These disorders are life-threatening because the main injury may damage critical structures and often affects respiration and even the circulation. A neurologic complication may also appear *de novo* in the setting of a medical or surgical critical illness. These two clinical situations form the pillars of this field and therefore justify two separate volumes. In these two books we include traditional sections focused on epidemiology and pathophysiology, but others are more tailored towards management of the patient, sections we think are informative to the general neurologist. Therapeutic interventions and acute decisions are part of a daily commitment of a neurointensivist. We assumed that a focus on management (and less on diagnostics) will be most useful for the reader of this handbook series. The immediacy of management focuses on prevention of further intracranial complications (brain edema and brain tissue shift, increased intracranial pressure, and seizures) and systemic (cardiopulmonary) insults.

We have written extensively on many of these topics but in these two volumes we let other practitioners write about their practice, experiences, and research. They have all made a name for themselves and we are pleased they were able to contribute to this work. Although the major topics are reviewed, we realize some may have been truncated or not covered because we tried to avoid a substantial overlap with other volumes in the series.

This is a contributed book with all its inherent quirks, stylistic mismatches, and inconsistencies, but we hope we have edited a text that is more than the sum of its parts. We appreciate the fact that the series editors of the *Handbook of Clinical Neurology* recognized this field of neurology. Herein, we are making the argument that delivery of care by a neurointensivist is an absolute requirement and its value for the patient is undisputed. Still, the best way to achieve this is through integrated care, and neurointensivists can only function in a multidisciplinary cooperative practice. The new slate of neurointensivists in the USA can be certified in neurology, neurosurgery, internal medicine, anesthesiology, or other critical care specialties and time will tell if this all-inclusiveness will dilute or strengthen the specialty. One fact is clear: our backgrounds are different and this significantly helped in shaping this volume.

We thank the editors of the series – Michael Aminoff, Francois Boller, and Dick Swaab – for inviting us three years ago to prepare these volumes. We must particularly thank Michael Parkinson and Sujatha Thirugnana Sambandam, who steered the books to fruition.

I—Eelco Wijdicks—know the series very well and when I did my neurology residency in Holland in the early 1980s it was known as “Vinken and Bruyn,” and residents and staff would always look there first to find a solution for a difficult patient, to read up on an usual disorder or to understand a mechanism. I admired the beautiful covers and authoritative reviews and I remember it had a special place in our library. I was thrilled to see the complete series in the Mayo Neurology library when I arrived in the USA.

We are both honored to have contributed to this renowned series of clinical neurology books.

Eelco F.M. Wijdicks
Andreas H. Kramer

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