

# Neuroanesthesia and Cerebrospinal Protection

Hiroyuki Uchino  
Kazuo Ushijima  
Yukio Ikeda *Editors*

*With contrib. by*  
Jeremy Williams  
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# Foreword

I am honored and privileged to accept the invitation of the editor and publisher of the textbook *Neuroanesthesia and Cerebrospinal Protection* to write this foreword.

In the past decades, neuroanesthesia underwent a rapid evolution in developing from a curiosity- and expertise-based approach of the early days into a distinguished high profile subspecialty. This merit was possible by pioneer work, the vision of our teachers and the generation of public and political recognition and support (“decade of the brain”) with consecutive funding of basic and clinical research throughout the world. Likewise, guidelines, structured subspecialty trainings and fellowship programs were implemented in high- and middle income countries. Today, all of these efforts are expressed in a significant reduction in perioperative morbidity and mortality of patients with neurological disease.

While we do live in a world of almost unlimited availability of information technology, the use of textbooks is still very much justified and appropriate because they represent an important mix of evidence and expertise. Textbooks, written by intellectual, educated, and experienced experts in their field, represent the holistic approach to a clinical problem well ahead of randomized control trials, meta-analyses or guidelines. While I absolutely respect these modules of evidence based medicine, textbooks can incorporate all of the available information into a “perioperative school of neuroanesthesia”, representing a symbiosis of the art and science of neuroanesthesia.

The present textbook is a comprehensive, perfectly structured, knowledge-based opus that covers the anatomy, neurophysiology, and neuropharmacology needed to understand the distinguished management of cerebrospinal protection and clinical neuroanesthesia. It represents a profound source of information for physicians that intend to subspecialize in neuroanesthesia but will also serve as a guide for the occasional neuroanesthesiologist. This textbook is a timely and focused share of

evidence and expertise most extensive and accurate in depth and width and it will certainly guide the reader to improve perioperative care of patients with neurological disease.

Mainz, Germany

Christian Werner

# Preface

The main purpose and aim of neuroanesthesia is not only to perform cerebrospinal protection during neurosurgical and cardiovascular surgeries but also to prevent perioperative cerebrospinal injury. The choice of anesthetics and their management sometimes may not be adequate for the pathogenesis of the patients. How should we select the best anesthetic management to prevent neurological complications for patients who undergo different types of surgeries for conditions such as subarachnoid hemorrhage, stroke, and head trauma, as well as for carotid endarterectomy or cardiovascular surgery under cardiopulmonary bypass? These pathological conditions carry with them the risk of transient cerebrospinal ischemia, and if our management is inept, it may induce serious neurological sequelae. To establish the treatment and elucidate the molecular mechanisms of cerebrospinal injury is urgently needed; however, because their many components are intertwined, some important issues have not yet been resolved.

The title *Neuroanesthesia and Cerebrospinal Protection* represents a knowledge-based book that includes the anatomy, neurophysiology, and neuropharmacology to perform the necessary management and cerebrospinal protection during neuroanesthesia, with perspectives on each of those aspects. Aiming especially to convey readily comprehended information about neuroanesthesia, we have introduced the surgical techniques of neurosurgery, cardiovascular surgery, neuromodulation, and other procedures. In this book we also have tried to facilitate an understanding of the management of neuroanesthesia not only for primary residents but also for specialists. We would like to recommend keeping this book at your side to stay well informed of current perspectives on neuroanesthesia.

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