Preface

Our first book, entitled *Animal Models of Acute Neurological Injuries*, published by Humana Press/Springer (ISBN: 978-1-60327-184-4), was a great success. In that book, we constructed a benchwork manual for the most commonly used animal models of acute neurological injuries, including cerebral ischemia, hemorrhage, vasospasm, and traumatic brain, and spinal cord injuries. Since its publication, the book has been well received by both clinical and basic researchers due to its practicality.

Since the animal models for acute neurological injuries are in place, our next goal, i.e., the goal of these books, was to construct chapters on assessing these disorders from cells and molecules to behavior and imaging. These comprehensive assessments are the key for understanding disease mechanisms as well as developing novel therapeutic strategies to ameliorate or even prevent damages to the nervous system.

The layout of these books is disease/disorder oriented, which encapsulates several parts, including sections on global cerebral ischemia, focal cerebral ischemia, neonatal hypoxia-ischemia, subarachnoid hemorrhage, cerebral vasospasm, intracerebral hemorrhage, traumatic brain injury, traumatic spinal cord injury, and general assessments. Each part includes coverage of morphological, physiological, biochemical, neurobehavioral, and neuroimaging assessments. In general, each begins with an introductory discussion on the availability and selection of specific assessments for specific injury models as well as their pros and cons. In some chapters, the assessments are divided according to levels of importance into “recommended methods” that are well established and most extensively used, or “alternative methods” that depict less extensively used assessments that have their own utility.

These books are designed to provide both expert guidance and step-by-step procedures, along with multiple photographs and/or schematic drawings on assessments of acute neurological injuries. Throughout each chapter, the readers are aided in understanding what, why, when, where, and how a particular assessment is used. We hope that these books can be useful for trainees or beginners in their assessments of acute neurological injuries, for experienced scientists from other research fields who are interested in either switching fields or exploring new opportunities, and for established scientists within the field who wish to employ new assessments.

We are grateful to all chapter contributors for their time, effort, and dedication. It would be impossible to publish these books without their significant contributions. Finally, we hope that the volumes will be useful for students, postdoctoral fellows, and clinical and basic scientists who would like to study acute neurological disorders.

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