Principles and Practice of Emergency Neurology

This handbook provides the expertise of the emergency physician–neurologist editorial team from the acclaimed comprehensive text *Emergency Neurology* in a readily accessible reference tool for the emergency department. With a symptom-based emphasis, the text, tables, and illustrations guide the emergency physician in the recognition, diagnosis, and management of neurological disorders both common and complex. Integrating fundamental neurological concepts with the practical realities and demands of emergency care, this handbook features management algorithms for dozens of conditions and a list of “pearls and pitfalls” at the conclusion of each of the thirty-eight chapters. This survey of best practices in emergency neurology provides succinct and crucial clinical information for all emergency physicians who diagnose and manage neurologic disorders such as headache, seizure, and spinal cord injury. Emphasizing efficient neurological examination techniques, this handbook is essential for emergency physicians, neurologists, internists, and residents.

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Principles and Practice of

EMERGENCY NEUROLOGY

Handbook for Emergency Physicians

Edited by

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To my parents Liza and Madhukar Shah
SMS

To my mother Rose and in memory of my father Thomas Kelly
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Preface

After the publication of *Emergency Neurology: Principles and Practice*, many emergency medicine residents inquired whether a handbook based on the main text would be available. As a result, we developed a handbook to be carried by emergency physicians, extending our initial goal of disseminating the principles of emergency neurology to emergency physicians and providing a ready resource in caring for patients with neurological emergencies. As we embarked upon the handbook project, we realized that this is a daunting challenge. Providing the relevant and necessary information in a form that is easily understood and to the point turned out to be much more difficult than we had anticipated. Brevity is a challenge when one is expressing complex ideas. As editors we honor the need of emergency physicians all over the country who work under increasing time constraints by trying to provide only the most essential information about a given topic in a focused manner. Each chapter is extensively updated with timely information. As in *Emergency Neurology: Principles and Practice*, most of the chapters are authored by a team of an emergency physician and a neurologist. Each chapter is organized with an introduction of the topic, emergency assessment and clinical findings, pertinent laboratory and radiographic studies, management, and disposition. Each chapter ends with a list of pearls and pitfalls pertaining to the topic reviewed.

The handbook is divided into eight sections. Section I contains the essentials of a focused neurologic examination and neuro diagnostic testing. As editors, we felt that even though EEG does not directly impact the daily emergency medicine practice, it is important for the ED physicians to know the importance of an emergent EEG when a condition such as nonconvulsive status epilepticus is suspected. Common neurological presentations are reviewed in Section II, whereas the specific neurological conditions are reviewed in Section III. Owing to the importance of the diagnosis and management issues of Guillain-Barré syndrome and myasthenia gravis, these are now reviewed in two separate chapters. Section IV deals with the three main components of neurological trauma: traumatic brain injury and spinal and peripheral nerve injuries. In Section V, those pediatric neurological emergencies likely to be encountered in an emergency setting are reviewed. The chapter on pediatric seizures has been extensively revised. Sections VI and VII
review pregnancy-related neurological emergencies and selected topics in neurotoxicology, respectively. The concluding section is a brief review of brain death.

The editors thank all the authors for their diligence and patience, without which this handbook would not have been possible. We also thank all our colleagues, friends, and emergency medicine and neurology residents for their comments, both critical and encouraging.
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