

Preface

Teleneurology in Practice: A Comprehensive Clinical Guide was inspired by the faculty and learner discourse which occurred during the annual courses on teleneurology we directed for the American Academy of Neurology from 2012 to 2014. The book was written with the objective of enabling medical professionals practicing in the broad field of the clinical neurological sciences to swiftly learn about the existing evidence, proven applications, operational methods, and the latest trends in the rapidly growing and evolving practice method of leveraging technology to care for patients at a distance. The field of neurology, even more quickly than other disciplines of medicine, is implementing the technological advances and discoveries of the science of healthcare delivery to address issues of access, efficiency, timeliness, quality, outcomes, and cost.

For patients in remote and underserved areas, having an acute or chronic neurological condition may necessitate lengthy and costly travel to obtain specialist evaluation. Telemedicine has the capability to deliver such care directly to a patient's local community. Neurology telemedicine for acute stroke has already demonstrated reliability, validity, efficacy, safety, and both clinical and cost effectiveness by preventing unnecessary ground and air ambulance transfer, by increasing the thrombolysis treatment for eligible patients, and by reducing the resulting neurologic disability. The US military has a limited number of neurologists. Development of a store and forward consultation system has enabled military neurologists to deliver far-forward battlefield care for service members deployed overseas and to combat zones. The chapters in this book will review the use of telemedicine for the evaluation and treatment of patients with many common neurological conditions and will provide a practical guide for neurologists seeking to incorporate telemedicine into their daily practices.

Readers will note that chapters discuss subspecialty areas within neurology and neurosurgery where telemedicine is already making or is anticipated to make an impact. The chapter authors were asked to summarize the existing evidence, current practice, key findings, central issues, and common operations for telemedicine in their areas of expertise in order to enable this book to serve as a guide for busy clinicians managing patients using telemedicine. To address a wide readership, initial chapters focus on the practice of neurology telemedicine in the USA, other countries

in the world, the US military, and technology which can be used to establish a teleneurology practice. The subsequent chapters focus on accepted telemedicine sub-specialty areas of neurological practice, including stroke, neurocritical care, interventional neuroradiology, neurosurgery, hospitalist neurology, Parkinson's disease, and neuropathology. This is followed by chapters addressing emerging areas of practice, including epilepsy, sleep medicine, dementia, and concussion. The final chapters address telemedicine in neurological education, legal aspects of practice, and reimbursement.

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The readers will recognize that the authors and coauthors were carefully selected for their leadership, expertise, experience, and early contributions to this emerging field of practice. We thank each of them for their valuable contributions. Finally, as some of the authors of this book are US military officers or government employees, it remains for us to issue a blanket disclaimer:

The opinions or assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the Departments of the Navy or Army, the Department of Defense, or the Department of Veterans Affairs.

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