Acute ischemic stroke is treatable, and our ability to treat patients with ischemic stroke continues to improve. Since the publication of the first edition of this book, important changes in stroke patient management have occurred, and many are reflected in these pages. Perhaps the most important has been the widening of the time window for both intravenous thrombolysis as well as endovascular arterial recanalization treatments. This change in the expansion of the time window has major implications because it could dramatically increase the number of potential patients for treatment. Further expansion of the time window is possible with the likelihood that imaging will provide the necessary information for identifying suitable, individual patients.

The basic imaging approaches to acute ischemic stroke patients have evolved slightly since the first edition. More importantly, there has been a deepening of our understanding of the significance of the findings observed on standard and advanced CT and MRI. There have been numerous publications, as well as detailed evaluation of cases that have come through the MGH that have led to new perspectives and understandings, and these are reflected in the following pages.

The major change in the book is the inclusion of two new chapters. One is focused on the ischemic penumbra, and the other on how to use imaging to help guide endovascular therapy. Both of these chapters reflect improved understanding of what imaging can provide the physician caring for the stroke patient to help make the wisest decision with respect to interventions that are being considered. The field continues to evolve, and better outcomes are possible and even likely. Indeed the burgeoning opportunities for treatment are so substantial that a major issue is whether there are enough trained physicians to provide optimal care with patients with acute ischemic stroke, especially those with the most severe strokes. The authors hope that their experience in acute ischemic stroke imaging and intervention which has been distilled into this book may be of benefit to physicians who care for stroke patients.

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